

#### Description

Data management has become an increasingly discussed topic among the academic community. Managing data is an element of open science, which has proven to increase dissemination of research and citations for journal articles. Open science increases public access to academic articles, mostly through preprint repositories. Indeed, according to this study, open access (OA) articles are associated with a 36-172% increase in citations compared to non-OA articles. Publishers such as Elsevier have acquired preprint repositories to increase the dissemination of academic research.

# **Research Data Management: Elsevier and Open Science**

Recently, Elsevier announced that it acquired Bepress and previously SSRN. SSRN focuses on social sciences and law and is a publishing and preprint community. It is a site where research can be accessed by scholars and is also a distribution platform for academic research. On the other hand, Bepress has a Digital Commons repository and was <u>originally started by Berkeley scholars</u>. Digital Commons comprises a cloud-based institutional repository system. Libraries use these repositories to assemble university scholarships using preprints and other materials. Elsevier's acquisition of these two institutional repositories supports the Center for Open Science (<u>COS</u>), which is a free solution for rapidly disseminating communication within the scientific community.

## What Is the COS? Why Does It Matter?

COS is a platform and a solution for increasing "openness, integrity, and reproducibility of research." It is an organization that espouses the use of technology to usher in the future of academic research where open access is a default. In order to achieve its goals, COS maintains the <u>Open Science</u> <u>Framework (OSF)</u>, which is an infrastructure for preprint services. Preprint services launched just a year ago. Some <u>examples</u> of these are AgriXiV, BITSS, LawArXiv, engrXiv, Thesis Commons, PsyarXiv, and SocArXiv. These preprint services use the OSF.

The COS has <u>several objectives</u> and is beneficial to academic research because of its strides in disseminating research, fostering discovery, and accumulating evidence. The COS envisions a future wherein research quality focuses on enhanced priority for proper research rather than publication. It has changed the <u>academic publishing</u> community because it promotes transparent and accurate research. According to John Ionnidis, a professor in Stanford University School of Medicine, "Improving

scientific openness and reproducibility is one of the most pressing issues of this generation of science." Indeed, COS is becoming the future for academic publishing.

## An Alternative to Traditional Academic Publishing

A <u>number of factors</u> drive the success of preprints. The main one being a cultural change towards OA. Thus, it is a powerful alternative to traditional publishing platforms, which often have steep paywalls against OA. This is the primary reason why the COS is seen as a viable alternative. Commercial publishers encourage prioritizing publication over accurate and reproducible results. On the other hand, the COS is a system that advocates transparency and reproducibility.

Why is it an alternative to traditional academic publishing? The OSF, maintained by the COS, includes collaborative wikis, privacy controls, automatic document versioning, and tools for forking over projects. The OSF connects tools that researchers already have through an <u>abstracted API</u>. This increases focus on science and workflow. Compared to traditional publishing platforms, the COS promotes openness and collaboration, destined to improve research access. Researchers can decide when to make their studies public with just the click of a button. Furthermore, the methods used by the COS help prevent HARKing and p-Hacking, which diminish the integrity of scientific research.

# **Preprint Services: What You Should Know**

Preprint services, launched by the COS, are important platforms for OA research. There are a number of preprint services, such as the OSF Preprints. In addition, the <u>OSF Preprints</u> aim to facilitate scholarly communication, improve research accessibility, facilitate feedback, and provide an interface for accessing preprint sources. This preprint service uses SHARE for aggregative search results from other preprint providers. These include CogPrints, BioRxiv, and arXiv. Through this network, over a million preprints can be accessed. <u>Branded preprints</u> from the COS provide an easy and robust solution for organizations to create their own preprint services. These preprint services allow the dissemination of scientific results without the need for peer-review.

The COS is urging in a new era for scientific publishing. With the use of preprint services, it is revolutionizing the culture associated with publications. Elsevier's acquisition of preprint repositories is a step in the right direction from one of the largest publishers in the world. Academic research will benefit greatly from this move. Researchers need encouragement in order to advance their research and ensure transparency and reproducibility. The COS aims to make science better and more accessible, and also hopes that more services will adopt this.

#### Category

- 1. Industry News
- 2. Publishing News

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