

**Strategies, Challenges, and Current Progress in the Implementation
of Open Access in Academic Libraries**

Nancy Dang

University of Denver

LIS 4000

Introduction

In this literature review, I will be examining sources related to open access in academic libraries. Open access is a method of making scholarly research available for everyone without barriers to accessing them. This is an important topic, because many experts agree that it is the future of academic publishing. This has an effect on the role of academic libraries and librarians. Academic libraries must adapt to changes in academic publishing in order to better serve the needs of their communities. The first section of this paper will discuss strategies that they can adopt in order to do so. However, challenges in the implementation of open access will also be discussed. I suggest that there is not as much research in this area, so it is not clear what the challenges are and how to overcome them. Finally, I will discuss research on the current progress and impacts of the implementation of open access in order to give a picture of how successful the proposed strategies are in practice.

Strategies for Implementing Open Access

A number of the sources I examined suggest strategies that libraries can adopt in order to support open access. In “Changing Role of Academic Librarians in Open Access Environment”, Alam divides the roles of academic librarians into two categories: those that support scholarly publishing literacy and those that render services to users. In the age of open access, Alam argues that academic librarians must become more active in scholarly publishing and must be involved in scholarly publishing literacy. This involves raising awareness of open access developments, helping researchers understand funders and publishers’ policies related to open access, managing authors’ rights, promoting the use of institutional repositories, and evaluating the quality and impact of journals (Alam, 2014).

As for the roles of academic libraries in rendering services to users, Alam (2014) lists them as follows: educating the academic community about the benefits of open access, having a positive attitude towards open access policies, establishing institutional repositories, publishing their own work in open access journals/repositories, staying updated on open access scholarly communication, improving professional knowledge and skills to deal with stakeholders in the scholarly communication process, and training young staff to deal with new challenges. While some of these roles don't seem to be directly involved in rendering services to others, I believe that they all do so at least indirectly. For example, by publishing their own work in open access journals/repositories, academic libraries are actively supporting the open access movement and allowing users to access that information.

Mullen, in "Open Access and Collection Development in Academic Libraries: Digitization to Discovery", also examines the roles of academic librarians but specifically as it pertains to collection development. Open access intersects with collection development in that open access provides sources that are part of a library's collection, so Mullen argues that collection development librarians must know which materials should be made more accessible to scholars and communities. They need to assess which open access resources are relevant and of quality and participate in open access discussion and initiatives (Mullen, 2011).

Another source that discusses the roles that libraries must adopt in order to ensure the successful implementation of open access is "Harvesting for Disseminating: Open Archives and the Role of Academic Libraries". While the sources examined previously discuss the roles of academic librarians, this source discusses the role of academic libraries in general. All of the sources emphasize the need for libraries and librarians to take on a more active role with regard to the evolution of scholarly communication. The roles defined in this source are: encouraging

authors of the university to deposit material in the e-prints archives, providing advice to authors about copyright and journal embargo policies, converting material to suitable formats, and depositing material on behalf of members of the university (Pelizzari, 2005).

Finally, in “In a Paperless World a New Role for Academic Libraries: Providing Open Access”, Bosc and Harnad emphasize one key change that must occur for open access to be implemented. They believe that there must be an official mandate for OA provision in order to accelerate its growth. Once this occurs, academic libraries would be involved in creating new OA journals, setting up OA archives, and self-archiving journal archives on behalf of their researchers. However, they recognize that academic librarians still have roles to play while waiting for such an official mandate. These involve promoting OA self-archiving and OA journal publishing, creating and maintaining institutional OA archives, and incorporating OA resources in library web interfaces (Bosc & Harnad, 2005). I view this source as being different from the other sources discussed previously in that it highlights the importance of an official mandate in addition to the roles that libraries must adopt in order to implement open access. It suggests that adopting those roles is necessary but insufficient for implementing open access if there is no official mandate.

In examining all of the strategies suggested in these sources, I believe the most important one is to establish an official mandate for open access provision in order to ensure it progresses as rapidly as possible. Librarians and researchers may not be sufficiently motivated to establish open access practices unless there is an official mandate to do so. Promotion of open access also seems to be an important step that is discussed in multiple sources. Before further steps can occur in the implementation of open access, people must know how they can benefit from it. This includes appealing to researchers, publishers, library patrons, and other stakeholders. A

third key strategy seems to be the development of institutional repositories. This encourages researchers to publish their work openly and to house their work within their institution's open access repository. If more universities do this, then a much larger amount of scholarly research will be made accessible to the public.

