



Scholarly Publishing through Open Access: Challenges and Role of Universities

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ABSTRACT

The Open Access (OA) publishing movement has changed the face of scholarly communication by supporting unrestricted access to research products. This study examines the concepts, types, benefits, problems, and future directions of OA publishing. Open access democratizes knowledge, boosts research visibility and impact accelerates scientific discovery, and also addresses financial, quality, and sustainability concerns. How universities can support Open Access publishing is also explained.

Keywords: Open Access, Scholarly Publishing, OA Models

Received: 28 December 2024, Revised 5 March 2025, Accepted 18 March 2025

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1. Introduction

Scholarly publication has typically followed a subscription-based paradigm, with access to academic journals limited to subscribing institutions or individuals. This strategy has been widely criticized for limited information distribution, particularly in resource-constrained contexts. Open Access publishing provides an alternative, making research outputs freely available online. Due to its many advantages, open-access publishing is becoming more and more popular worldwide. Speedier publication, more visibility, ease of contact and free access to knowledge are the features which has made researchers and other users to opt OA. India is keeping up in this

competition. More open-access journals are being published in India because of the efforts of organizations like, the National Institute of Science Communication and Information Resources (NISCAIR), the Indian Academy of Sciences (IAS), The Indian Council of Agricultural Research (ICAR), Indian MEDLARS Centre, Indian National Science Academy (INSA) and others (Barik & Jena, 2021). Many universities and organizations have supported the open-access movement by signing read and publish agreements with many open-access journal publishers. Open access allows reading, using, and distributing the content freely without any legal implications (Suber 2012). Scholars in institutions having good budget provisions may overlook the high cost of accessing scholarly publications behind pay walls due to institutional library subscriptions. However, it is difficult for organizations in developing countries. Scholars may also be unaware of the various alternatives for making their work openly accessible (Fitzgerald & Jiang, 2020).

1.1 Historical Development of OA Publishing

Open Access is based on the idea that research should be freely accessible to everyone, removing any type of barrier. Two of the initiatives that have well-defined Open Access are the Budapest Open Access Initiative (2002) and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003). They argue for the unrestricted availability of scholarly literature on the internet, allowing anyone to read, copy, and download it.

2. Review of Literature

The literature review is a crucial element of research as it provides information about previous studies and the prospects for the current investigation. Information and communication technology has led to innovation in scholarly publishing. Academics are increasingly concerned with open access, a crucial aspect of scientific research and advancement. Despite the benefits of open access, faculty members are still uninformed about its usage (Benjamin and others, 2023). India's visibility in the field of open-access (OA) publishing is low compared to nations such as Indonesia, Iran, and Ukraine. India's open-access journal articles rank 16th globally, with a particular focus on medicine. Despite the small number of OA journals, their indexing is impressive, with several appearing in major databases, including Scopus, Web of Science, and Journal Citation Reports. India needs to increase the quantity and quality of its open-access journals through supportive policies, infrastructure, and financial resources, which would benefit researchers and academics across disciplines (Barik & Jena, 2022). OA journals are used in approximately 83 countries and 990 institutions worldwide (Barik & Jena, 2019). Chemical researchers have freely published their work under open-access conditions. Manuscript publication significantly increases visibility and is offered free of charge. He also mentioned how they had previously adopted open access, but it has now faded away. He investigated articles in basic research from 2009 to 2015; in 2016, chemistry had the fewest open-access articles. The primary issue is a lack of funding to publish an open-access publication (Pagliaro, 2021). OA is only achieved through the author paying APCs. OA includes four models: gold (with APCs), bronze (free-to-read without formal licensing), green (self-archiving), and diamond/platinum (free distribution without APCs). Green Open Access (OA) entails self-archiving peer-reviewed versions of work, whereas Diamond/Platinum Open Access (OA) pays publishing costs with external support. Commercial publishers charge high APCs, and the true cost of publishing is controversial. The challenges of hybrid journals and using Green OA to avoid paywalls, emphasizing the importance of community value in journals, is arguable. (Piwowar et al., 2018). The challenges of hybrid journals in the evolving landscape of scientific publishing, particularly in geochemistry, underscore Plan S's recommendation to support fully open-access (OA) publications and its opposition to hybrid journals due to the risk of "double-dipping" fees. Authors can avoid APCs by publishing in

hybrid journals and simultaneously making their manuscripts available in open repositories, ensuring broader access while adhering to Plan S guidelines (Pourret et al., 2020). The majority (80%) of Chinese journals have adopted the Open Access publishing model. Publishers were convinced and inspired to convert all their journals to open access to increase academic influence and submissions (Shen, 2017). Collaboration between major and small publishers can lead to better results for open-access journal publishing (Asai, 2021). Likewise, all stakeholders in the publishing industry must work together to share scholarly resources with a wider audience (Boissy & Schatz, 2011).

