ChronosHub MOREBRAINS

Why is managing open access so painful?

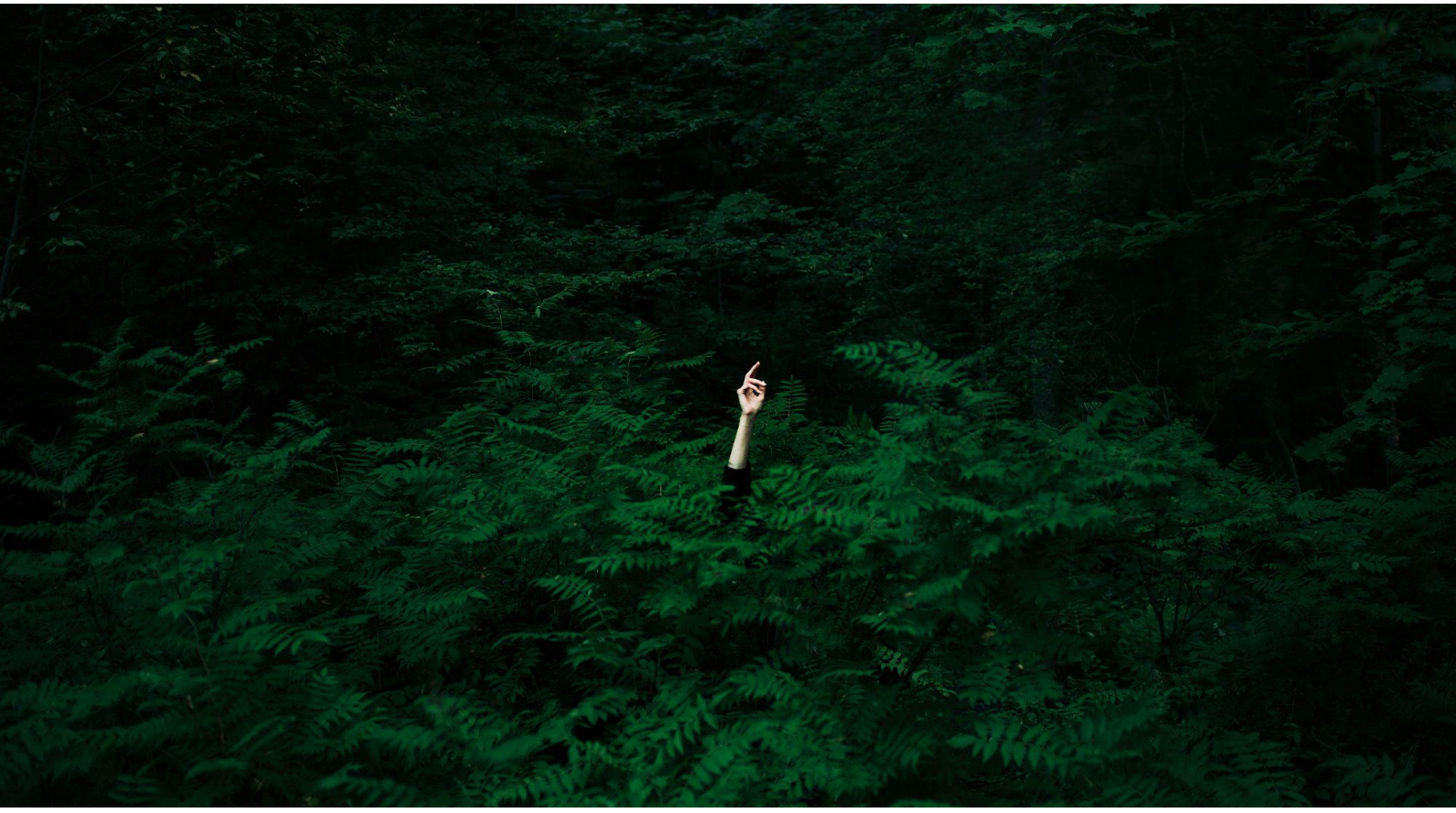

Photo by Александр: https://www.pexels.com/photo/unrecognizable-hiding-person-stretching-hand-from-between-ferns-in-woods-10383486/

