Analysis of Preprint Policies of International Academic Publishing Institutions

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Date: 2017-11-21T00:00:00+00:00

Abstract

Preprint refers to research paper manuscripts that have not been formally published in peer-reviewed academic journals. In recent years, with the development of the open access movement, preprint platforms have entered a stage of rapid development. The preprint policies of international academic institutions have become an important influencing factor in the development of preprints. This paper categorizes the preprint policies of international academic publishing institutions into preprint submission policies and preprint archiving policies, systematically reviews five current models of preprint policies among academic publishing institutions, and conducts a typical analysis using Web of Science as the data source to select journals/publishing institutions with the highest publication volume by domestic research authors. The findings indicate that most international academic publishing institutions currently adopt positive preprint policies, with subtle differences among various supportive policies and presenting certain regular characteristics. Finally, based on the analysis results of preprint policies, corresponding suggestions are proposed from the perspectives of research authors, journals, and ChinaXiv.

Full Text

Analysis on Preprint Policy of International Academic Publishers

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Abstract

Preprints refer to manuscript versions of scholarly papers that have not yet been formally published in peer-reviewed journals. In recent years, with the

development of the open access movement, preprint platforms have entered a rapid development phase. The preprint policies of international academic institutions have become an important influencing factor in preprint development. This paper classifies the preprint policies of international academic publishing institutions into preprint submission policies and preprint archiving policies, summarizes five current models of preprint policies among academic publishing institutions, and conducts a typical analysis of journals/publishers with the highest publication volumes by Chinese authors using Web of Science as the data source. The study finds that most international academic publishing institutions have adopted positive preprint policies, with subtle differences among various supportive policies and certain regular patterns. Finally, based on the analysis results, corresponding recommendations are proposed from the perspectives of research authors, journals, and ChinaXiv.

Keywords: Publishing institutions; Preprint policy; Preprint platform; ChinaXiv

With the rapid development of preprint platforms, some mainstream academic publishing institutions have gradually recognized preprints. However, overall, academic publishing institutions hold varying attitudes toward preprints with different levels of support, resulting in complex policies that hinder widespread acceptance among researchers and the development of preprints. Notably, prestigious funding agencies such as NIH, Medical Research Council, Wellcome Trust, and Cancer Research UK have declared acceptance of preprints as credentials for project applications and reporting outcomes. Institutional and funding agency policies typically provide support and guarantees for preprint posting, dissemination, and archiving, while academic publishing institutions' preprint policies are more diverse, reflecting their attitudes toward preprints. The research object of this paper is the preprint policies of academic publishing institutions.

When domestic researchers submit manuscripts to foreign journals, they are often unaware of whether the journal has a preprint policy or the differences between various journals' preprint policies, which to some extent leads to low enthusiasm and initiative among domestic researchers for posting preprints. Therefore, this paper systematically summarizes the preprint policy models of mainstream international academic publishing institutions and selects SCI journals with high submission rates from domestic authors as case studies to analyze their preprint policy texts in detail, thereby providing guidance for domestic researchers to post preprints while formally publishing.

1.2 Academic Publishing Institutions' Preprint Policies

Academic publishing institutions' preprint policies can be divided into preprint submission policies and preprint archiving policies. Preprint submission policy refers to the policy regarding manuscripts that have already been posted to preprint platforms being subsequently submitted to the publisher' s academic journals for formal publication. On one hand, academic publishing institutions

worry about impacts on existing publishing interests; on the other hand, they need to accommodate preprint development, resulting in current preprint submission policies that exhibit instability, diversity, and complexity. Meanwhile, journal publishers' preprint submission policies are also a key factor affecting preprint platform development. Some researchers, in order to publish in high-quality journals to enhance their academic status, have to give up posting papers on preprint platforms, which has become a major obstacle to preprint platform development.

Preprint archiving policy is part of self-archiving policy, referring to whether publishers allow authors to deposit manuscript versions of papers to third-party platforms for open access after formal publication. The RoMEO platform operated by the University of Nottingham lists self-archiving policies for 2,422 major publishers worldwide and categorizes journals into four colors based on archivable versions: green, blue, yellow, and white. According to the platform' s latest data, 1,156 of the 2,422 publishers explicitly support preprint archiving (green and yellow journals), accounting for 47% of the total (see Table 1).

For papers whose copyright has been transferred to publishing institutions, self-archiving of post-prints often involves copyright issues, while preprint self-archiving is generally a matter of journal policy. Strictly speaking, preprints do not involve self-archiving issues. Although journals other than the 1,156 publishers have not explicitly expressed support for preprint archiving, it is also rare for journals to explicitly oppose it.