3. Objectives of the Study

- To determine the perceived benefits and challenges to the effective use of OA scholarly publishing.
- To be familiar with open-access publishing initiatives.

4. Methodology

An extensive literature review is done to understand the previous works done on the topic. The analysis is based on numerous interrelated strands of evidence that comprise the current discussion on OA.

5. Status of Open-Access Publishing in India

India has numerous journals published in open-access mode which has made it a leader in the emerging countries' open-access movement. Access to many Indian journals is free, and authors are not charged APC for many of them. Universities often establish open-access archives to disseminate research findings to a broader audience. However, most institutions have not executed these policies (Bhardwaj, R.K., 2015). India has 317 open-access journals and 98 open-access repositories, ranking 15th globally for open-access journals and 17th for open-access repositories. India accounts for 23% of OA publications, which is 7 percentage points lower than the global average of 30%. However, the yearly growth rate of OA publications in India is encouraging. Despite the efforts of governing bodies to enforce OA publishing and self-archiving, only three Indian institutions (out of 18 included in ROARMAP) have established embargo periods. In India, funding bodies do not support researchers or authors in paying article processing charges (APCs). India lacks a national open-access policy, but it intends to implement a "one nation, one subscription" method to provide open access to scientific literature for all its citizens (Nazim et al., 2023).

6. Types of Open Access

Open Access can be categorized into four primary types each with distinct characteristics and mechanisms for providing free access to scholarly research.

- **Gold Open Access** Gold OA refers to the practice of publishing research articles directly in OA journals. These journals make the final published versions of articles immediately available to anyone with internet access. To cover the costs traditionally borne by subscription fees, many Gold Open-Access (OA) journals charge Article Processing Charges to authors or their institutions. Examples include PLOS ONE and BioMed Central.
- **Green Open Access** Green OA, also known as self-archiving, enables authors to publish their work in

subscription-based journals while also depositing a version of their manuscript in a freely accessible repository. This can be an institutional repository (e.g., a university's digital archive) or a subject-specific repository (e.g., arXiv for physics or PubMed Central for life sciences). Publishers often impose an embargo period before the deposited version can be made publicly available.

- **Hybrid Open Access** Hybrid OA is a model where subscription-based journals offer an open-access option for individual articles. Authors can choose to make their articles freely available by paying an APC, while the rest of the journal's content remains behind a paywall. This model enables journals to continue operating on a subscription basis while offering an open-access (OA) option.

- **Diamond/Platinum Open Access** Diamond or Platinum OA journals do not charge authors an APC. Instead, they are funded through other means, such as institutional support, grants, or sponsorships. These journals provide immediate and free access to all their content without shifting the financial burden to authors. Examples include the Open Library of Humanities and some society-run journals.

Each of these models aims to make scholarly research freely accessible, although they differ in their funding mechanisms and the level of accessibility they provide.

7. Benefits of Open Access

Open Access offers significant advantages for the academic community and beyond:

- **Increased Accessibility** OA removes paywalls, enabling researchers, educators, policymakers, and the public to access scholarly work freely. This democratizes knowledge, supporting education and innovation.

- **Enhanced Visibility and Impact** OA articles are typically more accessible and can reach a broader audience, resulting in higher citation rates and greater academic impact.

- **Fostering Collaboration** By providing unrestricted access to research, OA facilitates global and interdisciplinary collaboration, driving scientific and scholarly advancements.

- **Public Engagement** OA allows practitioners, educators, and policymakers to stay informed about the latest research developments, promoting an informed and engaged society.

8. Challenges of Open Access

Despite its benefits, Open Access faces several challenges:

- **Financial Sustainability** The APC model can be prohibitive for researchers with limited funding, raising concerns about equity and access. Additionally, Diamond/Platinum OA models require sustainable funding sources, which can be challenging to secure.

