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Decoding Predatory Publishing Practices for Academia

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Abstract

Predatory or deceptive publishing is still a persistent issue in scholarly communication. A number of predatory journals are being published, and it is essential to keep them in check as the potential harm they could do to the scientific discourse is enormous. With the Open Science Framework (OSF) project titled "Decoding Predatory Publishing Practices for Academia (DePA)", the authors try to equip users to identify potential predatory journals and endorse ethical and quality publishing. The project will consist of training materials and a rubric developed to examine the quality of an open-access scientific journal by combining the publisher and individual journal aspects. The project includes a rubric consisting of different aspects regarding publication in scientific journals, quantifying the quality of the publishing practices adopted by these journals. Predatory or deceptive publishing is still a persistent issue in scholarly communication. For instance, deceptive publishers could hold the unpublished manuscript indefinitely, and little can be done if the author has signed a copyright transfer agreement. We can reduce the impact of predatory publishers by aiding the scholar community with simple and easy-to-understand devices that help them analyse the journals and publishers themselves. This could be part of the orientation at a researcher's, library's, or mentor's level.

Keywords: Open Access, Open Science, Open Science Framework (OSF), Predatory Publishing

1. Introduction

There has been a rapid increase in the publishing of scientific literature since the 1950s. This could be the impact of the overall developments in the scientific domain and because the rating of scientists began to be done based on their scientific publications. This put pressure on scientists to publish. This phenomenon heightened with the Open Access movement. In the current scenario, OA resources are an inevitable part of academia, and in recent years we are seeing more and more open-access resources. But some companies started trying to attract authors to publish their work with them for a fee, even without a genuine peer review, to get a rapid publication. Such journals have been named "predatory journals" by Jeffrey Beall: A librarian at the University of Colorado. These journals' principal objective is to profit from the researchers' intellectual property rather than promote quality scientific literature.

The quality research outputs could end up in the dark without receiving due credit by getting published in these predatory OA outlets. In 2018, more than 2.5 million science and engineering articles were published globally (McCarthy, 2019). China has displaced the U.S. as the world's top research publisher in science and engineering, with India in 3rd place (McCarthy, 2019). Though India could produce more quality research publications, it might not end up in the international scholarly communication system and thus affect the country's status as a leading country in scientific research productivity. With publishing in predatory OA resources having this effect, awareness and attitude of the faculty

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and research scholars towards these kinds of resources are investigated thoroughly, as only a few studies have been conducted on this to date. Beall's List, a prominent list of predatory open-access publishers maintained on his blog Scholarly Open Access, was one of the primary attempts to tackle this problem. The list aimed to document open-access publishers with predatory attributes, including the ones that did not perform honest peer review, effectively publishing any article as long as the authors paid the open-access fee.

The number of predatory journals is now estimated at least 14,500 (Elliott, 2021), as against 3000 in 2010 (Perlin *et al.*, 2018). The negative impact of very low-quality publications is higher for health sciences around the globe due to the possible direct implications on health care and research. At a minimum, predatory journals undermine the credibility of scientific literature in the health sciences as they can promote the propagation of errors. Researchers might cite papers published in predatory journals and discuss invalid findings in their articles submitted to reputable journals. Since predatory journals are often available free online, they have a detrimental effect on medical education and patient knowledge since patients also browse the internet searching for information about their illnesses.

2. Background

Educators across all subfields are acquainted with the "publish or perish" concept. Scholars are recognized and rewarded for their contributions to advancing knowledge in their field, primarily through publishing papers or books and receiving research grants for innovative research. Faculty performance evaluations frequently include statistical measures for effectiveness and citation impact. Universities, governments, and funders all value productivity and prestige, and faculty are acutely aware of this pressure. According to the UNESCO Science Report, the global number of full-time researchers reached 7.8 million in 2013, representing a 21% increase since 2007 ("Facts and Figures", 2021). While the increase in researchers coincides with increases in R and D expenditures in wealthier countries, most of the increase was in the private sector, with public commitment to R and D declining in most countries. As one might expect, the research published each year has steadily increased with a rising number of journals. According to a recent study, the average annual expansion of scientific publications is 4.10% per year, with a doubling time of 17.3 years (Bornmann, 2021).

