

A Multi-method Analysis of Faculty Perspectives on Open Access Publishing

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Abstract

Librarian faculty at the University of Michigan Library conducted two studies (a campus-level survey and interviews with faculty authors) regarding local and nuanced faculty attitudes about open access publishing across disciplines and career stages. These studies were performed for the dual purposes of engaging with our academic and clinical faculty to learn how they are impacted by the shift to open access publishing within the scholarly communication landscape, and to incorporate their perspectives into our current and future service planning related to the facilitation of access to scholarly publications. The approaches can be adapted by other institutions for gathering similar information and informing data-based decision making.

Introduction

At the University of Michigan Library, we sought to enhance our current understanding of faculty perspectives, needs, and motivations related to open access (OA) publishing, both within the university library system and among colleagues in other campus units.

While the library offers long-standing services and expertise to support faculty across many aspects of scholarly communication, the acceleration in OA publishing, as well as the adoption of significant and relevant policy updates and public access requirements by governments and funding agencies, have presented a timely opportunity to review corresponding library service models and levels of investment.

As we continue to explore and evaluate the viability of a range of models for open scholarship support and advancement, it is imperative that we center faculty needs and perspectives in our analysis. By surveying and interviewing faculty authors regarding their OA experiences, we aimed to learn how local faculty are impacted by recent changes to the scholarly publishing landscape, including changes to publisher policies, and related institutional efforts to relieve the financial pressures presented by OA Article Processing Charges (APCs). By inquiring about their attitudes regarding OA and the changing publishing landscape, we also aimed to strengthen our general understanding of faculty publishing and access barriers, concerns, and insights.

The studies have contributed to our overall efforts to engage our research community in an ongoing conversation related to open research and scholarship. We have designed these

engagement efforts to inform our current and future service planning, especially given the potential cost implications of OA publishing agreements, including “transformative agreements,” for library acquisitions budgets.

Literature Review

Several studies have measured academic researchers’ perceptions, attitudes, and behaviors related to OA publishing over the last several decades. Multiple studies have observed high and growing levels of awareness and familiarity with OA generally, but have also highlighted lack of knowledge of specific OA processes and details, e.g., those related to licenses, rights retention, peer review, and other elements of scholarly publishing (Xia 2010, Fitzgerald and Jiang 2020, Schiavo 2024). Large scale analyses, including syntheses of existing studies or surveys that reached multiple institutions and were inclusive of disciplines, have found general and growing favorability toward OA, as a publishing model, among respondents. However, these same studies have also found that high levels of awareness and support for OA are not necessarily accompanied by high levels of experience with OA publishing or clear intentions to publish future work OA (Xia 2010, Rodriguez 2014, Rowley et al 2017, Fitzgerald and Jiang 2020).

Perceived benefits of, and motivations for, OA publishing have emerged consistently across multiple quantitative and qualitative studies. Xia’s longitudinal analysis (2010) found that academic authors hope to communicate with researchers in their field; that they value and seek a broad readership; and they perceive advantages of shorter time to publication in the submission and review process. Similarly, Rowley et al (2017) found that wider circulation of scholarship was perceived by researchers as the primary advantage of OA publishing, while Williams et al (2019) shared the same finding from their analysis of Ithaka’s project about agricultural researchers. Both Williams (2019) and Dalton et al (2020) emphasized researchers’ aspirations to reach members of the public, peer researchers, policy makers, and practitioners by publishing OA. The attention to readership was also highlighted as the most significant factor in Niles et al (2020), which did not investigate OA explicitly but did explore academic faculty priorities in deciding where to publish. Perceptions related to readership emerged as the largest mean gap between the two clusters that resulted from Dalton et al’s (2020) cluster analysis of survey responses from researchers at 4 research intensive institutions in North America. While the larger, “pro-OA” cluster generally agreed with the viewpoint that OA publishing would result in more readers, the smaller “non-OA” cluster disagreed (Dalton et al 2020).

Common concerns and hesitations have also emerged consistently across multiple studies, conveying perceptions that OA publications are of lower quality than non-OA publications and that the peer review process might be compromised or absent from OA publications (Xia 2010, Rowley et al 2017, Williams et al 2019, Dalton et al 2020). Schiavo’s (2024) study of health sciences faculty found that many faculty did not discern differences between scholarly OA publishing and predatory publishing.

