Chapter 12

Impact of Open Access on Library Collections and Collection Development Services: With a Case Study of OA From the University of Namibia

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ABSTRACT

The growth of open access (OA) journals has been rapid and substantial. While still not the predominant form of journal publishing, OA journals of varying types have impacted the scholarly communication ecosystem in a profound way. Libraries and librarians have been at the front lines of this effort from the beginning, working with researchers, funders, and institutional administrators to bring about substantive change to the unsustainable models of costly dissemination of research. After over 20 years of progress in both the transition from print to online, as well as opening access to read, how have OA resources fit in with academic libraries’ collections? Are OA resources currently considered part of a library’s collection? If not, will they ever be? More broadly, what has been the impact of the open access movement and OA resources on library collections, the concept of library collections, and the practice of collection development? How has the impact of OA on collections differed between libraries in the Global North vs. the Global South?

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LIBRARY COLLECTIONS AND COLLECTION DEVELOPMENT

Collections

There are many writings on the subject of library collections, but few address the underlying concept. Typical definitions in glossaries and handbooks refer to “accumulations” or “sum” of “materials” “owned” or “provided by” a “library” (ALA Glossary and LibrarySpeak). Based on interviews, Lee found several criteria on which both librarians and faculty converged (Lee, 2000), that is, the library’s collection is a selective set of resources, the content of which is considered stable and (relatively) permanent, which are represented in the catalog, and the rights with which to access are managed by library. The faculty interviewed continued to equate co-location of physical materials within the library facilities, if not the specific buildings, to the library’s collections, and did not considered materials held in remote locations or joint repositories as part of their library’s collection. Indeed, the users did not necessarily associate the online resources to their library because they accessed them through separate listings or their own bookmarks (Lee, 2000).

Based on these criteria of “library collections”, how, then, would Open Access fit in? Are OA resources currently considered part of a library’s collection? If not, will they ever be? More broadly, what has been the impact of the Open Access movement and open access resources on library collections, the concept of library collections, and the practice of collection development? How has the impact of OA on collections differed between libraries in the Global North versus the Global South?

Concepts of Library Collections

Michael Buckland examined the overarching roles and scope of collections, describing library collections as “subsets of changing membership drawn from the broader set of potentially collectible materials in order to achieve the goals of the library by facilitating access by the population they serve,” and that the “development of library collections, then, is essentially concerned with the placing in libraries of copies of pre-existing materials. It is, at root, a logistical exercise to improve service” (Buckland, 1989, p. 216).

A key aspect of this concept of collections that is relevant to this chapter is the placement of “pre-existing materials” to facilitate access by the library’s patrons. This concept goes beyond any discussion of “ownership” and gets to the heart of the purpose of the collection. This conceptual understanding of collections could support the inclusion of digital open access materials which are selected based on needs perceived by the librarian. Buckland’s use of “pre-existing materials”, however, contrasts with the changes to the publishing environment in the last twenty years. As libraries have pushed for true reformation of publishing and scholarly communication, especially towards Platinum or “true” OA, some have inserted themselves earlier into the scholarly communication cycle, hosting open access platforms, essentially creating new content. This idea of “flipping” collections will be discussed later in this chapter.

The conception of the collection and its purpose is not only timeless but also universal. Library collections at institutions of higher education serve the same purposes and functions in African nation as in European or American. Ifidon, for example, listed such purposes of African university libraries, notably meeting the academic and research information needs of students and researchers (Ifidon, 1990). Librarians from all parts of the world who have written on collections and collection management issues reference many of the same key concepts and philosophies of collection.
Ownership vs. Access

Traditional understandings or perceptions of library collections have tended to center on availability and “ownership”. Only a few of the faculty users that Lee interviewed understood that not all resources were actually “owned” by the library, whereas most librarians understood the nuances of access and ownership. Questions of ownership versus access have been around for decades associated with interlibrary loan and document delivery and full-text periodical databases extending the availability of resources beyond the walls of the library (Ferguson & Kehoe, 1993; Hawbaker & Wagner, 1996). Then came questions regarding the inclusion of Web sites in the collection (Campbell, 2000; Koehler, 1999; Porter & Bayard, 1999), which has extended to open access resources (Beall, 2009; Collins & Walters, 2010; McCollough, 2017; Schmidt & Newsome, 2007). Lee’s interviews indicated that faculty equated the library’s catalog with its collection. Yet, there are considerable practicalities regarding the inclusion of OA resources in the catalog, notably the sheer number of titles to manage, the vast range of perceived quality, the lack of adequate and accurate metadata, and the risk of impermanence.

As licensed access to digital content effectively supplanted ownership of such content, such resources as ejournals shifted from being treated as ancillary to core resources, and librarians and libraries began to incorporate the content more directly into the information systems provided for users, most commonly the library catalog. Indeed, inclusion in the catalog is, in and of itself, a common criterion of inclusion in a collection, by both users and librarians, as evidenced by Lee’s research, as well as by the criteria for such statistical reporting as the American Libraries survey and the ACRL Academic Libraries Annual Survey which instructs librarians to “…count only those materials that are considered part of your collection…that are cataloged and/or searchable through the library catalog or discovery system,” (ACRL Academic Library Trends and Statistics Survey Editorial Board., 2021), or (prior to 2015) “which has been cataloged, classified, and made ready for use” (emphasis added) (Phan et al., 2014, p. 47). Thus, it is clear that the catalog represents the library’s collection. If it is in the catalog, it is in the collection; conversely, if it is not in the catalog, it is not considered to be in the collection.