Challenges in Implementing Open Access

Despite there being many suggestions for implementing open access, it is important to acknowledge that they cannot always be successfully implemented due to certain challenges. One source that examines these challenges is "Promoting Open Access to Research in Academic Libraries" by Dr. Priti Jain. Jain (2012) examines the challenges faced by developing countries in particular. One of these challenges is the high cost of information and communication technologies (ICTs). Another is the inadequate advocacy for open access publishing. This leads to misconceptions about the benefits of open access. I find this source to be important because it shows how the strategies for implementing open access that are being discussed cannot be applied universally regardless of the context. It is much easier for more advanced countries to make strides in open access because they do not face certain environment-based challenges. This means that developing countries will have to adopt other strategies, such as clearing the misconceptions about open access, before they can make much progress in implementing open access.

"Almost Halfway There: An Analysis of the Open Access Behaviors of Academic Libraries" discusses a challenge faced by academic librarians in supporting open access. This study found that 49% of academic librarian authors' articles were available open access. It was suggested that this percentage isn't higher because academic librarians who are in tenure-track

positions may not want to put pressure on their relationships with publishers, since publication is necessary for most tenure processes (Mercer, 2011). This is understandable, and it is important to acknowledge this challenge faced by academic librarians. Mercer suggests that tenure committees must support open access in order for more academic librarians to do so. This shows how open access cannot simply be carried out by academic librarians; all stakeholders must be involved in the process.

While examining the literature, I found many sources that discuss strategies and current progress in the implementation of open access, but I didn't find as many on the possible challenges and actual challenges that libraries are facing in attempts to implement open access. I think this perhaps points to too much of an emphasis on theory and not enough on practice. This may be one reason why open access is not growing as rapidly as desired, as suggested by several of the sources examined. Assessing challenges and limitations is an important step in making revisions to strategies and setting more specific and feasible goals.

Current Progress and Impacts of Implementing Open Access

It is important to examine the current progress in the implementation of open access in order to make assessments and develop further strategies. According to a study conducted by Hu et al. (2013), academic libraries in China have been largely successful in their implementation of open access practices. They have established a national academic OA journal platform, created institutional repositories, and provided links to OA journals and institutional repositories on their academic libraries' websites. These practices have affected their libraries in that they have been transformed into publishers of scholarly material. There has also been an effect on their library collections in that open access provides an alternative to subscribing to high cost journals which,

in turn, allows more funds to be allocated to other materials. However, one setback that has come with the transition to open access is that there have been technological issues, so Hu et al. emphasize the importance of maintaining a technological standard in academic libraries.

On the other hand, in “Access to Everything: Building the Future of Academic Library Collection”, Levine-Clark argues that, thus far, open access publishing has not had a significant impact on library budgets or collections. It has made it easier for users to access articles, but libraries have not been able to cut subscription costs in order to allocate those funds elsewhere, such as towards open access initiatives. However, Levine-Clark is still optimistic about the potential for open access to have a positive impact on library budgets, if it continues to grow. In theory, if enough articles are available via open access, libraries could cancel some subscriptions to journals and transfer that budget towards funding open access initiatives. Until that happens, the biggest impact of open access so far is on the average person who is now able to access much more information than they were able to before (Levine-Clark, 2014).

One of the major benefits that proponents of open access often speak of is the citation advantage. An evidence-based review conducted by Tennant et al. finds that there is indeed a citation advantage for researchers who publish openly, such that their research is cited more often than that of researchers who do not publish openly. So, open access has had a big academic impact in that respect. Tennant et al. also examine the economic and societal impacts of open access. They argue that the economic impact is not very clear. Open access has the potential to benefit both libraries and publishers, since they argue that publishers are currently operating under an unsustainable business model due to high journal subscription costs. If they switch to an OA-oriented business model, this could be more sustainable for them and libraries (Tennant et al., 2016).

Similar to Levine-Clark, Tennant et al. argue that the strongest impact of open access so far is that it supports lifelong learning by making more information accessible to the average information user. Insofar as this is true, I believe the move towards open access is in the best interests of libraries, since libraries should ultimately be aimed at supporting the needs of users. As open access grows, there should also be an impact on library collections which should benefit users as well, since libraries will either be able to give more support to open access initiatives or invest in other materials that users may be interested in. In order to advance open access initiatives, libraries might consider adopting some of the methods adopted by academic libraries in China, such as creating institutional repositories.