2 International Academic Publishing Institutions' Preprint Policy Analysis

2.1 Main Patterns of International Academic Publishing Institutions' Preprint Policies

Currently, most major international academic publishing institutions have adopted positive preprint policies. Among the 27 well-known international publishing institutions listed under Wikipedia' s "List of academic journals by preprint policy," none explicitly oppose preprint submission or archiving. Among the 57 independent journals included, 4 journals do not support submission of articles that have already been posted as preprints. Through systematic analysis of major academic publishing institutions' preprint policies, five distinct models emerge.

Model (1) involves complete non-support for preprint submission or archiving. While most journals or foreign academic publishers already support preprint submission or archiving, individual journals still reject preprints. Typical examples include the *New England Journal of Medicine*, which, although not explicitly mentioning a preprint policy, has long followed the Ingelfinger rule and does not allow authors to share preprints of published papers. Wiley, despite adopting a positive preprint policy, has individual journals under its umbrella that do not

recognize preprints, such as *Bioessays*, which rejects submissions of previously posted preprints and self-archiving. The ASCI-owned *Journal of Clinical Investigation* considers any online posting exceeding 400 words as prior publication, allowing authors to self-archive only the published version. Table 2 illustrates the preprint submission and self-archiving policies of these three journals.

Model (2) involves support for preprint self-archiving but not preprint submission. This type of journal is rare and represents an isolated phenomenon. These journals typically indicate support for preprint archiving in their self-archiving policies but do not have explicit attitudes toward submission of previously posted preprints. For example, *Molecular Biotechnology* has no written policy on submitting previously posted preprints, but based on some authors' experiences, preprints may be considered duplicate publication. However, as a Springer journal, it follows Springer' s unified self-archiving policy, which allows preprints to be stored in preprint servers such as arXiv.org while requiring clear indication of the publication source and linking to the published version. *Journal of Biology of the Cell* requires manuscripts not to have been publicly released before submission but does not mention preprints, while allowing authors to store preprints in preprint servers, institutional repositories, and personal websites.

Model (3) involves conditional support for preprint submission or archiving. In the preprint policies of these journals/publishers, they typically state encouragement or permission for preprint submission or archiving, or declare that preprint posting will not be grounds for rejection. However, they also impose certain constraints on preprint submission, such as specifying the content form of preprints or the repositories where they may be posted or archived. *Biophysical Journal* only allows manuscript posting to personal websites, arXiv, and bioRxiv, but prohibits posting to other preprint platforms or "virtual journals." IOP Publishing' s preprint policy mentions that posting is only permitted to arXiv. Additionally, some journals/publishers impose additional requirements. For instance, the American Phytopathological Society requires authors to disclose previously posted preprints and conference papers when submitting manuscripts, while the American Heart Association requires that preprints not be indexed by MEDLINE or PubMed and that preprints link to the formally published version after publication.

Model (4) adopts a "case-by-case" approach, requiring authors to contact the journal to determine preprint posting and archiving policies based on circumstances. Most journals allow direct consultation with journal editors to determine how to proceed with preprint posting and archiving. There are two consultation scenarios: first, for publishers with multiple journals, each journal implements independent preprint policies, such as the American Chemical Society, which encourages authors to actively contact individual journal editors to determine preprint policies; second, although journals/publishers express support for preprints, specific requirements for submitting previously posted preprints or preprint archiving need to be determined through consultation with jour-

nal editors, as is the case with most journals under the University of Chicago Press, *Science*, *Nucleic Acids Research*, and *Cell*, where editors decide whether to accept preprints based on individual circumstances.

Model (5) involves complete support for preprint submission and self-archiving. These publishers/journals demonstrate the highest level of support for preprints, with broad acceptance of preprint content forms, no restrictions on preprint posting or archiving repositories, and no additional requirements. They also establish institutional and technical connections with preprint platforms to facilitate authors' preprint submission and archiving. PLOS allows authors to post preprints to any preprint server at any time, and for authors using the bioRxiv preprint platform, they can directly submit papers to PLOS through bioRxiv' s journal services.

2.2 Typical Analysis of Preprint Policies for Domestic Research Authors

Although most publishing institutions have agreed to accept and archive preprints, the diversity, complexity, and instability of publishers' preprint policies cause confusion for domestic research authors. To help domestic research authors correctly understand preprints and guide them in publishing formally without affecting preprint posting, this paper uses the Web of Science Core Collection as the data source for preprint policy analysis, selecting the top 100 journals with the most papers from Chinese authors as the analysis sample. Among them, 11 journals were conference proceedings or had inaccessible websites, leaving 89 journals belonging to 29 different academic publishers.