The InterAcademy Partnership provides insight into issues with binary labels for journal practices by stating: "The distinction between predatory and reputable outlets is growing less apparent (largely as the former makes inroads into the latter) and presents a huge challenge for efforts to curb them. Binary 'safelists' and 'watch lists' that endeavour to delineate good practices from bad ones fail to address this complexity and risk disadvantaging less-established journals [and conferences], and overlooking questionable practices creeping into established ones". The InterAcademy Partnership suggests using a scope of predatory behaviours for journals, ranging from genuine deceitful or unethical activity to quality or dependable behaviour. This spectrum is intended as a jumping-off point for further discussion of good publishing practices (The InterAcademy Partnership, 2022). Here, we evaluate journals using aspects of this spectrum and practices outlined by the Directory of Open Access Journals.

A survey of predatory journals worldwide has revealed that most papers in such fake publications come from India (Moher *et al.*, 2017). Another survey found that most authors in such suspect journals were in India or elsewhere in Asia (Shen *et al.*, 2015). Even though there are multiple aids present to cater to the publication needs of the academic or research community, a regional perspective has not been brought out. High-end or more sophisticated tools are subscription-based or not accessible to most of the smaller institutions in developing countries. So, there is a need for a comprehensive platform that a researcher can treat as a one-stop shop for all information and tools related to scientific publishing. Furthermore, as the publishing spectrum starts from research students, it is essential to ensure that orientation and awareness reach the grassroots level.

3. Platform

The project is based on the Open Science Framework platform. OSF is a free and open-source platform that allows researchers to store, share and discover research data, materials, and methods. OSF facilitates collaboration

and transparency in the scientific process by making it easy for researchers to share their work with others, track changes, and access the work of others. Additionally, the OSF is supported by the Center for Open Science, a non-profit organization dedicated to improving the integrity and reproducibility of scientific research, which provides additional resources and support to platform users.

4. Features of the Project

The salient features of the project are:

- The project includes a rubric consisting of different aspects regarding publication in scientific journals, quantifying the quality of the publishing practices adopted by these journals.
- The project advocates Open Access by developing the rubric with Open Access journals as the focus area.
- The project is visioned as a user-friendly platform that does not require core LIS knowledge.
- The project includes training materials for the best and ethical publishing practices.
- An index of unacceptable low-quality journals will be created.

5. Objectives

The objectives of this research study are -

- To provide a user-oriented rubric to evaluate journals for ethical publication.
- Discover the factors that allow predatory practices to bloom in scholarly publishing.
- Implement initiatives to reduce the influence of deceptive and low-quality journals.
- To equip researchers to identify and publish with good quality publishing platforms, accelerating the growth of good science.

6. Components

The complex framework includes the following components:

6.1 The Rubric

The Rubric is a significant component of DePA, created for analyzing journals from a user's perspective. Though an amalgamation of already existing checklists, this one is designed so that no core LIS knowledge is required. A regional perspective is brought when designing the rubric, as the global standards might be unattainable for developing countries. It consists of eight segments, each of which is again divided into multiple aspects, as shown in Table 1. Based on the characteristics, journals are categorized as Least preferred, Less Preferred, and Highly Preferred. Each segment is given individual scores so that the researcher can prioritize the scores and segments and reach a judgment according to his/her requirements instead of a total score that might not include the researcher's publication needs. Instead of relying on white or black lists, the researcher can customize the analysis of a journal that aligns with their publication needs and perspectives.

6.2 Training Materials

The publishing process can be complex and multifaceted, involving various stages and stakeholders. The researchers' community must be well-equipped to identify good and ethical scientific publishing practices. The second component of DePA is the training materials that cover all the aspects, stages, and traps regarding the publishing process. The materials are in the form of knowledge charts or cards, which are simplified and illustrated so that even a beginner can understand. Training materials on the publishing process cover topics such as how to navigate the peer review process, how to respond to reviewer comments, and how to avoid ethical pitfalls. Many resources are available online that provide guidance and training on scientific publishing. However, here the authors try to put a more user-centric approach to it so that it could be understood without any hindrance by the target audience. With the dynamic nature of the scientific publishing infrastructure, training materials can be a valuable resource in understanding the process, particularly for those who are new to the process or need a refresher. Scientific publishing requires authors to adhere to specific ethical standards and best practices, such as ensuring that their research is conducted with integrity and that they do not engage in plagiarism or other forms of misconduct. Training materials can guide topics like peer review, retraction policy, copyright, ethical practices, etc., helping authors to understand their responsibilities and how to avoid common downsides. Overall, training