Introduction

Over the last decade or so, there has been a steady transition in scholarly publishing away from a traditional subscription based revenue model for publishers towards open access models where published articles are freely available to readers[1]. During the early part of the transition, author-pays models, where a researcher finds money to pay article processing charges (APCs), were shown to be sustainable under certain conditions by publishers like BioMed Central and PLOS and grew in popularity among commercial publishers[2]. In more recent years, concerns about rising APCs and lack of access to publication funds in many disciplines, coupled with funder mandates[3] aimed at accelerating transitions to openness, have led to a number of new business models, from so-called 'diamond' open access[4] where publication costs are covered by a third-party fund, to transformative agreements, such as 'read and publish' aimed at enabling journals to move from subscription to open access models with institutional support[5]. Alongside all of these sits 'green OA', in which authors self-archive a version of their article in a suitable disciplinary or institutional repository while the published version appears in a subscription-based journal.

This increasingly complex landscape poses a problem for universities as they find themselves administering a diverse range of open access agreements. At the same time, very little research has been done into how universities deal with open access. Anecdotally, approaches to OA funding are varied and sometimes *ad hoc*. In general, it appears that university libraries often distribute information to researchers and scholars about sources of open access funding, but no clear picture exists of how funds are allocated or monitored. With this in mind, in late 2021, we launched a community survey, supported by MoreBrains Cooperative[6], about the current state of the open access landscape[7]. With 64 responses from 22 countries, although this is a relatively small sample, several themes emerge strongly, some of which we had already intuited, and some that were more surprising.

Demographics

The vast majority (70%) of responses came from just three countries: the United States (21), the United Kingdom (16), and Germany (8). Overall, we received responses from 11 European countries,

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[1] Universities UK. 2017. 'Monitoring the Transition to Open Access: December 2017'. https://www.universitiesuk.ac.uk/what-we-do/policy-and-research/publications/monitoring-transition-open-access.

[2] Khoo, Shaun Yon-Seng. 2019. 'Article Processing Charge Hyperinflation and Price Insensitivity : An Open Access Sequel to the Serials Crisis'. In *LIBER Quarterly*, 29:1–18. LIBER. https://doi.org/10.18352/lq.10280.

[3] Johnson, Rob. 2019. 'From Coalition to Commons: Plan S and the Future of Scholarly Communication'. *Insights* 32 (1): 5. https://doi.org/10.1629/uksg.453.

[4] Fuchs, Christian, and Marisol Sandoval. 2013. 'The Diamond Model of Open Access Publishing: Why Policy Makers, Scholars, Universities, Libraries, Labour Unions and the Publishing World Need to Take Non-Commercial, Non-Profit Open Access Serious'. *TripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society* 11 (2): 428–43. https://doi.org/10.31269/triplec.v11i2.502.

[5] Hinchliffe, Lisa Janicke. 2020. 'Revisiting — Transformative Agreements: A Primer'. *The Scholarly Kitchen* (blog). 6 February 2020. https://scholarlykitchen.sspnet.org/2020/02/06/revisiting-transformative-agreements-a-primer/.

[6] https://www.morebrains.coop/

[7] https://chronoshub.io/news/news-and-media/open-access-landscape-survey-chronoshub-x-morebrains/

four Asian countries, two African countries, and one South American country. Universities and research institutions were by far the most represented types of organisation at 87% (56), with the remainder coming from a mix of funders, publishers, academic societies, and service providers.

A degree of homogeneity was found among what respondents identified as OA 'pain points' across all regions and stakeholder types represented in the survey. Forty-five respondents reported challenges with managing article processing charges (APCs), and the same number with guiding authors to comply with funder policies/publishing agreements. Forty-one reported challenges with monitoring OA agreements, and 39 said they experience difficulties with ensuring repository deposits.