Libraries have developed a range of solutions to address resources not outright “owned” or specifically “acquired” but still purposefully provided to patrons. From “union catalogs” of holdings of consortia or otherwise related libraries (Clayton, 1982; Welsh, 1981), progressing to the inclusion of listings of journals from full-text databases (Hawkins, 1999; Hughes & Lee, 1998), through the early days of ejournals (Chrzastowski, 1999) to the inclusion of open access journal listings in e-resource management services (ERMS) (Grogg, 2005), librarians, library staff, and library vendors have developed solutions that range in sophistication and integration with the library search environment. The result is a sort of “E-Resources Access Maturity Model” (Mettler, 2011) of integration solutions. At its lowest level is the “lists of links” to the aggregators’ sites where the library’s selectivity is of the list itself, leaving it to the user to scour the lists. Additional methods to make it easier for patrons to find and access the resources involve more labor or costs. Most often, these solutions result in greater integration of the resources within the library’s own digital environments, to the point that the resources essentially are incorporated into the collection.

Growth of Collections

Libraries have historically been measured by the size of their collections. This was due to the physicality of recorded learning (Dempsey et al., 2014). Libraries in American academic institutions were initially
small and built primarily by donations from alumni. It was only with the adoption of the German university system in the mid- to late-nineteenth century that American academic library collections began to be developed intentionally (Johnson, 2005). Since then, the importance of size grew as an indicator of quality.

Collection development of many academic libraries in African countries appear to rely on the same methods as American academic libraries in the mid-nineteenth century, not due to lack of intention but to lack of funds. As late as 2008, the University of Malawi reported as few as 18 paid subscriptions, supplemented with 16 journals exchanged and 98 journals donated (Chaputula & Boadi, 2010). Conversely, the University of Namibia, which in just 25 years grew from a single campus serving just over 2,500 students to serving students of undergraduate and graduate programs in multiple locations. The library’s collection of periodicals grew from 2 journal subscriptions in 1994 to access to over 5,700 with the introduction of databases in 2002 to over 24,000 titles in 2018 (Pfohl, 2018).

In the final quarter of the twentieth century, attention was directed to “the serials crisis”, the nickname of the problem resulting from the combined forces of relative reduction in library funding and the double-digit increases in journal subscriptions. The first Periodicals Price Index survey, conducted in 1976, found the average price increase for serials purchased through a serials service in the mid-1970’s was 8% to 10% (Brown, 1976, p. 1). From 1986 to 1992, this increase averaged about 13% per year (Prabha & Ogden, 1994). Despite the increase in prices, serials holdings among American academic libraries increased during this pre-digital period, with the average number of serial subscriptions increasing from 1,550 in 1981 (Heintze, 1984) to 1,782 in 1992 (Rinderknecht, 1998, p. 24).

For the members of the Academic Research Libraries (ARL), arguably the largest and most well-funded in North America, the median number of current journals fluctuated between 1985 and 1992, around 15,000-16,000, despite an increase in expenditures from around $1.5M to $2.6M. Starting around 1993, the number of current journals decreased as libraries were unable to sustain this level of provision given the increase in costs. From 1993 to 2001, the median number of current journals dropped to 13,682 (Kyrillidou & Young, 2006, p. 10).

The shift in the delivery of serials from print to electronic started in the late 1980’s and early 1990’s with the introduction of full-text databases using fixed digital media (e.g. magnetic tape, disks, and CD-ROMs) (Hawbaker & Wagner, 1996; Johnson, 2005, p. 13). These extensions of abstract and indexing database allowed libraries to provide instant access to the articles that were indexed, regardless of whether the library had a print subscription. Eventually, libraries included the titles and dates of coverage of the contents of these fixed-media databases into their catalogs (Hawkins 1999), and effectively into their collections. This could partially account for the increase in average serials subscriptions to 2,126 in 2000 (Carey & Williams, 2003).

The advent of online electronic journals provided extended instant access to the subscription content as well as the database. Then the “Big Deals” hooked the libraries and their patrons by extending access to non-primary content, often of questionable relevance. The growth in journal holdings in American academic libraries from 2000 to 2006 was even greater than the previous decade, effectively doubling from 2,126 per library to 5,352 (Holton et al., 2008, pp. 8, 25). There is no question that “Big Deals” extend access to serials substantially; the question has always been at what price?

Academic libraries in the Global South benefited more from the development of fixed media full-text databases than from the growth of online ejournals, largely because the technical infrastructure required for the former is more localized (Alema et al., 2001; Okogwu & Ozioko, 2018; Pfohl, 2018). Stable electricity and minimal computer technology were the only necessary components to deliver content
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from CD-ROMS. Delivering access to ejournals requires a web server, a computer network, multiple desktops, and stable internet connectivity, in addition to stable electricity. However, even the full-text databases using physical media required continuous and stable funding to ensure regular updates, and gaps in “holdings” grew along with gaps in holdings of print journal runs. Collection development in regions of unstable economic and political environments, supported largely by development agencies of the Global North (which were inconsistent in their support) has been marked by fits and starts. Among the “survival strategies” that these resourceful librarians utilize for providing access to serials are participation in consortia and collaboratives, global resource sharing, donor-funded subscription initiatives, and complimentary subscriptions (Kanyengo, 2007). The increasing demand for and supply of journal literature, the consolidation of the commercial marketplace, the resulting increase in journal subscription prices, most substantially from commercial publishers, and the complexities of transitioning from print to electronic (and ownership to access) set the stage for a rejection of the status quo.

Collection Development Librarianship

Like most professions, librarianship has undergone substantial specialization (Cox & Corrall, 2013). Collection development, that is, that “thoughtful process of developing a library collection in response to institutional priorities and community or user needs and interests” (Johnson, pg. 1), has developed into its own specialization of librarianship. This specialty involves a set of activities including (but not limited to) assessing the needs and usage patterns of the patrons, evaluating sources of information, selecting specific sources to be made available to the patrons, and assessing the collection’s ability to meet these needs (Johnson, 2005). With the exception of archives, the focus of these services has traditionally been on developing collections of resources created from external sources and meant for consumption by the patrons served by the library.

