The costly prestige ranking of scholarly journals

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Abstract

The prestige ranking of scholarly journals is costly to science and to society. Researchers' payoff in terms of career progress is determined largely from where they publish their findings, and less from the content of their scholarly work. This fact creates perverted incentives for the researchers. Valuable research time is spent in trying to satisfy reviewers and editors, rather than spending their time in the most productive direction. This in turn leads to unnecessary long time from research findings are made until they become public. This costly system is upheld by the scholarly community itself. Scholars supply the journals with time, serving as reviewers and editors without any paycheck asked, even though the bulk of scientific journals are published by big commercial enterprises enjoying super profit margins. The super profit results from expensive licensing deals with the scholarly institutions. The free labour offered, on top of the payment for the licensing deals, should be viewed as part of the payment to these publishers – a payment in kind. Why not use this as a negotiating chip towards the publishers? If a publisher asks more than acceptable for a licensing deal, rather than walk away with no deal, the scholarly institutions could pull out all the free labour offered by reviewers and editors.

Major loss of efficiency and productivity

It is commonly thought that scholarly journals with high rejection rates have the highest prestige among the journals. A tough filtering regime is held by many as the foundation to maintain a high-quality level of the journal: only the best of the best manuscripts will end up being published in the most prestigious journals. Based on this reasoning a hierarchy of prestige ranking among the journals is formed (1), a hierarchy that by many is viewed to be of great value (although disputed (2)), helping the scientists select what to read and easing the ranking of job and grant applicants. But what are the costs induced by this model of prestige ranking?

A manuscript submitted to a prestigious journal, unless immediately rejected, is normally subjected to a lengthy reviewing process which may take several months, or even years before the manuscript is published and accessible. The authors must use valuable time to

polish the manuscript and are frequently told by the reviewers to carry out additional analyses that often do not add much, if at all, to the reliability and quality of the results (3). The main reason why this is costly and counter-productive is that most of the prestige journals are not run as open access journals. The common and costly model is that the results presented in the submitted manuscripts are normally kept totally hidden during the lengthy period from submission to publishing, and next only accessible behind expensive access bars after publication.

The long period of inaccessibility of the article, along with the polishing and additional experiments that may at best result in marginal improvements, represents a major loss of efficiency and productivity and thus represents an economic cost to research and society. It is important also to keep in mind all the manuscripts that are submitted to journals but rejected. These may also be kept in the editorial and review process for quite a lengthy time, before rejection. And a new round of submission and editorial and review process starts.

Why is it that researchers keep sending their manuscripts to journals operating like this, and hiding their findings away from fellow researchers and the society for a lengthy time period? The answer is obvious: Researchers get their pay-off from publishing in prestigious journals. Hence, while the decreased research efficiency caused by the prestigious journals is a cost to society it is not perceived by the individual researcher as a cost. If pay-off was not tied to the prestige of the publishing channel, authors could choose publishing channels that are more efficient in disseminating their new research findings, which would remove the entire problem of keeping research results needlessly hidden during a lengthy review process.

Alternative models

Alternative publishing models have been described and also launched. Examples: The article is published openly, after a control ensuring that the research is based on well-founded methods. Or the article may be available in a preprint server. The review process may thereafter continue openly, both by reviewers selected by the journal, and by other interested peers. In this way the pieces of new knowledge may come to use without the delay caused by journals (4, 5, 6, 7).

It is interesting to note how the recent COVID-19 outbreak has spurred publishing via preprint servers and other ways of sharing research results (8). The rapidly spreading pandemic is a serious threat to public health, society infrastructure and world economy, and research results that may give clues about how to combat the pandemic, developing therapeutic remedies, and reduce its adverse effects on our society are desperately needed ASAP. In this situation, it is obvious that publishing in prestige journals with a lengthy review process is not only counterproductive and inefficient use of public

money. It is also unethical. It may be argued that rapid publishing of research results prior to peer reviewing may increase the risk that serious errors in methods or conclusions in pre-reviewed manuscripts may lead to serious adverse results – in particular if the results are to be used in clinical settings. To avoid this, it is of course utterly important that readers of pre-reviewed publications understand that publishing on preprint servers is to be followed up by a review process. Researchers who read these manuscripts must be aware that they themselves will have to read the manuscript critically and thus contribute to doing peer reviewing. And after all, this is what peer reviewing is all about: competent and interested colleagues critically scrutinizing each other's manuscripts. This may be the way of publishing in the future: it will ensure maximal speed of results dissemination, not only in times of desperate need for results to combat pandemics. In fact, all research deserves to be published ASAP, independently of how urgently the results are needed.

Another advantage of speeding up the publication process by shifting to a pre-review publishing regime is to reduce the possibility that researchers are being scooped during the often lengthy review period that the manuscript is hidden from the general public. It is no secret that many researchers fear the possibility that their findings and ideas may be used by reviewers, who are often their competitors. By first posting the manuscript on a publicly accessible preprint server, for an open peer review to take place, the publishing researcher can feel safe that he or she will be registered as the first to publish results and/or ideas that might otherwise be unrightfully taken by others during the lengthy review process that most journals make use of today.