Table 1. Journal assessment rubric: Segments and Components

Sl No.	Segments	Components
1	Accessibility and Website content	Website Journal Name Advertisement Archive Journal Aim and Scope
2	Publishing Schedule and Content	Frequency Peer Review Content Scope of Published Content Duplicative Publications
3	Indexing and Metrics	Best practices guidelines for the publishing industry (i.e., ICMJE, OASPA, COPE, CSE, EASE, etc.) Journal Metrics on the website Abstract and indexing services
4	Journal Services	Contact Details and Location Author Fees (i.e., submission fees, editorial processing charges, article processing charges, page charges, colour charges, etc.)
5	Editorial Board	Editorial Board and Affiliations Editorial Board Makeup Editorial Board Expertise
6	ISSN and DOI	ISSN (Fraudulent) DOI (No-existent)
7	Publication Ethics	Authorship and contributorship Complaints and appeals Peer Review Policy
8	Policies	Retraction Policy Copyright and Licensing Data Sharing and Reproducibility

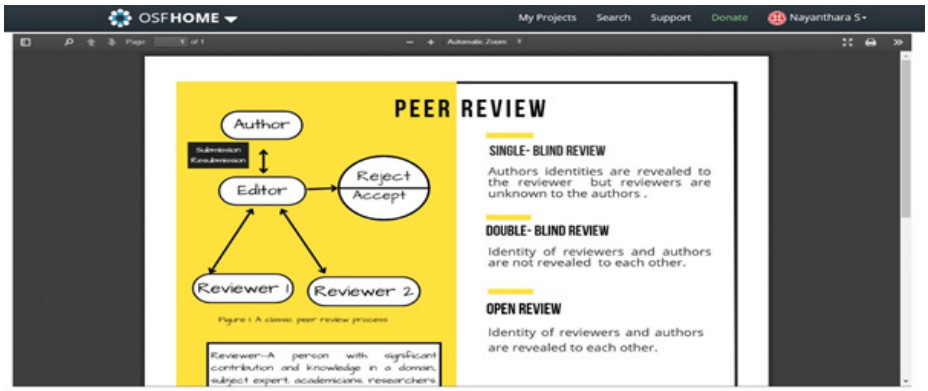

Figure 1. Screenshot of the training materials included in DePA.

materials can be an essential resource for anyone involved in the scientific publishing process, providing guidance and support as they navigate this complex and vital aspect of scientific research. A screenshot of

the training materials included in DePA is shown in Figure 1.

6.3 Glossary of Terms

A Glossary of technical terms related to publishing provides a reference tool for those working in the publishing industry, as well as for authors, editors, designers, and other professionals who may be new to the field. The Glossary defines technical terms specific to publishing, including terms related to manuscript preparation, editing, typesetting, printing, bookbinding, copyright, and royalties. By having a common understanding of these technical terms, professionals in the publishing industry can communicate more effectively and efficiently and ensure that their work is of the highest quality. Additionally, the Glossary can be a helpful resource for authors who may be unfamiliar with publishing terminology, allowing them to understand better the process of getting their work published. As there is no glossary currently in use that is dedicated to scholarly communication, the authors believe that this component is vital to DePA.

7. Future and Expansion

Though DePA, in the initial stage, is open only to the researchers' community of our institution, it will be linked to a wiki page that is open to the public in the future. More components will be added to the project, like board games online and offline, for a better understanding of the publishing process and traps for researchers at every level. These materials will be part of an orientation from a researcher's, library's, or mentor's level.

8. Conclusion

Predatory or deceptive publishing is a pestering issue in scholarly communication. It is essential to keep them in check as the harm they could do to scientific discourse is enormous. Young researchers should be aware of good publishing practices because they can have a significant impact on their academic careers and the scientific community. Good publishing practices help establish the credibility of the researchers and their work. Not falling prey to predatory publishers helps to prevent the dissemination of inaccurate or incomplete research. Equipping researchers with aids and devices that help them follow legitimate practices results in the advancement of their academic careers as well. Young researchers must be aware of ethical considerations to ensure that their work is not only of high quality but also conducted with integrity. The major objective of DePA is to ensure the proper dissemination of scientific information by spreading awareness starting at the grassroots level and accelerating the momentum of scholarly communication in the age of growing social, economic, and physical challenges by aiding the scholar community with simple and easy-to-understand devices that help them assess the journals/publishers they want to publish in, by themselves and thereby reducing the impact of predatory publishers on scientific discourse.

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