Collection Development in the Global South

Just as the basic concepts of collections do not vary by geographic region, neither do the basic tasks of collection development. For example, a majority of academic libraries in Tanzania indicated that they practiced all of the basic collection development activities: selection, acquisition, preservation, evaluation, de-selection and outreach (Mwilongo et al., 2020). The most key differences in collection development between libraries in the Global North and the Global South are the power differentials between these geopolitical regions, and the economic and political constraints under which they operate. Numerous descriptions of collection development in varying regions dealing with post-colonial economic disruptions describe many of the same methods, but with the added difficulties of declining value of local currencies, dependency on intermittent donations from international aid, and inconsistent and unreliable funding from university budgets (Arkaifie, 1997; Chaputula & Boadi, 2010; Ifidon, 1990; Kanyengo, 2007). Given these extraordinary obstacles, it is not surprising that reports of holdings of libraries in these regions seem anemic when compared with that of the Global North.
Open Access and the open access movement

In order to describe the impact of open access on library collections and collection development activities, it is important to describe the origins, evolution and current state of open access and the Open Access movement from a global perspective.

Origins

The Open Access movement coalesced around the primary goal of making scientific research freely accessible to all. Key interrelated factors included steeply increasing journal subscription prices and decreasing purchasing power of academic libraries. Decreasing support for non-profit publishers was resulting in the consolidation of journal production by corporations, which were gradually consolidating themselves, resulting in rising journal prices. The prices were rising not due to the publishers’ costs of production, but because of the consolidation of the supply.

The catalyst that enabled the OA movement was the Internet, which at that time was a little more than a skeletal set of interconnected networks developed specifically to share files. This infrastructure was applied to the concept of scholarly communication, with servers set up for the express purpose of sharing their research outputs in the form of either a journal (with all the associated services of peer review and editing) or an archive of pre-publication versions of articles (retaining the journal services of the print publishers) (Kling, 1999). Because they could, these individuals did.

Stevan Harnad, an early advocate of this method and primary supporter of one of the former kinds (Psycholoquy), posted on an email distribution list “a subversive proposal” to extend these small experiments of scholarly communication to the world:

“It is applicable only to ESOTERIC (non-trade, no-market) scientific and scholarly publication…the author does not and never has expected to SELL the words. The scholarly author wants only to PUBLISH them, that is, to reach the eyes and minds of peers…so they can build on one another’s contributions in that cumulative, collaborative enterprise…”

For centuries, it was only out of reluctant necessity that authors of esoteric publications entered into the Faustian bargain of allowing a price-tag to be erected as a barrier between their work and its (tiny) intended readership, for that was the only way they could make their work public at all during the age when paper publication (and its subsequent real expenses) was their only option. (Okerson & O’Donnell, 1995, p. 11)

The email discussion that this “subversive proposal” initiated was extensive and is well covered in Okerson and O’Donnell’s compilation. Topics ranged from the technical [using the technology of the day] to the economic [how much of the costs of publishing are related to print versus electronic production?]. There were skeptics, notably from the publishing “side”, and some of the questions covered were somewhat prescient to today’s situation with open access, notably,

How expensive will they (the other scholarly services of peer review) be? Will we migrate to a new environment, only to find that we have reinvented there all the things that cost so much in the old environment? If so, what will we have gained? (Okerson & O’Donnell 1995).
Evolution of OA

Once it became clear that the technology could enable the dissemination of scholarly works with relatively low costs, activity grew to make it happen on a larger scale. Essentially, because they could, they did. The formal declarations of intent (Budapest, Bethesda, and Berlin) were generated by the researchers themselves to re-create the scholarly communication network based on the relatively simple technological concept of file-sharing.

It should be noted here that the emphasis of OA has traditionally been on both access to read and access to publish. From the earliest communications and initiatives, it is apparent that there was an assumption of universal and low-cost access to the Internet. In the ideals of the earliest activists, it appears that access to read was equated with access to publish. However, the Open Access movement was initiated and has been dominated by the Global North. Little communication was exchanged in the beginnings regarding the limitations of computer networks in the low-income countries, and when discussed, it was possibly considered only a matter of time before such countries would have enough infrastructure to achieve at least a rudimentary file-sharing network.

Although commercial publishers were not substantively involved in the original conceptualization of open access, by 2015 they were the dominant player, at least in terms of articles published, if not in terms of journals (Crawford, 2021, p. 56), and the threat of OA to the commercial publishing market had faded (Aspesi & Luong, 2014). While the no-fee open access journals (varyingly called “gratis”, “libre”, “Platinum” and “Diamond”) have been the most numerous of OA models (Crawford, 2021), the “article processing charges” or APC model (notably PLoS and BioMedCentral) caught the attention of commercial publishers (Schöpfel, 2018, p. 62). By 2010, the combination of Gold OA (replacing pay-to-read with pay-to-publish models) and Green OA (repositories) became the de facto OA models (Pinfield, 2015). From the beginning of the OA movement, the APC business model had been considered a key part of the solution to open access, with Steve Harnad proposing that “…the only options for publishers would be to either reduce their (publishers’) costs ‘to be paid out of advance subsidies (from authors’ page charges,...)’” (Okerson & O’Donnell, 1995, p. 12). But even in those earliest of discussions, there were warnings of effectively replacing costs-to-access with costs-to-publish (Okerson & O’Donnell, 1995, p. 5).

Commercial publishers saw the advantage of seeking payments for publishing over subscription payments, primarily because of the deeper pockets of academic institutions and funding organizations (Nkoudou, 2020, p. 29). The use of article processing charges was advocated by some of the larger institutions, notably the Max Planck Society and the University of California System. In 2015, the MPS predicted that “if universities paid APCs for their own faculty publications, open access would be extensive enough to enable the cancelation of all subscriptions” (Schimmer et al., 2015). The next year, however, the UC Libraries’ analysis of its own set of subscriptions determined that this model was not sustainable (Mering & Hoeve, 2020).