Given that the vast majority of responses came from research-performing institutions, our focus here will be on the lessons we can learn about the current state of open access management in these institutions, although we recognise that effective next steps and community-building initiatives will be best served by a multi-stakeholder approach.

The following sections outline a number of our key findings from the survey.

The OA landscape is complex

Over 80% (52) of institutional respondents report that they participate in multiple OA initiatives. These included transformative agreements, subscribe to open, read and publish, individual APCs, and green OA management. Half of this group participates in five or more such initiatives, including nine that are involved in seven separate OA initiatives. Astonishingly, several of the nine commented that they were confident that their institution was handling even more initiatives, meaning there were eight or more running simultaneously at their institution, but they weren't sure what they were.

Institutional ownership of OA is fragmented and confusing

Managing OA workflows is a common task for libraries with nearly three-quarters (45) reporting this was the case at their institution. Library involvement does not shield researchers from the administrative burden of managing OA, however, with 25, or 39%, of respondents stating that individual authors bear at least some responsibility. In slightly fewer cases (21), the research office was reported to be involved. Importantly, over 60% (40) respondents said that ownership of OA budgets and workflows is shared between two or more departments, suggesting a serious risk of diffusion of responsibility in open access management and strategy. Even more worryingly, nearly a fifth (12) of respondents did not know how OA was being managed at their institution, or reported that they did not have complete information about how or where it was being managed.

There is a need for open data and community-governed standards to bring transparency to the OA landscape

Half (32) of all respondents reported low levels of trust in the management of OA publishing and associated charges compared to 39% (25) who reported that they neither trusted nor distrusted the status quo and just 11% (7) who reported moderate or high levels of trust.

There was strong support for open APC data (43), open standards for data exchange (41) and clear institutional ownership of data (42), with about 65% of all respondents claiming that each of those measures would increase trust. Seven of the eight free text responses also mentioned transparency and improved reporting as being desirable. Although no single measure emerged as a clear first priority, these ideas share a common theme of greater coordination and coherence across the many stakeholders involved in OA. In a similar vein, community governance structures for OA data were favoured by over half (34) of all respondents.

What next?

The piecemeal evolution and implementation of OA has resulted in a complex environment, in which information is often incomplete and sometimes contradictory, and in which requirements constantly shift and change[8]. This is almost the definition of a 'wicked problem'[9].

OA management represents an emerging environment with a variety of stakeholders. Some of these are driving the change (often funders, institutions, and other policy-makers); others are affected by changes, such as those subject to OA policies (most obviously researchers, institutions, and publishers). Finally, there are the stakeholders who provide the products and services that facilitate OA implementation. These products and services are a mix of community-led solutions and commercial operations, often interdependent on one another, and with overlapping user communities and partnerships.

These interdependencies and overlaps add urgency to the need for more alignment around the development of open standards and improved data exchange. A useful analogy here is the development of common production and testing standards in the car industry. Some components are vital but don't drive a purchasing decision, such as seatbelts. While car makers compete vigorously for market share on a range of features or specialisms, with seatbelts they all collaborate to help to develop an agreed and clearly defined set of safety specifications, principles, and practices.

The term 'coopetition' was coined for this phenomenon[10]. It describes the need to occasionally cooperate in areas that benefit all the stakeholders of various industries including customers,

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[8] See for example, changes in funder policies such as Wellcome or UKRI's recent revisions to their OA policies, and changes in publisher policies, such as Elsevier's revision of its self-archiving policy in 2019.
[9] https://en.wikipedia.org/wiki/Wicked_problem
[10] Martone, M and Stall, S (2020) NIH Workshop on the Role of Generalist Repositories to Enhance Data Discoverability and Reuse: Workshop Summary. Available at: https://datascience.nih.gov/data-ecosystem/NIH-data-repository-workshop-summary

suppliers and users, in a non-competitive way. Globally, it drives the development of international standards and necessitates the existence of organisations like W3C and NISO. We believe this concept could usefully be advanced in the sphere of OA management. It already exists among publishers in, for example, the development and adoption of the Journal Article Tag Suite (JATS)[11], which aids discovery and data-sharing.