Preprint self-archiving policy: According to verification on the RoMEO website, among the 89 journals, 69 allow preprint archiving, 5 explicitly do not allow it, and 11 have unclear preprint archiving policies. The American Chemical Society requires authors to obtain written permission from the journal editor before archiving preprints while ensuring compliance with the journal' s publishing ethics. The list of 16 journals that explicitly do not allow preprint archiving or have unclear policies is shown in Table 3 .

Among the 89 journals, 12 are domestic journals. The preprint archiving policies of domestic journals published independently are unclear, while most domestic journals published in cooperation with international publisher platforms directly adopt the preprint archiving policies of their international publishing partners, supporting preprint self-archiving. This demonstrates that large international academic publishing institutions have widely recognized and accepted preprint archiving, treating support for preprint archiving as a routine policy. Currently, the domestic publishing industry' s awareness of preprints remains low, with preprint archiving policies largely non-existent.

Preprint submission policy: Given that the same publishing institution typically adopts uniform preprint submission policies, this paper analyzes preprint submission policies at the publisher level. The 89 journals included in the anal-

ysis belong to 29 different publishing institutions, among which 12 institutions have two or more journals in the sample of journals with the most papers from Chinese authors. These 12 institutions serve as typical cases for preprint submission policy analysis, providing practical guidance for domestic research authors.

Table 4 lists the 12 academic publishing institutions and their preprint policies, sorted by the number of journals they contribute to the sample. Among them, 7 publishers accept preprint submissions; 3 have not explicitly stated whether they accept preprints; 1 explicitly does not accept preprint submissions, considering them duplicate publication; and 1 has not established a general preprint submission policy, with varying attitudes toward preprint submission across different journals.

Elsevier has the most journals in the sample, thus its attitude toward research authors' preprint posting has relatively greater impact. Elsevier maintains a positive preprint submission policy, allowing authors to post preprints to any preprint server before manuscript submission. However, some journals or subsidiaries under Elsevier have independent preprint policies that do not follow Elsevier' s general policy. For example, Cell Press adopts a "case-by-case" approach, requiring authors to communicate with journal editors in advance to determine whether preprints can be submitted. Wiley and Springer share similar situations with Elsevier—these international publishing giants have complex journal portfolios, and although they adopt general positive preprint submission policies from a management perspective, these policies are not sufficient to constrain all journals under their umbrellas. Therefore, for journals from these three publishers, authors must also check whether independent preprint policies exist.

Additionally, publishers impose additional requirements to protect their own interests. For instance, Wiley and AIP Publishing require that preprint platforms must be non-commercial and free to operate, while IOP Publishing only allows articles to be posted to arXiv and requires adding citations, copyright information, and version details after formal publication. Research authors must pay attention to these requirements when posting preprints to avoid risks.

The analysis of mainstream publishers' preprint policies and the detailed examination of 12 typical publishers reveal that publishers accepting previously posted preprints generally exhibit three characteristics: (1) Large publishing institutions and academic societies tend to adopt positive preprint submission policies; (2) Authoritative preprint platforms such as arXiv and bioRxiv are widely recognized and accepted; (3) Open access journals/publishers demonstrate higher acceptance of preprints.

3 Recommendations

3.1 Recommendations for Authors

First, authors should clearly understand that formal publication and preprint posting are not in conflict. Currently, most domestic research authors worry whether preprints affect formal publication when first encountering preprint platforms. Based on the preprint policies of foreign academic publishing institutions, most international mainstream academic publishers adopt friendly preprint policies. Authors should check the preprint policies of mainstream journals in their fields and post articles to appropriate preprint platforms according to policy requirements.

Second, authors should play an active role in promoting journals to establish friendly preprint policies. Authors are the cornerstone of journal development, and journal preprint policies often reflect the will of the majority of authors. Therefore, authors can actively advocate for preprint posting rights, actively communicate with journals whose preprint policies are still blank, and submit their work to journals with friendly preprint policies to guide academic publishing institutions to recognize and address researchers' preprint needs.