- **Quality Control** The rise of predatory publishers exploiting the OA model by charging high fees without proper peer review processes threatens the integrity of scholarly publishing. Distinguishing reputable OA journals from predatory ones is crucial for maintaining quality.

• **Intellectual Property Issues** OA involves licensing agreements, often using Creative Commons licenses, which specify how works can be used. Understanding and navigating these licenses can be complex for authors and users.

• **Institutional Resistance** Some academic institutions and researchers remain hesitant to adopt Open Access (OA) due to concerns about costs, quality, and the prestige associated with traditional publishing.

9. Future Directions

The future of Open Access in scientific publication requires addressing present challenges and focusing on emerging opportunities:

• **Policy Support** Increasingly, funding agencies and institutions are mandating OA for the research they support. Policies like Plan S in Europe aim to make all publicly funded research openly accessible.

• **Innovative Funding Models** Collaborative initiatives such as the Open Library of Humanities (OLH) and SCOAP3 in high-energy physics demonstrate successful models where institutions pool resources to cover publishing costs, eliminating APCs for authors.

• **Technological Advancements** Advances in digital publishing, repository platforms, and data-sharing technologies enhance the functionality and reach of OA. Blockchain technology, for example, holds the potential to improve transparency and trust in scholarly publishing.

• **Education and Advocacy** Increasing awareness and understanding of OA among researchers, institutions, and the public is essential. Advocacy and education can help to overcome resistance and promote wider adoption.

10. Open access archives

• **Clockss** CLOCKSS is the only digital archive that awards Creative Commons Open Access licences to any content it makes available, ensuring that it is always open and accessible to everyone.

• **Sherpa** Sherpa Romeo is an online tool that collects and displays publisher and journal open-access (OA) policies from around the world. Researchers, repository staff, and research support teams worldwide utilize the service to help them understand the complex open-access (OA) regulations of publishers and journals.

11. Support from Universities/Organizations for OA Publishing

Many universities are supporting the OA movement and Manipal Academy of Higher Education (MAHE) has signed several agreements with various publishers as detailed below:

12. Conclusion

Open Access represents a significant shift in scholarly publishing, offering a more inclusive and equitable approach to disseminating knowledge. While challenges remain, ongoing efforts to address funding, quality control, and intellectual property issues are crucial. The continued support and collaboration of the global academic

community, along with technological advancements, will be pivotal in realizing the full potential of Open Access, ultimately fostering a more informed and engaged society. Universities/Organizations are also supporting the OA movement by signing license agreements with publishers. Authors can utilize the financial support provided by universities and publish their papers in open-access (OA) journals.

Publisher	With Effect From	Benefits
Sage	01-06-2024	APC for the original and review articles published in Hybrid Journals by MAHE authors will be paid by MAHE University. APC for the original and review articles published in gold OA journals of SAGE will have a discount of 30% on list prices for publications.
Oxford University Press	15-04-2024	APC for the original and review articles published in hybrid and gold open-access journals will be given by MAHE
RSC	01-8-2023	APC of articles published by authors from MAHE will be considered for full waiver.
Springer Nature	April 2020	MAHE has signed a read and publish agreement with Springer Nature. MAHE authors can avail of the benefit.
Cambridge	Jan 2022	MAHE has signed a read-and-publish agreement with Cambridge. It is beneficial for MAHE authors.
Karger	July 2023	MAHE has signed a read-and-publish agreement with Karger. MAHE authors can use the benefit.
Wiley	April 2023	MAHE has signed an open-access agreement with Wiley. MAHE authors can utilize the benefits of the agreement.
ACS	July 2023	MAHE has signed an open-access agreement with ACS.
T&F	May 2022	MAHE has signed an open-access agreement with T&F (Taylor and Francis). APC for articles of MAHE authors published in T&F journals will be a complete waiver for the first 25 papers and post that 50% waiver.
F1000	Sep. 2021	MAHE has signed an open-access agreement with F1000. APC is capped at 650 USD.
IEEE	April 2022	APC for articles published in IEEE journals will be a waiver of 40%.
ELSEVIER	October 2023	MAHE has signed an open-access agreement with Elsevier. a complete waiver of APC for MAHE authors.

Table 1. Open Access Agreements

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