The importance of high-quality content: curation and re-evaluation in Scopus

Scopus is a research platform curated by editorially independent subject experts. It features smart tools to track, analyze and visualize scholarly research with 75 million genuine research items from more than 5,000 publishers.

New content is added to Scopus after a rigorous evaluation process by the subject experts of the Content Selection and Advisory Board (CSAB). The CSAB determine whether a title is eligible for indexing in Scopus using Scopus’ title selection criteria. They also re-evaluate titles already indexed in Scopus to ensure the quality of the existing content is maintained.

In this article we discuss the importance of a rigorous content curation mechanism to exclude poor-quality and predatory publications from Scopus. There is no universally agreed definition of a predatory journal or publisher. However, organizations like the Committee on Publication Ethics (COPE) and the World Association of Medical Editors (WAME) define global publication ethics standards — predatory journals do not meet those standards. Poor-quality journals may not meet certain quality standards based on their publication performance or bibliometric indicators, though they are not necessarily engaging in unethical publication practices.
The importance of using trusted research information

Researchers need curated, high-quality content. Poor-quality and predatory journals are a threat to the integrity of science. While poor-quality journals may be easy to identify from a publication performance perspective, they may not be a threat to the integrity of science and possibly serve niche areas or specific research communities. Although usage of the term predatory publishing is widespread, it remains ill-defined and subject to personal interpretation and judgement. Specifically:

- Labeling a journal predatory may be controversial if there is no evidence. Publishers that have, in someone’s subjective opinion, some predatory publications may also publish high-quality journals.

- It is not always straightforward to identify predatory journals. Journals change their editorial policies over time; a journal that did not start off as predatory may become so over the years or vice versa.

- The term predatory evokes a negative response in some, while others find it fitting seeing these publications and indeed their publisher as practicing unethically.

In recent years, the growth of global research output and the expansion of various publishing business models have led to a rise in the number of newly launched journals, including titles that could be considered predatory. Despite forming a small proportion of all journals published globally, predatory journals are a significant challenge that concerns all research publishing stakeholders: authors, editors, researchers, research institutions, publishers, funding bodies and governments.

The rise of new predatory journals is partly driven by the increasing pressure on researchers to publish, to secure funding and to advance their careers. In some instances, these forces may encourage authors to be less scrupulous about where their work appears than might previously have been the case. Many governments and institutions have sought to establish expectations for their country’s research by issuing mandates for their researchers to publish only in Scopus or Web of Science indexed titles; this has inevitably induced many predatory journals and publishers to target these databases for their business practices.

Scopus and the CSAB seek to minimize the impact of poor-quality or predatory journals and ensure that Scopus users get the best possible evidence for their work.
Evaluation and re-evaluation of content covered by Scopus

Only the most reliable scientific articles and content are available in Scopus. The content is carefully curated and ultimately selected by the independent CSAB, an international group of subject matter experts across all fields of research. Year round, the CSAB are responsible for reviewing titles that are submitted to Scopus.

In addition, the Scopus team has developed a process of continuous monitoring and re-evaluation ensuring that the quality of the existing content is also maintained. Out of the full corpus of journals covered by Scopus, journals considered predatory or that perform poorly are identified for comprehensive re-evaluation by the CSAB. Three ways a journal can be flagged for re-evaluation include:

1. The journal is **underperforming** as it does not meet any of the six metrics and benchmarks that have been developed and agreed by the CSAB in partnership with the Scopus team.

2. **Concerns about the publication standards** of the journal or publisher have been raised by formal complaints.

3. The journal shows **outlier behavior** based on its publishing performance in Scopus.

Underperforming titles are detected using the metrics and benchmarks shown in Table 1. The CSAB re-evaluate journals that fail to meet any of the six metrics and benchmarks for two consecutive years.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Benchmark not met when</th>
<th>Explanation</th>
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<tbody>
<tr>
<td>Self-citation rate</td>
<td>≥ 200% compared to the average in its subject fields</td>
<td>The journal has a self-citation rate two times higher, or more, when compared to peer journals in its subject field.</td>
</tr>
<tr>
<td>Total citation rate</td>
<td>Total citation rate ≤ 50% compared to the average in its subject fields</td>
<td>The journal received half the number of citations, or less, when compared to peer journals in its subject field.</td>
</tr>
<tr>
<td>CiteScore</td>
<td>≤ 50% compared to the average in its subject fields</td>
<td>The journal has a CiteScore half or less than the average CiteScore, when compared to peer journals in its subject field.</td>
</tr>
<tr>
<td>Number of articles</td>
<td>≤ 50% compared to the average in its subject fields</td>
<td>The journal produced half, or less, the number of articles, when compared to peer journals in its subject field.</td>
</tr>
<tr>
<td>Number of full-text clicks on Scopus</td>
<td>≤ 50% compared to the average in its subject fields</td>
<td>The journal’s full texts are used half as much, or less, when compared to peer journals in its subject field.</td>
</tr>
<tr>
<td>Abstract usage on Scopus</td>
<td>≤ 50% compared to the average in its subject fields</td>
<td>The journal’s abstracts are used half as much, or less, when compared to peer journals in its subject field.</td>
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*Table 1. The six metrics and benchmarks to identify underperforming journals for re-evaluation*
A journal may also be re-evaluated if concerns about its publication standards are raised, such as the quality or editorial practices of specific titles, or other issues that have an impact on its suitability for continued coverage.