3.2 Recommendations for Journals

First, journals should clearly understand that preprint posting and formal publication have a complementary and mutually reinforcing relationship. Traditional journal publishing and preprints are not completely opposed but rather complementary and mutually reinforcing. Xu Lifang argues that compared with formal scientific communication subsystems like scientific journals, preprint repositories each have advantages in registration, validation, notification, archiving, and reward functions: journals excel at validation and reward, while preprint repositories, lacking a quality control system comparable to peer review, are weaker in validation and reward but more efficient in registration and notification. In high-energy physics, posting to preprint platforms before journal submission results in higher citation counts than posting preprints alone or publishing alone, demonstrating that preprint posting can significantly enhance journal impact.

Second, journals should establish standardized, general preprint policies. Many excellent publishing institutions/journals have gradually relaxed requirements for the Ingelfinger rule and established general preprint policies to accommodate authors' strong needs for preprint posting, claiming priority, and rapid dissemination of research results. Creating a convenient preprint posting environment for research authors is becoming a consensus among more and more publishers and journals.

Third, journals should seize the opportunity of preprint development to explore new directions for publishing transformation. For traditional journals, exploring new service models based on preprints represents a new direction for publishing transformation. For example, Gowers established the novel journal *Discrete*

Analysis based on a preprint platform on March 1, 2016. This virtual journal operates on arXiv, with the following workflow: authors first submit to arXiv while notifying the journal with a link, the journal organizes experts to review directly on arXiv, and upon acceptance, publishes the paper as a link, with readers jumping directly to arXiv to read. The journal publishes papers individually rather than organizing them by year, volume, or issue. This publishing model avoids traditional publication delays while incorporating traditional peer review for quality control, representing a new direction for the integrated development of preprints and formal publishing.

3.3 Recommendations for ChinaXiv Based on Analysis Results

In the context of rapid global preprint platform development, to meet the needs of domestic researchers, the National Science Library of the Chinese Academy of Sciences has established China' s first preprint platform operating according to international norms—the China Science and Technology Paper Preprint Platform (ChinaXiv), which accepts preprints of scientific papers in both Chinese and English from researchers nationwide, as well as open archiving of published scientific papers. Since many Chinese journals have limited exposure to preprints and maintain conservative attitudes toward preprint submission and archiving, ChinaXiv faces certain obstacles in its early stages. Therefore, ChinaXiv needs to understand the current status of international publishing institutions' preprint policies while gradually influencing and promoting Chinese journals to adopt positive preprint policies in combination with the domestic environment.

First, ChinaXiv should enhance its influence to gain widespread recognition from researchers. Launched in June 2016, ChinaXiv is relatively new and needs to expand its collection of preprints and users. Therefore, ChinaXiv should vigorously promote itself to researchers, improve their awareness of preprints, and invite renowned experts from various disciplines to post preprints on ChinaXiv as ambassadors to help drive adoption and resonance among researchers, further gaining their recognition and support and encouraging academic journals to establish positive preprint policies.

Second, ChinaXiv should strengthen preprint quality review mechanisms to improve the quality image of preprints. Publishers often hold biases against preprint quality, believing that preprints lack peer review and are of low quality. To change this perception, ChinaXiv needs to strengthen quality review of preprints and regularly promote outstanding preprint manuscripts with high academic value, attracting journals to join ChinaXiv, actively discover and select manuscript sources, and achieve win-win cooperation.

Third, ChinaXiv should build an open linked platform to consolidate journal strength. Currently, domestic journals lack large publishing clusters like Elsevier and Springer, and most journals still operate in a decentralized "small but refined" manner, which is extremely unfavorable for journal article dissem-

ination in the internet and platform-based environment. Addressing journals' needs, ChinaXiv can create a Chinese journal interconnection network by linking with journal websites, submission and review systems, and publishing systems, achieving open linking of preprints, published papers, and citations, significantly improving user attention and paper citation rates, enhancing journal impact and visibility, and helping journals claim priority.

Fourth, ChinaXiv should integrate journals into its sustainable development planning. As preprints develop, more international publishing institutions are building preprint platforms. However, given the dispersed nature of domestic journals, it is difficult for individual journals to establish their own preprint platforms. ChinaXiv can incorporate journals into its future overall planning, coordinating journal efforts to jointly build a distributed, full-discipline preprint system with journals as resource nodes and disciplines as resource groups.

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Abstract: The preprint policy of international academic publishers has an important influence on the preprint development. This paper classifies the preprint policy of academic publishers as submission policy and self-archive policy, and summarizes five models of preprint policy. With the Web of Science as the data source, a typical analysis of the journals/publishers that has the most papers from China is made. It is found that most of the international academic publishers have adopted positive pre-printing policies, and present certain characteris-

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(Received: 2017-10-10)

Note: Figure translations are in progress. See original paper for figures.