Piwowar et al. provide a very comprehensive analysis of the prevalence and impact of open access articles. They used oaDOI, which is an online service that determines OA status, in order to determine the status of 300,000 articles. This source further corroborates the citation impact of publishing articles openly. It was found that OA articles received 18% more citations than average and that 28% of the scholarly literature is OA, with this percentage continuing to grow (Piwowar et al., 2018). I believe libraries should have clear targets that they're aiming for in the implementation of OA. This could be a certain percentage of articles published openly. With this percentage in mind, oaDOI could be used as a tool to assess how the implementation of open access is progressing.

Conclusion

All of the sources I examined recognize the importance of open access. If the implementation of open access is successful, there will be numerous benefits to academic libraries, library patrons, researchers, and practically anyone who is an information user.

Publishers, too, cannot maintain their unsustainable business model based on high-cost journal subscriptions. The only solution to this problem is for academic libraries to work with publishers and their institution's researchers to change their publishing practices to an open access model. I suggest that the most important strategies to be adopted in the implementation of open access is to establish an official mandate for open access provision, raise awareness of the benefits of open access to all stakeholders, and establish institutional repositories in which researchers can house their work.

One important next step that the literature made me aware of is that there needs to be more assessment with regard to the challenges that hinder the successful implementation of open access. While there has been some research on the challenges in developing countries and challenges to academic librarians, I do not believe this provides enough explanation for why open access is not progressing as much as it could be. These challenges need to be understood in order to develop further strategies and ensure the growth of open access. Relatedly, some of these sources imply that open access is not growing as rapidly as desired, but there is no discussion of quantifiable goals. It seems to me that we cannot measure the success of the proposed strategies unless there are specific goals in mind, such as a certain percentage of articles being published openly. These goals may differ by institution depending on certain considerations such as the library's budget, the need for certain materials, etc., but I think it would be useful for each institution to establish specific, quantifiable goals by which to measure the success of their open access practices.

There are further considerations that I think the library and information science field should take into account regarding open access in academic libraries. First, it is important to consider how different institutions may have to adopt different strategies due to a wide variety of

factors. For example, developing countries have had less success in implementing open access because their technology is less advanced, and open access requires a certain technological standard. Institutions will need to have their particular institution in mind when developing a strategy for establishing open access practices. In addition, it is useful to remain aware of the current progress in open access implementation in other institutions in order to see what works and what doesn't. For example, academic libraries in China have had success by establishing institutional repositories, which other institutions might also consider doing. Lastly, I think librarians should always have the needs of the user in mind. While discussions about open access often center around library budgets and publishing, it is ultimately the information user who benefits the most from open access. This should be a key point in promoting open access. Open access promotes lifelong learning and it is, thus, the duty of librarians to ensure its success.

References

- Alam, I. (2014). Changing role of academic librarians in open access environment. *International Research: Journal of Library and Information Science*, 4(4), 1-10.
- Bosc, H. & Harnad, S. (2005). In a paperless world a new role for academic libraries: Providing open access. *Learned Publishing*, 18(2), 95-100.
<https://doi.org/10.1087/0953151053585028>
- Hu, D., Luo, A., & Liu, H. (2013). Open access in China and its effect on academic libraries: Special issue on open access. *The Journal of Academic Librarianship*, 39(1), 110-112.
- Jain, P. (2012). Promoting open access to research in academic libraries. *Library Philosophy and Practice*, 1-12.
- Levine-Clark, M. (2014). Access to everything: Building the future academic library collection. *Portal (Baltimore, Md.)*, 14(3), 425-437. <https://doi.org/10.1353/pla.2014.0015>
- Mercer, H. (2011). Almost halfway there: An analysis of the open access behaviors of academic librarians. *College & Research Libraries*, 72(5), 443-453. <https://doi.org/10.5860/crl-167>
- Mullen, L. B. (2011). Open access and collection development in academic libraries: Digitization to discovery. 1-10. <https://doi.org/10.7282/T3S180W8>
- Pelizzari, E. (2005). Harvesting for disseminating: Open archives and the role of academic libraries. *The Acquisitions Librarian*, 17(33-34), 35-51.
https://doi.org/10.1300/J101v17n33_04
- Piwowar, H., Priem, J., Lariviere, V., Alperin, J. P., Matthias, L., Norlander, B., Farley, A., West, J., & Haustein, S. (2018). The state of OA: A large-scale analysis of the prevalence and impact of open access articles. *PeerJ (San Francisco, CA)*, 6, e4375.
<https://doi.org/10.7717/peerj.4375>

Tennant, J. P., Waldner, F., Jacques, D. C., Masuzzo, P., Collister, L. B., & Hartgerink, C. H.

(2016). The academic, economic and societal impacts of open access: An evidence-based review. *F1000 Research*, 5, 632. <https://doi.org/10.12688/f1000research.8460.1>