In response to the mandates, notably the European-based Plan S, institutions have been negotiating with commercial publishers “transformative agreements” which substantially and formally shift costs from accessing to publishing. Such agreements, with their limited caps on charges and lack of transparency, are effectively replacing the “serials subscription crisis” with a “serials publishing crisis” (Hinchliffe, 2020; Mering & Hoeve, 2020). APCs in general and transformative agreements specifically have been criticized heavily for their inequity (Faciolince & Green, 2021; Kamerlin et al., 2021; Meagher, 2021).
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Current State of Open Access

The vision of the Open Access movement was and continues to be the removal of barriers to access scholarly works. The goals of this vision were to

(A)ccelerate research, enrich education, share the learning of the rich with the poor and the poor with the rich, make this literature as useful as it can be, and lay the foundation for uniting humanity in a common intellectual conversation and quest for knowledge. (Budapest Open Access Initiative, 2002).

The vision is well on its way to reality, with now about 18.6 million articles of scientific literature openly available (Piwowar et al., 2018, p. 10), which is about 28% of all articles which are available with document object identifiers (DOIs). What is concerning is that this progress has not brought the result that was anticipated. As predicted by the reaction to Stevan Harnad’s “subversive proposal”, the costs to academic institutions and libraries are still extraordinarily high (Bosch & Henderson, 2018; Jurchen, 2020). Furthermore, the “learning of the rich with the poor and the poor with the rich” continues to be hampered by colonialistic epistemicide and poor infrastructure (Nkoudou, 2020).

Based on the listings in Cabell’s Journalytics (https://noaa.cabells.com/about-journalytics), out of the 6,035 journals listed, only 15% are “traditional”, that is, no open access features. The vast majority are “hybrid” (63%), while 12% are Gold OA and 8% are Green. Ulrich’s Periodical Directory (https://www.ulrichsweb.com/ulrichsweb/faqs.asp) is considered more comprehensive and historical, retaining information about active and inactive titles. As of late December 2021, there are 45,351 active, peer-reviewed journals. Of these, 14,431 (32%) are open access (per inclusion in the DOAJ).

Walt Crawford’s latest analysis Gold OA (including no-fee) journals listed in the Directory of Open Access Journals covers trends from 2015 through 2020 (Crawford, 2021, p. 2). During this six-year period, article publication has increased from 10% per year through 2017 to nearly 19% in 2020, and the rate of Gold OA journals involving some kind of publishing fees has similarly increased. By 2020, nearly 70% of DOAJ journals required no fees to publish; however, nearly two-thirds of all articles published in Gold OA journals involved fees. Not surprisingly, the highest fees were associated with commercial publishers (“The Big 9”) and largely in the science, technology, engineering and mathematic fields (STEM) (Crawford, 2021, p. 1).

Of the more than 45,000 active, peer-reviewed journals listed in Ulrich’s, only 801 were published in African countries (1.7%). It should be noted that this rate of journal activity has not substantially changed since the early 1990’s (Teferra, 1995). Of these journals, about 30% were open access, which is similar to the distribution of OA among all journals. Besides the clearly lower productivity of this region, Crawford noted how “traditional publishers are nearly absent” (Crawford, 2021, p. 91), with university and scholarly societies providing the bulk of publishing services.

The distribution by country of institutional repositories and Green OA is little different than of Gold OA. As of December 28, 2021, there were 5,796 OA repositories registered with OpenDOAR. Four countries account for 38% of all repositories: United States, Japan, United Kingdom and German. Just 210 (3.6%) are from countries on the African continent. The bulk of these are located in South Africa (48), Kenya (44), Nigeria (30), and Algeria (20) (OpenDOAR https://v2.sherpa.ac.uk/opendoar/about.html). While this current state may not be surprising, it is no less challenging when trying to rectify the global inequities of scholarly communication. It is clear that there are many more forces at work than a desire for change.
**Infrastructures Necessary for Open Access**

The requirements for a successful open access ecosystem start with the same infrastructures necessary for a successful information-digital economy, notably robust information communication technology and knowledge infrastructures (Baker, 2009; Nijkamp & Abreu, 2020). In addition, a successful scholarly communication system is specifically necessary for OA (Okune et al., 2021). The catalyst for successful uptake, however, of OA is the reception of the primary audience - the scholars and librarians themselves. Although substantial and consistent funding is necessary, it is not sufficient in and of itself. Information communication technology infrastructure includes an entire range of services, from reliable electrical and internet connectivity to modern network servers at the institutional level to the desktops and laptops of the end users on the campuses (at the least) and preferably in their homes (Ajegbomogun, 2007; Uzuegbu & McAlbert, 2012). This applies also to the needs of librarians and library staff for effectively managing electronic resources (Obidike & Mole, 2015). Although costly, this may be the easiest of the requirements to achieve.

The knowledge infrastructure is arguably just as or even more concerning than the technological infrastructure. Geoffrey Bowker describes the factors that were needed for the current knowledge infrastructure, which began with the Enlightenment, as well as those needed for the “new knowledge infrastructures”, notably “knowledge brokers” (those who make connections of knowledge and community) and “knowledge transducers” (those who “transform data, knowledge, and practice in one arena and prepare it for effective use in another”) (Bowker, 2018, pp. 211–212). This includes “the long-term preservation and conservation of data, of knowledge, and of practices” (Bowker, 2018, p. 217). The problem is not of capability but of capacity and distribution of the development of this knowledge. The “brain drain” of these regions can be reversed, as demonstrated by South Africa (Teixeira da Silva et al., 2019).