The role of payment generally and APCs, specifically, has emerged in more recent studies as a complicating factor in separating authors’ positive and negative attitudes toward OA. Schiavo’s

(2024) analysis engaged with perceptions and concerns that any payment toward publication on the part of an author necessarily implies a lack of rigor in the process. Schiavo also engaged with concerns that APCs in particular will create new inequities and exacerbate existing ones (2024). While the cluster analysis performed by Dalton et al (2020) yielded two clusters that could be defined as generally “pro-OA” and “non-OA,” the second largest mean gap between the clusters revealed varying levels of agreement with the assertion that APCs are a “reasonable alternative” to subscription fees, with the specific concern among the “non-OA” respondents that APCs would restrict authors’ ability to publish their work in general and would disproportionately impact researchers with less funding. In their study of faculty attitudes towards APCs, Halevi and Walsh (2021) found that faculty research grants are used primarily to pay for APCs. Fifty-nine percent of respondents reported used government grants to cover APC costs, raising a concern of public funding subsidizing for-profit publishing enterprises. Further, the authors found a disconnect in faculty attitudes between support for OA conceptually, constrained by a belief that APCs are too costly for researchers to pay (Halevi and Walsh, 2021).

It is clear from these studies that reach and readership are primary motivating considerations for academic authors as they make decisions about where and how to publish. While OA is perceived positively as a means to enhance reach and readership, the mechanics of OA are less well understood and the means of payment complicate researchers’ attitudes toward OA. To the extent that APCs are perceived as “reasonable,” as described in Dalton et al (2020), they may not mitigate authors’ favorable perceptions of OA. However, an understanding of what is reasonable has proven complicated to establish (White House OSTP 2024). Given the paramount importance of readership, if APCs are perceived as limiting researchers’ ability to publish their work at all, they will likely infuse more complexity into the landscape of attitudes toward OA in general.

Methodology & Design

To explore faculty experiences and opinions regarding OA publishing, our paper features two independently planned studies -- one used a survey, the other interviews -- that together enrich understanding about our institutional OA landscape. The individual characteristics of each study are summarized in Table 1.

Table 1. Comparison of Study 1 (survey) and Study 2 (interviews)

	Study 1	Study 2
Method	Survey sent via email	One-on-one interviews via Zoom
Date	Fall/Winter 2021-22	Summer 2021
N	233	14
Roles of participants	Faculty on four different tracks across the entire university	Tenure track/tenured faculty from two natural sciences departments
Demographics	Gender, race, discipline	Gender, race, discipline
Consent form	The first section of the survey	Sent and signed in advance
Study structure	<ul style="list-style-type: none"> ● Awareness of and attitudes about OA publishing ● OA format in which respondents published ● Library services ● Editorial experience ● Demographic information 	<ul style="list-style-type: none"> ● General impression of the OA publishing venues ● Predatory publishing ● Library support ● Decisions that influence publishing in certain journals
Overlapping themes	<ul style="list-style-type: none"> ● Interest and experience in OA publishing, ● Motivations and reservations related to OA publishing ● Processing charges associated with OA publishing ● Library's role in OA future 	<ul style="list-style-type: none"> ● Interest and experience in OA publishing, ● Motivations and reservations related to OA publishing ● Processing charges associated with OA publishing ● Library's role in OA future
Study-specific themes	<ul style="list-style-type: none"> ● Formats of OA publication ● Experience with institutional repository and copyright services ● OA editorial experience 	<ul style="list-style-type: none"> ● Predatory publishers ● Use of preprints ● Publishing venues

Coding schemes for interview and open-ended questions were developed via an inductive process during conversations held within the research team. For coding categories, the agreement between two raters was evaluated based on Cohen's kappa (κ) benchmark of .70 or greater. In a few cases where $\kappa < .70$, the authors revisited the approach to coding for the relevant categories and conducted independent coding again to ensure that interrater reliability was acceptable. All statistical processing was conducted using SPSS.

Findings

Survey respondents universally indicated that OA interest in their primary fields of research was moderate to substantial and growing. Many reported positive experiences publishing OA across multiple formats. Participants in both studies indicated a desire to publish OA in the future. Both studies established that faculty are knowledgeable about, and are generally supportive of, OA publishing with caveats. Participants described perceived benefits for publishing OA, including broadening readership, potential to increase impact, and opportunities for career progression.

“I think they're [OA publishing venues] really critical for a lot of science and in terms of making science more accessible. So I think it's really important, especially for a rich institution like the UofM to be a leader in the space, not only in terms of access for our own communities, but I think in terms of taking the sort of 'leaders and the best' approach that this is an opportunity for the UofM to really lead.”