A shift towards a publishing model along these lines would result in a faster dissemination of research findings, avoiding the costly system of hiding research in a lengthy review and editing process. And a prestige ranking of the journals would cease, if rejection rates no longer would bear any meaning. In addition, this publishing model represents a major driver towards open science.

However, successful researchers who have won their reputation by making every effort to publish in high ranked journals will dislike this change in the publishing model, and they may thus constitute a barrier to change. But can we afford to maintain the existing model, which is both counterproductive to research and very costly to society?

But the journal hierarchy is a help for the reader, isn't it?

What about the readers of scientific articles – don't they benefit from the journal hierarchy? After all, with the enormous rate of publishing there is no way one will have the time to read but a fraction of what is published anyway. So, help and guidance in selecting literature worth reading is something any researcher would highly appreciate.

Hence it may appear logical that reading "the best journals" would be tantamount to reading the best articles and thus avoiding wasting time looking through journals that are deemed less prestigious.

This conclusion may not appear so obvious when considering how the prestigious journals select the articles to publish. Articles with the most sensational findings are preferred, since these help maintaining a high journal impact factor. These articles are not necessarily the ones most useful to the research of peers and colleagues. Moreover, internet-based communication has come a long way, offering far more precise (and speedy) signaling methods than the journal title to find literature of high relevance and value to the individual researcher. The potential for new selection methods is great, if only we can avoid the access barriers that still dominate in journal publishing.

Evaluation of the researcher

A generally accepted presumed advantage of maintaining the journal hierarchy has until now been to contribute to the assessment of the excellence of researchers, in applications for research grants and job promotions. Researchers are thus evaluated not based on what they have accomplished in their research, but rather on where they have published. The problem with this – as well as an effort to remedy the problem – is clearly described in the DORA declaration (9). Among several measures to reform research assessment, the declaration highlights that the scientific content of a paper is much more important than traditional publication metrics or the name of the journal in which it was published. This evaluation system is the main reason why the researchers find it beneficial to work intensively to have their manuscripts published in high prestige journals and compete with each other instead of cooperating. This competition may drive the researchers to work hard. But it also adds to the loss of efficiency and productivity by keeping the findings hidden for a lengthy period and forcing researchers to keep kneading their papers instead of moving on with their research in the most fruitful direction. So alternative methods of researcher assessment are needed (10).

The peer review task

It is frequently maintained that the prestigious journals, in addition to attracting good manuscripts, also attract the best reviewers and editors. Based on this it is argued that these good contributions to research will be lost if the journal hierarchy is abolished. But wait! These reviewers are researchers who commonly are employed by universities and research institutions and in most instances work for free for the journals. Even if the entire journal hierarchy were to disappear the good reviewers and editors would still be around. Their skills and valuable work effort would still contribute importantly to research, for the good of society. Clearly, it is the researchers, not the journals who assess the research quality. And it is the employers of the researchers who grant them the possibility to use their work

hours and skills to serve as reviewers and editors. It is remarkable that these employers pay no attention whatsoever to how and for which journals their researchers perform the pivotal quality control of their peers' manuscripts.

In need of change

The strong incentives for the individual researcher to dance to the tune of the prestigious journals, call for measures so academia may regain control. A drastic action that is presently discussed and even put into effect in some countries is to discontinue the subscription agreements with the big international publishing houses that refuse to lower their price charges and/or to move towards an Open Access publishing model (e.g. as laid out in Plan S). Just as important, it is high time that the university sector takes control over the review activities performed by their employed researchers. One way to attain this goal may be for the university sector to issue lists of journals for which review tasks should not be done. It is the peer review work that gives the journals their quality stamp. By controlling this the universities will take back the control of the publishing, enabling new and more healthy goals to be specified for the publishing policy of the future. Major goals are to attain open research and publishing processes and reach agreements with the publishing houses to pay only for the services they actually provide. The course of action needed to do this, i.e. controlling peer review, may mean reduced academic freedom for the researchers, by some limitations on where to do peer review. But using these measures to gain control over the journal hierarchy is necessary to remove the barriers that are economically unacceptable and counteractive to a sound development of research (11).

Moreover, the peer review job, and also the job as editors, that researchers do for the journals, is normally done without any payment for this highly valued job. This supply of free labour should be viewed as part of the payment from the academic institutions to the publishers. It is a payment in kind. So, if the academic institutions are less than pleased with a publisher's offer in terms of price and services (including willingness to move towards Open Access publishing), the institutions may withdraw this extra in kind payment they ship to the publisher in question. But in order to do so, the institutions need the power to instruct their employees on where to do peer review. This could be a very powerful threat. Where would the prestige of a publisher's journals go, if access to reviewers and editors became limited?

The present system of scholarly publishing, designed for Gutenberg's 500 years old technology, is more than ready for a major revision. The big international publishers are not the prime movers here. They have no wish to change the system that so far has given them enormous profit. Instead, the universities ought to have the motivation and possibility to develop more healthy models for scholarly publishing. And the means to do so are available as shown

recently by University of California faculty (12). There, a prominent group of faculty members announced to step away from the editorial boards of scientific journals published by Elsevier until the publishing giant agrees to restart negotiations and agree to a fairer deal with respect to access and charges.

So, our claim is that academia does have the means to improve the publishing model. The benefits include reduced costs for academia and the society at large, and, not less important, a possibility to move towards a more productive research.

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