The willingness of the stakeholders may be the hardest to address because it is embedded in the psyche of the scholarly community itself (Smith 2019). The initial model proposed was that of self-archiving (aka “Green OA”), given its simplicity to providing access to articles (Harnad et al., 2004; Okerson & O’Donnell, 1995). Even with the success of persuading publishers to allow self-archiving of pre-publications or even post-prints, it was clear that researchers were not completing the circle (Harnad et al., 2008). Efforts to extend OA mandates were expected to bring greater compliance (Xia et al., 2022), but because researchers have gradually been pushed to the sidelines while the new ecosystem is reshaped by “research managers, publishers, information professionals, and politicians,” (Schöpfel, 2018, p. 63), compliance with mandates has been modest at best. For example, despite funder and university mandates at the University of Cape Town, only 5% of the researchers were self-archiving by 2017 (Raju et al., 2017, p. 39). In our own field of library and information science, a search of articles published in five major journals published by Taylor & Francis (which provided a substantially liberal self-archiving policy) found that fewer than one-quarter of articles available in Green OA repositories (Emery, 2018).

**Reception of OA in the Global South**

From its inception, the Open Access movement has generally been dominated by the countries of the Global North. This is not to say that those involved in the movement were not concerned with the needs of those in less developed nations (Schöpfel, 2018). Indeed, the BOAI stressed the need for access to literature “share the learning of the rich with the poor and the poor with the rich,” (Budapest Open Access Initiative, 2002). This has not always translated well between these regions, particularly with the flow of
information upstream. Recent critical research has shown the light on the origins and evolution of open access exposing neo-colonial aspects or remnants of colonialism through the veil of goodwill (Nkoudou, 2020; Schöpfel, 2018). These factors have resulted in uneven uptake of open access by region, beyond the economic and technological infrastructures that have slowed uptake of electronic resources in general.

The countries of Latin America and South America appear to have made the most concerted, most collaborative, and arguably, the most successful application of collaborative open access among all regions, rich or poor. Their governments have enabled consortia to negotiate subscription agreements, which put their academic institutions at a more advantageous stance with the publishers than most Western institutions (Berger, 2021; Minniti et al., 2018).

Other regions, particularly Africa and South Asia, have had more inconsistent and limited success. The most common factors preventing success include unstable politico-economic environments, remnants of colonial higher education systems that have prioritized publication in Western journals over local publication, limited visibility of OA journals from these regions due to limited indexing in the key vetting lists, poor internet connectivity even on the campuses (let alone the faculty and students’ domiciles), and limited skills among the library staff to support these initiatives (Bawack & Nkolo, 2018; Jain & Akakandelwa, 2016; Nkoudou, 2020; Raliat & Adenike, 2020; Smith, 2019).

The higher education institutions of African nations were organized based on the models of their colonial rulers and the mindset has resulted in a devaluation of localized knowledge and a prioritization of recognition from Global North (particularly European and North American, but also, to a growing extent, Chinese) publications (Nkoudou, 2020). The “predatory publishers” scandal has further eroded the perception of scholarly works from these regions, even among their very members (Teixeira da Silva et al., 2019).

Those who have studied the inequities of access to the scholarly communication network (currently and in pre-Web times) have advocated for changes that would lead to bolstering their local production (Ifidon, 1990, 1997; Nkoudou, 2020; Raju et al., 2017; Smith, 2019; Teferra, 1995; Teixeira da Silva et al., 2019). Such changes center largely on increased funding (for technical infrastructure and for training), as well as policies leading to greater focus on local publication for solving local problems, greater collaboration between institutions and countries, and even a rejection of Western ideals and epistemologies (Nkoudou, 2020; Raju et al., 2017; Teixeira da Silva et al., 2019).

**Summary of Open Access**

While the Open Access movement originated to open science in order to solve societal problems, it has been met with skepticism, scholarly criticism, cynicism, and apathy, particularly by the scholars themselves. Members of the Global North, particularly large commercial publishers, have attempted to re-shape the scholarly communications ecosystem in their own image with minimal attention to the needs and concerns of those in the Global South. Some regions, notably Latin America, have been more successful at building their own OA ecosystem, one which has been isolated, however, due largely to the continuing domination of English language. Other regions continue to struggle to provide the technical infrastructure and stable funding necessary for a purely digital communications system. Meanwhile, the academic institutions, governments, and funders of Western-style research maintain their domination through collaboration with commercial publishers on shifting the financial burden from reading to publishing.
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Impact on Collections

Intuitively, there is little doubt that the Open Access movement has increased the absolute number of scholarly works available to read free of charge. The number of journals being published has been increasing exponentially and steadily at a rate of 4.3% per year (Gu & Blackmore, 2016, p. 703). Academic libraries around the world went from having access to a few hundred or a few thousand print journal subscriptions in the 1990’s to tens of thousands of online journals in 2020.

Measuring the impact of the Open Access movement on academic library collections and collection development activities presumes that such materials are, could be, and should be considered part of the library’s collection. The perception of “library collection” is based largely on “ownership” and “control”, neither of which does the library have with OA resources, excepting those which the library publishes itself. At what point, then, do open access resources “belong” in a library’s collection? How does inclusion of OA change the meaning of “collection”?

Integrating Open Access into the Collection

There has been a gradual extension of collection boundaries from “ownership” and “control” to “access”. The electronic resource management systems (ERMS) have incorporated the major aggregators of open access journals into their knowledgebases. Thus, as the number of OA journals increased, libraries have been able to choose to (or not to) include OA as just another ejournal platform. But just as with union catalogs, librarians have questioned the legitimacy of including not only that which the library does not “own” but that for which there is no control or need for access control. This is analogous to including Web sites in the catalog (Beall, 1997; Porter & Bayard, 1999). While Web-based OPACs and ERMS were solutions to the question of could it be done, there remained the question of should they be included. Open access journals cross both categories (web site and ejournal) and given the initial ambivalence to including ejournals in catalogs (Chrzastowski, 1999), it is no surprise that there was even greater reluctance to catalog OA journals (Collins & Walters, 2010; Palmer et al., 2009). Perhaps because the ERMS have eased the management process (Schmidt & Newsome, 2007), libraries which use these services have been more consistent in adding OA journals from the aggregators into the catalog and the collection (Collins & Walters, 2010). Basically, libraries which can easily include OA in their catalogs do so.