The survey highlighted equity as a top motivating factor in relation to expanded access to knowledge, followed by increased international audiences; meeting funder requirements; and getting more citations. Interview respondents cited increased research visibility and the potential to boost career progression as main motivating factors. The interview questions did not introduce equity as a specific motivating factor, so equity wasn't discussed in the same way as in the interviews, though equity emerged as an intrinsic consequence of increased research visibility through interview subject commentary. A nuanced perspective emerged through analysis of both studies, indicating that support for the ideals of OA was tempered by practical concerns.

The most common reservations among both studies' participants related to steep publishing fees and the view that authors should not have to pay to publish, calling out the burden this model places on authors, and questioning why authors are asked to pay into a system that sometimes generates revenue for commercial interests.

“... I don't think myself or anyone in my group for instance would be against publishing in academic journals. But there should be some kind of mechanism to make publishing in those same journals, open access, without charging the researchers for it. When you ask about barriers, that's the barrier, that we're basically asked to do everything, to do the work and pay for the open access, such that some journal can publish it. “

Both studies' responses shed light on the broad range of cost within APCs. Among the 89 faculty members surveyed who shared information about APCs they faced, the lowest charge was \$200, and the largest was \$5,800. The mean APC was \$2,458, the median was \$2,200, and the standard deviation was \$1,281. From interviews, we learned that authors' willingness to pay APCs in support of OA was influenced by APC price.

Interview participants indicated that APCs are most frequently paid with grants, followed by discretionary accounts and departmental funds. Subjects voiced concerns for how APC pressures cut into grant budgets. Subjects sometimes hesitated to seek the full amount of

anticipated APC funding over concerns that funders would reject requests that asked for too much money.

“...In principle, we can put publication costs in our grants. But there are no grant agencies that I'm aware of that are going to give you extra money to do that. So if I want to publish in Nature Communications, it's going to cost me something like I don't know, \$3,000. And on an NSF grant, well, that's \$3,000, that's going to be taken away from student support in all likelihood...It's just the money is going to come from somewhere else.”

Conversations surfaced the complexity presented by the mechanics of publication, which requires planning for costs, number of publications, and grant cycle timing. The complicated fee structures and financial timelines associated with OA publishing introduce a range of complexity in support programs.

Regarding attitudes about OA relative to traditional publication models, interview feedback challenged the idea that one model was inherently superior to the other. The most highly cited factors influencing publication venue included specific readership or scope, followed by journal impact factor and journal reputation. However, interview respondents listed expediency in publishing, association with a society, cost, peer publication venue, invitation to publish, and availability of a backup plan as additional considerations.

Attitudes were complicated by the various motivations of diverse scholarly publishers, and their respective value to their community's authors. When all other factors were similar, some respondents stated a preference for OA publications when they perceived that the APCs paid were leveraged back into their scholarly communities (through investments in publication infrastructure, editorial support, society benefits, etc.).

“...I'm interested in specifically society journals because I feel like they're part of community. I do think that those society journals have a real place and function. And I think that if open access can be done through those societies and those societies have the funding to enable it and support it, then that's a way to move the needle on this, because what we all need is when we need the legitimacy of these editorial boards which come from the community of the societies.”

Some respondents expressed concern that the APC-driven OA model has the potential to drive up the overall cost of scholarly production, noting that high impact titles often have higher APCs.

“I try to get my research open access when it's possible. But unfortunately, I think for publication, it depends on the journal. If you want a high impact journal with open access, it might be overly expensive. And I feel that they know who they are, and they kind of take advantage of that. If you want to publish with us. That's the price”

In both studies, concerns about quality or perceptions of quality in OA publications were also expressed. Some respondents believed it was harder to evaluate the quality of younger journals, a category that many OA journals fall into. Concern was also expressed regarding the optics of a system that publishes scholarly works in return for the author providing large sums of

money. Some respondents recognized that concerns over quality sometimes extended to established and traditional publications, as well.

The same technological advances that have shaped our current publication landscape have also enabled an ever increasing number of new journals, in OA and traditional formats. Beyond the previously stated complexities associated with modern scholarly publishing, this proliferation of new journals requires authors to more actively stay aware of relevant publication venues. Interview data indicates that most faculty are regularly required to evaluate the legitimacy of new invitations from unfamiliar publications using their own experience and that of their peers, increasing their cognitive load. Some respondents also lament the diminished reputation of certain “classic” journals that are impacted by the changing publication landscape. These concerns are not unique to OA publication, but they further illustrate the complicated publication landscape that scholars must navigate.

