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The Future of Open Scholarship Project Report on Open Infrastructure

by Caroline Winter | 18 March 2022 | English, Observations, Observations and Responses | 0 comments



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This observation was written by Caroline Winter, with thanks to Janneke Adema and Virginia Barbour for their feedback and contributions.

At a glance:

Title	<i>Designing a Preparedness Model for the Future of Open Scholarship</i>
Creator	Invest in Open Infrastructure (IOI)
Publication Date	July 2021
Keywords	open infrastructure, reports, scholarly communication

Invest in Open Infrastructure (IOI) is an international organization that researches and advocates for open, community-led research infrastructure and works toward coordinated and sustainable funding models. In August 2021, IOI released the final report from the **Future of Open Scholarship (FOS)** project. This research project aims to develop a sustainable, open model for research infrastructure, which IOI defines on its website as “the sets of services, protocols, standards and software that the academic ecosystem

needs in order to perform its functions throughout the research lifecycle.” IOI defines open infrastructure as “the narrower sets of services, protocols, standards and software that can empower communities to collectively build the systems and infrastructures that deliver new improved collective benefits without restrictions, and for a healthy global interrelated infrastructure system” (IOI, n.d., “About”).

The FOS project addresses longstanding risks and challenges facing research infrastructures which were exacerbated by the COVID-19 pandemic, including an increasing need for open and online resources, overextended library budgets, and staffing shortages (see “[Open Scholarship and COVID-19](#)”).

The Report

The FOS final report, *Designing a Preparedness Model for the Future of Open Scholarship*, draws on emergency and disaster preparedness modelling frameworks used to prepare for public health crises or environmental disasters. These frameworks address immediate and urgent risks as well as longer-term sustainability. Asking how research infrastructures can be developed and funded to ensure responsiveness to crisis and sustainability in the future, the project took a community-based approach to its research by conducting interviews, holding community calls, and facilitating workshops with stakeholders working in academic libraries, library and archives services, universities, research and innovation organizations, publishing, and other research organizations. The workshops addressed the topics of the role of principles and values in the collective decision-making process and funding models and mechanisms with respect to research infrastructures.

The report states that, “for open scholarship to thrive, we need to ensure that the software, systems, and tooling that enable knowledge production and dissemination are also tended for and aligned with the values of the community, with adequate resourcing, support, and oversight” (3).

The report argues that “open, community-owned and -operated infrastructure is needed to ensure the values and needs of the scholarly community are prioritized and addressed,” since current infrastructures dominated by commercial products are not well aligned with the needs and values of this community (6). It identifies some challenges to open infrastructure systems, which include “institutional individualism,” the time needed to develop and implement open source solutions versus commercial ones, maintenance, alignment, and staffing. Interoperability has become a more urgent concern given the risk that some infrastructure systems will shut down due to a lack of resources, meaning ensuring that content can be migrated is a priority.

The report also identifies resilience—the ability of a system to recover from a crisis—as a key factor for success. Drawing on the effectiveness of collective action in advancing the Open Access movement (Joseph 2013), the report calls for a similar approach to advance Open Infrastructure, noting that library consortia play an important role, such as in developing a shared agenda for change.

The report recommends the creation of an Open Infrastructure Technology Oversight Committee comprising key stakeholders and emphasizes that funding models are a key consideration for sustainable open research infrastructure. Finally, the report presents five recommended interventions, with updates about what has been achieved toward them so far and possible future timelines. These recommendations are, in the short term (<1 year), to

- explore models for enabling greater interoperability between information-sharing systems
- establish a committee for open infrastructure technology oversight.

In the medium term (1–2 years+), to

- identify opportunities for collective service and support models to maximize collective benefits and improve resilience.

And in the long term, (3 years+) to

- pilot a rapid response fund to support project maintenance, building on the previous pilot project
- develop a funding model framework to assess the feasibility of a collective funding model, coordinating efforts currently underway (28–29).

In addition to its final report, the FOS project includes an [interactive financial modelling tool](#) and an accompanying [report](#) that models the costs and benefits of collective investment in open infrastructure.