For the libraries in less-developed regions, however, uptake of ERMS and link resolver services has been more limited for the same reasons for limited uptake of other electronic or digital resources and services: poorly developed technical and knowledge infrastructure, and inconsistent and unreliable funding (Asogwa et al., 2021). Discovery systems (meta-databases of full-text content) have been an alternative solution to enabling access to open access content. The management of discovery systems is less complicated, labor intensive, and costly than ERMS, while still providing to the library’s patrons the content of open access journals. This “third way” effectively extends the library’s collections, albeit without formally adding the titles to the catalog. When done purposefully and in conjunction with a broader OA strategy, such a solution effectively incorporates open access journals as part of, rather than ancillary to, the library’s collections (see case study inset).
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Changing the Conception of Collections

When open access resources are included in library collections, how does that change our conceptions of collections? David W. Lewis described a “demand-side” model of library collections, in which he predicted a gradual but steady increase of the proportion of OA materials in a collection of between 1% and 3% per year (Lewis, 2004). Morrison predicted that library collections would (should?) shift from a focus on “discrete items”, such that the “collection of the future may be a collection of collections of interrelated and/or interlinked items,” (Morrison, 2007). Dempsey, et al., 2014 provided their conceptions of the future of collections, describing different models, notably that of a “networked context” of information, “collections grid” of different formats, sourcing and scaling collections across different levels, the “inside-out” collection (to be discussed shortly), and the “evolving scholarly record”, such that “…conscious coordination will be needed as stewardship, discovery, and access of the scholarly record are increasingly distributed across multiple stakeholder communities: libraries, publishers, and other service providers,” (Dempsey et al., 2014, p. 401). From this, Michael Levine-Clark predicted that for libraries, “the collection will be a purely intellectual concept (emphasis added), since the material will be owned and unowned, onsite and offsite, tangible and digital,” (Levine-Clark, 2014), fully eliminating the criterion of co-location.

These prognostications involve many more factors than only open access, most notably the shift of all information from physical (print and media) to digital, and the concomitant disaggregation of content from the traditional containers (books and journals), physical or otherwise. These factors, however, go hand-in-hand with the factors that have led to the OA movement itself. The circle is complete. So, what has been the effect of open access (journals, specifically) on academic library collections themselves?

Changes to Library Serials Holdings

The surveys of academic libraries in the United States have not provided a consistent metric of serials holdings for longitudinal comparisons. The two surveys of longest continuation have been those conducted for Association of Research Libraries (ARL) and the survey conducted by or in conjunction with the U.S. National Center for Education Statistics. Both surveys have modified their metrics of serial holdings substantially during the transition from print to electronic.

Until 2007, the ARL survey reported the number of serial subscriptions. For the 2006-2007 survey, the metric changed to serial titles, which better reflected “the true scope of the content provided by research libraries,” (Kyrillidou & Bland, 2008, p. 6). Six years later, the survey was even more substantially overhauled to address changing focus from inputs and outputs to impacts. Thus, a number of quantitative metrics associated with holdings were eliminated, including the recently revised metric of serial titles (Kyrillidou et al., 2013, p. 5). The difference between these definitions have made longitudinal comparisons impossible. It is, unfortunately, very difficult to measure the growth in serials that libraries have provided during this (amazing) period transitioning from print to electronic. With that said, the data points provided should paint a rather impressionistic picture.

The last measure of current serial subscriptions provided by ARL members was for the year 2005-2006, the median for which was 25,967 (Kyrillidou & Young, 2008, p. 33), which was up substantially from the previous year of 22,404. Again, this is likely due to the addition of electronic versions for the same title being counted twice, as well as the initiation of “Big Deals”. It is clear to see why this metric was viewed skeptically. The next year, the median number of electronic serial titles of ARL university
libraries was 28,006, of which a median of 7,520 titles were counted as “not purchased,” (Kyrillidou & Bland, 2008, pp. 30–31). The last year of this metric, 2011-12, out of a median of 55,717 serial titles available electronically, 14,788 were not purchased (freely-available) (Kyrillidou et al., 2013, p. 27). Clearly, ARL university libraries were absorbing open access journals into their collections by 2012.

The surveys conducted under the aegis of the U.S. Department of Education, variously named “HEGIS”, “LibGIS”, “American Libraries Survey (ALS)” and “IPEDS/ALS”, have similarly shifted responsibilities and metrics (Aliyeva et al., 2018, p. AL-1). During the 1990’s and early 2000’s, libraries reported serial subscriptions. This metric was dropped in 2010, and reports of serials holdings were included in the total-volumes metric. Beginning 2016, the survey introduced new metrics of number of serial titles in print and in digital formats (reported separately).

At the time that the Open Access movement was originating, the journal holdings of all academic libraries in the United States were far from anemic. From the 2000 Academic Libraries survey, there was an average of 2,126 serial subscriptions (Carey & Williams, 2003, pp. 28, 63). This varied from an average of just over 600 for libraries serving less-than-4-year institutions to over 8,400 for libraries at doctoral institutions. For the highest level of research institutions (Research I & II tiers), the average number of subscriptions was over 23,000. For this survey, “serial subscriptions” were defined as “…the total number of current serials received, including those that are paid and those received without payment”, so this would include any open access journals, as long as they were available through the catalog (Carey & Williams, 2003, p. 6). By 2006, the average more than doubled to 5,352, with the average of doctoral institutions shooting to nearly 16,700.

From 2016, libraries have been reporting the number of print and electronic serial titles currently made available to their users through their catalog (ACRL Benchmark, n.d.). These titles would cover the entire span of historical holdings, digital or print. Comparing titles to subscriptions is like comparing apples to apple pies - they represent different compilations of the same thing. However, we can make some estimates of growth over the last five years.