“I do think that just the proliferation of journals is potentially problematic. And the thing that I find very frustrating is that it seems to happen at the expense of classic journals... I do have respect for the way that I was raised in organic synthetic chemistry that there were kind of like four or five journals. And that was it. Right now, there's like, 400 journals that are relevant to me.”

Sharing elements of research prior to final publication can benefit the scholarly community and expedite discovery. Interview subjects addressed the value of preprints as a subset of OA scholarly communication. Respondents indicated an acceptance of preprints' overall utility, with subjects' comfort with preprints being use-dependent. Subjects associated their own preprints with positive press and greater reach, especially in instances when final versions of record were delayed. DOIs assigned to preprints were also flagged as helpful in the pursuit of grants.

Many subjects reported acceptance of the preprint format for reading and keeping up with the scholarly conversation, but indicated that a peer reviewed and final version of record was often a necessary standard for citation in their own work. Some subjects felt comfortable referring to raw data, while cautioning against use of analyzed data from non-finalized sources that had not undergone peer review.

“ Let's say you have a new drug target that could be beneficial to you, or like COVID even a better example, a lot of structures went to preprints just because they will be useful to the common collective efforts to finding a cure. So there are benefits, certainly benefits of doing preprints. But if I am to mention preprints, it would be on available data rather than their interpretation because I have to be careful. It's not peer reviewed yet.”

Interview subjects also highlighted the credibility that pre-prints provide to early career scholars, as evidence of work for those who have not yet been published in more traditional venues.

“It's important for postdocs...the preprint almost counts as a paper, okay. He or she did the work of writing the paper, and the research is almost done. While just writing “Yeah, I have to work on it,” it doesn't count that much. So preprints are a good thing for young researchers.”

Interview subjects noted that pre-prints are often most helpful in disciplinary areas where speed is a concern. In fields where there is less urgency to publish results quickly, pre-prints may be less valuable. At the same time, qualitative data indicated that scholars could be wary of

publishing pre-preprints for fear of having their scholarship “scooped” before it appears in the final version of record. This worry may be especially prominent for early career researchers. The tension in timing speaks to the balancing that researchers must perform to reach the best outcomes for their research.

A significant number of survey respondents cited concerns about quality as a barrier to OA adoption. The interview instrument asked about respondents’ experience with predatory publishers, though not all faculty agreed with the label and considered the term ill-defined. Interview respondents also acknowledged that the reputations of publishers can be somewhat fluid, and also that quality can vary amongst both the traditional and open access publishing landscapes.

Our faculty recognize many affordances for sharing their work openly, tempered by the high cost of OA publishing. Support for various OA models was tied to sustainable cost and perceptions of fairness (where goodwill and tax dollars are not exploited for excess profit). Respondents cited the need to balance competing demands (such as the need for high impact publications, open access to scholarship, and research budget economy). They also expressed support for library-publisher agreements that mitigate APC burdens while facilitating OA, especially when those agreements provided relief to APCs for their favored journals and publishers. In principle and practice, faculty described dissatisfaction with the APC model and an awareness that funds directed at APCs are funds unavailable for competing scholarly needs.

Our collective findings showcase the complex considerations that characterize faculty perspectives on OA. Though we designed our instruments to collect information systematically, our faculty’s responses provided rich insights beyond the questions asked. Some of the most interesting feedback helped us to understand that the benefits and burdens of open access publishing is contextualized by demographic differences, including disciplinary home, career stage, institutional affiliation, and departmental affiliation. Similarly, while our instruments asked respondents to share their attitudes regarding open access versus traditional publishing, our interview respondents helped us to consider comparisons beyond a traditional/OA publishing binary, and helped us to understand that every publishing model comes with different cost, speed, and trust implications.

Discussion

Since conducting these studies, our library has incorporated faculty perspectives into internal planning activities and conversations with partner units. Owing to our university’s decentralized environment, we have necessarily socialized our understanding in distributed ways, with connections to relevant school, college, and departmental initiatives. We have shared findings with faculty across disciplines and administrative groups, including the library’s Faculty Council, the Engineering Faculty Library Advisory Committee, and the Research Associate Deans. Engaging around the findings has served as a productive avenue for continuing campus conversations, as we learn more about points of resonance, agreement, and inquiry.