The FOS Report and the INKE Partnership

INKE members are involved in several of the open infrastructure initiatives referenced in the FOS report. [Coalition Publica](#), an example of an innovative partnership cited in the report, is a collaboration between INKE partners [Érudit](#) and the [Public Knowledge Project \(PKP\)](#) to create open infrastructure for journal publishing in Canada. That infrastructure includes [Open Journal Systems](#), an open source journal publishing application developed by the PKP that the report names as an example of successful open infrastructure. INKE members [CANARIE](#), the [Canadian Association of Research Libraries \(CARL\)](#), and [Portage](#) have provided support for [Scholars Portal Dataverse](#), an open data repository platform that is also mentioned as a key example of open infrastructure in need of more sustainable funding.

INKE members have also been involved in various initiatives to advance open infrastructure and improve its sustainability. In March 2019, [CARL and the Canadian Research Knowledge Network \(CRKN\) joined SCOSS](#), an organization that facilitates collective funding for open scholarship initiatives; two previously funded initiatives are [Sherpa Romeo](#) and the [Directory of Open Access Journals \(DOAJ\)](#) (CARL 2019). Membership in SCOSS means that CARL and CRKN members can participate in a “co-ordinated cost-sharing framework” (SPARC Europe 2019, 1).

In June 2021, CARL and CRKN co-presented a webinar with SPARC called [Institutional Perspectives on Investments in Open Infrastructure](#), bringing together academic librarians from Canada and the US to discuss strategies for investing in open infrastructure.

CARL also collaborated with [OpenAIRE](#), a European open scholarship organization, to develop [Canada Explore](#), a research portal for Canadian research based on the OpenAIRE Research Graph (see “[The CARL–OpenAIRE Collaboration](#)”).

The FOS Report and the Broader Academic Community

As recognized in the FOS report, numerous groups and organizations within the academic community are already working toward building open infrastructures. In addition to those the report mentions, other groups are developing and implementing infrastructures, such as the persistent identifier organization [ORCID](#), [COPIM \(Community-led Open Publication Infrastructures for Monographs\)](#), and [COAR \(Confederation of Open Access Repositories\)](#) (see “[ORCID: Connecting Research and Researchers](#)”; “[Open Access Monographs](#)”).

Echoing the Report’s assessments of the importance of building sustainable open infrastructures, the [UNESCO Recommendation on Open Science](#) recognizes that, in addition to its economic benefits, investing in open infrastructure enables collaboration, improves the reusability of research data (and thereby the replicability and replicability of research), and promotes greater equality throughout the global research community (2021). The UNESCO Recommendation also flags “Investing in open science infrastructures and services” as one of its key objectives (6) and calls open infrastructures one of the “key pillars” of open science (7).

The FOS Report and Open Scholarship

Open infrastructure is a key component of open scholarship and the scholarly communication ecosystem. As the FOS report notes, infrastructure collapse could lead to a lack of diversity in the

ecosystem if smaller presses are forced to close down, open services and tools can no longer be supported, and scholarly societies can no longer generate revenue through in-person events (Thaney 2020).

In addition to the FOS project, IOI is developing a [Catalog of Open Infrastructure Services](#) that describes and evaluates open infrastructure, presenting information about each in a standardized form to aid in selection and decision making.

In addition, the COVID-19 pandemic is an important context for the FOS project, an ongoing crisis that has made visible both the vulnerabilities of the scholarly ecosystem, including its infrastructures, and its vital importance, particularly the vital importance of open access and open scholarship (Barbour and Borchert 2020; Tavernier 2020). In a post for the LSE blog, Kaitlin Thaney, Executive Director of IOI, notes that institutions have reacted to the pandemic in one of two ways: by “doubling down on current service providers and vendors in the name of stability and research continuity” at the cost of flexibility and capacity for change, or by “seeing this as a moment to adapt, rethink the status quo, and build resilience by co-ordinating diverse efforts across different institutions and organisations as part of a long-term strategy” (2020). Collaboration and collective efforts are key to the FOS report’s vision of a sustainable future for open scholarship.

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