Using 2016-17 value as a benchmark (average of 64,565 total serial titles), access to serials has grown over 70% to 110,411 titles on average in 2020. The average percentage of serials that were reported as electronic was 58%. The instructions explicitly include open access titles that are accessible “through the library’s catalog or discovery system” (ACRL Academic Library Trends and Statistics Survey Editorial Board., 2021, p. 10). Meanwhile, the percent of collection expenditures that were recurring (that is, for subscriptions) increased only slightly (75.6% in 2015 to 80% in 2020), and expenditures for all library collections per FTE student decreased from $654 in 2013 to $575 in 2020. Increases in paid subscriptions and “Big Deals” alone could not account for this 40% increase in journals available (ACRL Benchmark, n.d.). Open access publications reported by libraries as part of their collections have exploded and have become incorporated into libraries’ collections in the United States.

Statistics of library collections in other parts of the world are harder to find (Chiware & Becker, 2015). Data reported here come from reports of studies of individual or small sets of libraries. One of the more extreme examples comes from the University of Malawi, whose access to serials was as low as 127 titles as late as 2005 (Chaputula & Boadi, 2010, p. 145). Access to journals was greatly expanded by the country’s participation in the International Network for the Availability of Scientific Publication’s Programme for the Enhancement of Research Information (PERI) from 2008 through 2013, but the final evaluation report notes that after the program’s funding ended, access to e-resources decreased (Hanley et al., 2012, p. 15). The website for the University of Malawi library (https://www.cc.ac.mw/page/library-resources) indicates that students have access to over 10,700 resources, but it is not clear
how many of these are currently accessible to their students, given the report of the ending of the program. The resources have not been incorporated into their catalog but rather are accessible via links to lists based on provider. Regardless of the continuation of external funding for subscription resources, the University of Malawi students and faculty effectively have gained access to at least the over 17,300 journals available through DOAJ.

The faculty librarians of the Kenneth Dike Library (KDL) for the University of Ibadan in Nigeria have been prolific producers of library and information science research. Publications from the last two decades of the twentieth century indicated that the number of journal subscriptions fluctuated widely during the 1980’s from as few as 12 to less than 180 (Ekpenyong, 1993; Ifidon, 1997; Ola & Adeyemi, 2000). Donations from the MacArthur Foundation, active pursuit of discounted or free subscriptions from publishers, and modifications to funding practices to establish a more sustainable budget enabled the Kenneth Dike Library to gain access to full-text databases and online journals (Adeshina, 2021). Currently, the website for the Kenneth Dike Library provides a listing of electronic resources (https://library.ui.edu.ng/departmental-resources/) which includes several open access listings, including DOAJ and African Journals Online (AJOL). It is apparent that the KDL has greatly expanded the number of journal titles available to their students in the last 30 years.

**Changes to Serials Expenditures (or Lack, Thereof)**

Despite the tremendous gains in the sheer amount of scholarly literature now openly available to read, there has been little positive change in the amount of funds expended for serials. Subscription access models continue to dominate libraries’ serials holdings, and subscription costs continue to rise (Breeding, 2019). Despite the growing number of OA articles, there continues to be resistance to substantial cancellations of subscription journals.

During the period that the metric was included in their annual surveys (1995-2006), ARL members reported an average of 7.6% annual increase in serials expenditures (Kyrillidou & Young, 2006, p. 10). Based on the last five years of responses to the more broad Academic Libraries Survey, libraries continue to spend about 77.5% of materials expenditures on serials (ACRL Benchmark, n.d.).

Although there has been limited but growing investment in open access initiatives and projects, from hosting OA journal platforms to payments of APCs (Finnie & Arthur, 2016), there has been little reallocation of funds to non-serials resources (ACRL Benchmark, n.d.). The costs of supporting open access (e.g. managing institutional repositories (and their respective services), running OA journal publishing systems and services, managing the APC transactions, etc.) are added to library budgets, but not necessarily from the serials funds. These costs could increase as more technological solutions are developed to handle the requirements of the myriad of OA models that appear (Breeding, 2019).

The shift from pay-to-read to pay-to-publish results in even greater expenditures on journal publications, although sources of funds vary widely (Levine-Clark, 2018; Shulenberger, 2016). Already there is evidence of “hyperinflation” of APCs in certain subjects, with no evidence that authors (at least, those in the Global North) take such costs into consideration of their selection of journals in which to submit their works (Khoo, 2019).

Finally, there are the services and responsibilities that support OA resources and publishing. These services have generally been added to those of the library, with few, if any, services dropped. Rather than replacing subscription journals, libraries have effectively added the responsibilities for inclusion of OA to their workload.
IMPACT OF OA ON COLLECTION DEVELOPMENT LIBRARIANSHIP

Changes to Collection Development Librarianship

Along with the debates regarding the changing concepts of library collections and even libraries themselves, there has been a corresponding debate on the changes to “collection development librarianship” and librarianship in general. These debates are interrelated and often occur within the same discussions, largely due to the connection of “library” with “collections”. That is, a library is its collection.

Some have argued that as more titles are made available Open Access, the library’s role as broker of information will be eliminated (Levine-Clark, 2014). While journals do represent the largest expenditures for information purchased by libraries, they are not the only resource that requires negotiation and acquisition, notably online books, databases, and digitized archives. Such resources require significant labor and technical skills to develop and refine, for which licensing supports. Furthermore, while there is a trend in making access-to-read free of charge, there is a corresponding trend in making access-to-publish even more costly. Librarians have been heavily involved in “transformative agreements” (TAs), which require extensive expertise in negotiating, understanding and implementing (Jurchen, 2020). While there are concerns about the ethical and logistical issues associated with TAs and increasing APCs (Echterming, 2019; Jurchen, 2020), the library as a broker is likely to remain, regardless of the direction of fees.