The library's Collection Strategy Steering Team incorporated the concept of an open research and scholarly ecosystem as a pillar of its work for the next several years and charged an Open Ecosystem Subcommittee (OES) with several initiatives, including: 1) building a knowledge base of current OA publishing agreements and 2) developing criteria for evaluating publisher agreements. In addition to the primary charge, the OES has initiated several companion projects to enhance the library's promotion of OA-relevant content, including the discoverability of waivers and discounts for APCs. We have been more attentive to our messaging and support avenues and have created a dedicated email address for OA publishing questions, which has quickly become a high traffic pathway for consultation and engagement.

We have transitioned from pilot phases to longer term agreements for some read and publish agreements. We have leveraged consortial initiatives via the Big Ten Academic Alliance, as well as some smaller institutional agreements with society and commercial publishers. We continue to explore options for agreements with several other publishers with whom our university community frequently publishes. Even with well-established OA publishers, current fee structures continue to be a barrier for sustainability, and increased work toward mutually beneficial cost models are needed.

As a unit that supports authors at various stages of their careers and from boundary spanning disciplinary areas, the data we collected will be helpful in highlighting author decision making processes related to publishing outlets and formats. Knowing more about how authors think and feel about OA publishing options can aid library subject experts as they provide information and referrals to authors in their liaison areas. Our research also highlights that the library's publishing and OA-related services are unknown to many authors on our campus. This finding points the way toward new and broader communication efforts and also elevates planning on potential new library roles and services.

Our Library continues to find engagement around faculty publishing attitudes to be a worthy endeavor, and sharing is ongoing via Library Faculty council conversations, and through communication with schools and colleges. Our survey data continues to be drawn upon to discuss viable models for supporting our authors' open access publishing endeavors

Our Open Ecosystem Group, focused on better ways to equip our library service environment through a stronger understanding of how our publisher service agreements work, is working to define values and principles into its work that incorporates these studies' research findings.

Further Consideration

Our scholarly authors continue to balance pressures to produce significant quantities of high quality, high impact scholarship with commitments to equity, while also navigating a complex and dynamic funding and publishing landscape. While our research studies may be considered in future publication agreements and may inform our institution's developing criteria for

evaluating publisher agreements, we recognize that the publication landscape continues to shift in significant ways.

As libraries consider the evolving range of models for open scholarship support and advancement, they are encouraged to consider and center their scholars' diverse publication needs and community values. Tensions between the broad ideals of OA and realities of the burdens shifted onto authors will continue to beg the question: When authors pay publishers substantial fees in return for OA literature dissemination, are we all served well? Does it matter whether tax dollars flow to publishers who then generate revenue to pay for society services (such as conferences, training, community events)? Does the logic remain intact if the tax dollars flow to commercial publishers who then generate revenue that is distributed to shareholders? Should disciplinary differences inform this reckoning?

Engagement with authors, as well as publishers and funders, is necessary to fully evaluate models that work for their communities. Libraries are encouraged to prioritize sustainable, community-led knowledge production and to consider the level of complexity that their sponsored support programs introduce. Examining the distinctions between commercial, society, and academic publishers, and the respective value that they offer to scholars, can inform decision making and planning. Maintaining awareness of the logistical realities presented by the mechanics of scholarly publishing may inform ideas about sustainable forms of support.

While our studies reflected our subjects' previous experience with OA journal articles, our qualitative data was drawn from authors representing only two natural science disciplines. Among the two disciplines, differences in disciplinary community preferences and priorities were observed. Further considerations should also consider the community values and priorities of additional disciplinary communities.

We also recognize that authors in diverse disciplines publish their scholarship in different formats. Our investigations highlighted the variance and disciplinary differences between journal APCs. Future considerations should also consider the OA implications of other forms of scholarly publication which may be more relevant to authors across diverse disciplines.

Finally, Artificial Intelligence (AI) technology introduces potential benefit, risk, and rapid disruption to the scholarly publication lifecycle. We anticipate an increased need to track on trusted publication venues. Investigations that explore the impact of publisher-driven AI on editorial quality will benefit the scholarly conversation.

Topics/Keywords

Article Processing Charges, Open Access, Publishing Attitudes, Publishing Landscape, Scholarly Publishing, Sustainable Library Collections, Transformative Agreements, Faculty Engagement

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Appendices

Study 1 Survey Instrument

Study 2 Interview Instrument

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