Finally, outlier behavior identified through statistical analysis is particularly effective in flagging potential predatory journals. Scopus runs an algorithm that flags journals based on approximately 40 outlier predictors, including sudden change in output volume, sudden change in publishing country and/or affiliations, and high journal/author self-citation rates.

The CSAB re-evaluate all titles identified for underperformance, publication standard concerns or outlier behavior. A CSAB subject expert reviews these titles with the same criteria used for the selection of new journals. Because poor-performing journals may still be relevant for the communities they serve (often niche communities) and because predatory publishing is ill-defined and subject to personal interpretation, independent review of individual journals by academic subject experts in each field is essential. Not all journals identified as poor-quality or predatory are confirmed to be below standards after re-evaluation by the CSAB, and they may decide to continue coverage.

If the CSAB determine that a publication is not meeting the standards for inclusion in Scopus anymore, indexing of new content from that publication is discontinued. Content already indexed remains as a matter of scientific record and to ensure the stability and consistency of research trend analytics, a core value of Scopus. In exceptional cases of proven severe unethical publication practice, content already indexed in Scopus may be removed.

The Scopus team informs publishers of titles under re-evaluation of the outcome, and all journals discontinued in Scopus are publicly available via the Scopus discontinued sources list.
Since 2016, the CSAB have re-evaluated 772 titles published by 295 different publishers leading to an overall discontinuation rate of 58% (447). In Figure 1 below, the results are broken down by the original reason why the journal was identified for re-evaluation.

Scopus responds to community concerns about predatory journals

It is not surprising that Scopus, as a leading abstract and citation database, receives questions about predatory content. All journals within Scopus face re-evaluation based on the criteria outlined above, and the Scopus team also responds to community input.

In March 2017 the article “Predatory journals in Scopus,” published by the Institute for Democracy and Economic Analysis, a project of the Economic Institute of the Czech Academy of Science, identified 137 suspicious titles in Scopus. The paper was based on 2015 Scopus data and analyzed publication behavior. All of the titles in this article have been re-evaluated; as a result, 97 titles (71%) were discontinued. All identified titles listed by Beall that are mentioned in the paper (note that since January 2017 Beall’s List is no longer being maintained) have also gone through the re-evaluation process, and 65% of these titles have been discontinued.

In January 2019 the paper “Is Scopus polluting its own database by indexing junk articles?” written under a pseudonym and posted on the institutional repository of the Ludwig Maximilian University of Munich, identified five problematic journals. At the time of publication, some of these journals were already under re-evaluation and the remaining ones were subsequently identified for re-evaluation. As a result, the CSAB decided to discontinue coverage of all five journals in Scopus.
Despite taking all necessary precautions about including predatory publications in the first place, Scopus and the CSAB recognize that they have a shared responsibility for ongoing curation of the database. This is to ensure that only the highest quality content remains indexed in the database. And that journals and publishers fully adhering to quality and ethical publication standards can be assured that their content is not mixed with content from unethical journals or publishers.

Conclusion

With its independent expert title selection, re-evaluation and publication discontinuation practices, Scopus puts forth a state-of-the-art defense against predatory publishing.

The decision to re-evaluate and potentially exclude a journal takes time and is complex; done properly this process minimizes the risk of discontinuing legitimate sources. It is an ongoing challenge to detect journals that begin to show signs of practices associated with predatory journals. In part this is due to the ever increasing volume of journal content that comes with the successful inclusion of new journals into Scopus. Along with their current rigor in curation and re-evaluation, Scopus and the CSAB are committed to developing new approaches to ensure the combined quality and breadth of Scopus content continue to be unrivalled and highly trusted.

Useful sources

- Scopus Content Selection and Advisory Board
- Scopus title selection criteria
- Committee on Publication Ethics (COPE)
- World Association of Medical Editors (WAME)
- Scopus discontinued sources list
- Scopus re-evaluation process
- Is a title indexed in Scopus? A reminder to check before you publish (Scopus blog)
- “Predatory” vs trustworthy journals: What do they mean for the integrity of science?” (Elsevier Connect)

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