Persistent identifiers (PIDs) are another example of cooperation helping to address just such a shared need in scholarly communication. Think of the way that DOIs (provided by Crossref[12], mEDRA[13], and other DOI[14] agencies working in this space) improve citation linking and metadata re-use, aid the mapping of data across systems, and can be used to trigger automated processes. Yvonne Campfens of the OA Switchboard recently observed that for her work, "PIDs are indispensable"[15]. The same is true for ChronosHub, and, we suspect, for the majority, if not all, of the systems and services working to further and support OA[16].

These systems and services constitute a substantial community. Respondents to the survey mentioned many organisations and initiatives as members, including Jisc monitor, Journal Browser, OpenAPC, OA Button, Publications Router, re3data, SciPris, and Unpaywall.

If we can all come together and cooperate across all these groups, the resulting initiative would benefit from significant energy and insight, and could achieve a lot.

What would coopetition look like?

What would coopetition look like for OA management? While this question doesn't have a single, simple answer, we believe that there are a number of requirements that are already clear.

1) APC data needs to be open

Data about APCs should be at least as open as the content being published. Openness is a requirement because it allows data to flow between systems free of proprietary restrictions that would prevent it from being aggregated and analysed. There is no other way that data from so many sources can be combined and re-used practically or effectively. Publishers and intermediaries will need to work together to expose this data for systematic analysis

2) We need technical standards

In the same way that JATS is a common standard for content and metadata markup, a common standard for APC data would support better interoperability and more consistency. Without such standards, newly accessible data will be so inconsistent and costly to clean and interpret as to be

[11] https://jats.nlm.nih.gov/
[12] https://www.crossref.org/
[13] https://www.medra.org/
[14] https://www.doi.org/
[15] https://www.oaswitchboard.org/blog8dec2021
[16] For an example of just such a perspective, see this post on the Copyright Clearance Centre blog: https://www.copyright.com/blog/unlocking-socioeconomic-potential-through-global-collaboration-and-data-key-takeaways-from-niso-plus-2022/

useless. At the recent NISO Plus conference, in a session on 'OA Pain Points'[17], a consensus emerged for the formation of a NISO working group to explore this very issue. We would like to offer our support for this proposal, and we invite all the players in the OA management space to participate and contribute.

3) Strong community governance is vital

A shared discussion forum with strong community governance, and a membership that includes all interested stakeholder groups (whether they perform research, fund it, publish its outcomes, or provide services to organisations doing any of these things) is needed to establish buy-in across the industry. Such a group could create, promote, curate, and enhance these common standards and shared infrastructures.

Coopetition and openness is the logical solution

The call for transparency and open data, enabled by open standards and overseen by community governance, is a natural and sensible response to the complexity and confusion that dominates the current OA landscape.

Open science in general depends upon shifting the dial on competitive behaviours towards more collaborations with data citation[18], the CRediT taxonomy[19], and DORA[20] all providing frameworks for a more equitable system. Markets also tend to be healthier, more responsive to customers and more innovative if a range of suppliers are able to provide trusted services.

We believe the solutions outlined here would address all of these problems, help the ongoing growth of OA, and support continued innovation in this space. Without such an effort, we risk the privatisation and fragmentation of data, opaque and unpredictable business models and practices, and the further erosion of trust in an already fragmented landscape.

Let's make that effort. We would like to invite everyone interested in this survey (and especially the organisations mentioned in this paper!) to join us for a virtual town hall to discuss a possible task force to help push this collaboration forward in a spirit of open partnership, to plan the first steps towards the practical work with NISO, and agree a forum for the community to participate in and guide our activities.

We believe that openness strengthens research and culture. It is time for all of us involved in delivering open access to research to practise what we preach, and bring that commitment to openness to every stage in the process of sharing research.

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[17] https://np22.niso.plus/Category/f302a52e-d20c-47af-bdcf-306922a20767
[18] https://force11.org/info/joint-declaration-of-data-citation-principles-final/
[19] https://credit.niso.org/
[20] https://sfdora.org/