Other recommendations focus on selectivity or the vetting role of the librarians. As noted by Lee’s interviews, many patrons consider the value in the catalog as a filter, providing access to quality and relevant resources. While ERMS have made it easy to include large collections of OA journals from aggregators like DOAJ, librarians have been advised to use the same criteria for selecting traditional resources to the selection of these journals (Canepi et al., 2013). These criteria are considered universal, in that they can (should) be applied to any kind of resource being considered for addition to the collection. Of course, this conflicts with our perception of our patrons wanting access to everything from one place. Thus, librarians have been encouraged to apply their expertise in information organization and description to improve the discoverability of these resources.

Discovery and information management are values that libraries and librarians could add, as well. Michael Levine-Clark noted (in 2014) that, “(b)ecause libraries no longer have a monopoly on the provision of access to information, the value that they add to that content is now just as important as the content itself,” (Levine-Clark, 2014, p. 430). The values he predicted included developing “strong and deep” special collections of a variety of formats, providing access and support for reference management tools and research workflows, academic analytics tools, discovery, in addition to supporting APCs and financial transfers.

From the beginning of the Open Access movement, librarians have become more involved in the scholarly communication cycle. Given their vested interest in reducing expenditures on a single form of communication (the scholarly journal), libraries started participating more directly through the establishment of institutional repositories, digitized archives, and journal publishing platforms with the intent of providing lower-cost alternatives. No longer relegated to selected stages of scholarly research, librarians now provide services at all stages (Dempsey et al., 2014). Examples of new services include data curation, text and data, consultation on selecting optimal channels for publishing work, providing insight on copyright issues, assistance with brokering publication fees, and even hosting open access platforms themselves (Dempsey et al., 2014; Grabowsky, 2015; Mullen, 2009).
Flipping Collections

With the increased availability of scholarly works from sources outside of the library, librarians have been reconsidering the kinds of collections they should be providing. There have been calls for an increased effort to focus on the local for collections (Dempsey et al., 2014; Levine-Clark, 2014; Morrison, 2007). This shift from “outside-in” to “inside-out” collections have resulted (or could eventually result) in shifts in services and roles of collection development and subject librarians (Dempsey et al., 2014; Levine-Clark, 2014). Such collections include digitization of archives, enhancement of special collections holdings, and increased efforts to ensure perpetual access to the vast arrays of data and information (Gwynn et al., 2019; Morrison, 2007; Turner & Billings, 2019).

Institutional Repositories

Institutional repositories were the direct result of Green Open Access models and OA mandates (Crow, 2002). They were the solution proposed in the BOAI and other early initiatives as a way to work within the (then) current scholarly communications ecosystem. Some early advocates considered Green and Gold OA to be the only solutions necessary to the reading-paywall problem (Harnad et al., 2004). Institutional repositories evolved in response to conflicting factors - notably, lack of participation (despite mandates) while extending the original purpose to highlighting more forms of institutional outputs. Libraries at institutions with at least a modest amount of research activity have invested in resources to support institutional repositories of research outputs for their institutions. This may include participating in a collaborative or joint effort, often hosted by a larger research-intensive institution in the region, although most major institutions host their own.

Supporting an institutional repository usually involves more than hosting the technology or platform. Services associated with this repository may range from simple hosting with minimal support, to full hosting support with automated harvesting of outputs, assisted description and metadata, and consulting on institutional property rights and copyright concerns (Gwynn et al., 2019). Libraries and librarians have been developing roles of assisting with the discovery of the scholarly works, as well. Institutional repositories have led to the development of new librarian specialties, notably the Digital Librarian and the Institutional Repository Manager (Cox & Corrall, 2013).

Like librarianship in general, these services can be universally applied, despite the different trajectories of the development of digital libraries (specifically, institutional repositories) in different geopolitical regions (Bawack & Nkolo, 2018; Minniti et al., 2018; Owusu-Ansah, 2020; Sawant, 2009; Smith, 2019). There has been a growing rejection, however, of the Western conceptions of service and assessment as applied to libraries in general and open access in particular. Scholars within these regions and advocates support meeting local needs using locally-derived methods and solutions (Bawack & Nkolo, 2018; Nkoudou, 2020; Schöpfel, 2018; Teixeira da Silva et al., 2019).

Journal Hosting

Many libraries, particularly larger libraries which are more active in OA efforts, have taken on the problem of increasing access to publish by supporting OA journal platforms. These services may range from providing the hosting platform only to providing support for all aspects of publishing, even with
managing the cash flow of APCs, albeit at the more moderate costs originally envisioned by Stevan Harnad and others (Okerson & O’Donnell, 1995).

The reasons libraries have for hosting OA journals include more fully supporting Open Access initiatives, supporting the dissemination of their constituents’ research and scholarly outputs, supporting an emerging or niche field, and extending their role as disseminators of information (rather than traditional publishers who pride themselves as gatekeepers). Many of the journal hosting services provided by librarians and library staff are themselves extensions of those provided for the institutional repositories. There are journal hosting platforms that require technical expertise and support in managing, as well as metadata expertise for enabling the contents to be discoverable. Services more specific to publishing build on skills that have been deployed by librarians and library staff, including article presentation layout and design, and editorial services (Gwynn et al., 2019).

CONCLUSION AND FUTURE DIRECTIONS

Open Access has had disruptive impact on the scholarly communications ecosystem, including library collections and collection management responsibilities. Vast amounts of scholarly literature have become openly available to read. Libraries have incorporated these resources into their collections, providing access to many more journals and substantially more content. Libraries are also providing more services to support open access. The impact, however, has been unevenly felt. Furthermore, in this period of transition, there has not been any substantial shift in expenditures or responsibilities, only additions to expenditures and workloads.

Greater Access to Read, not Shifts

The amount of serial literature freely available to read has increased exponentially since the early years of the Open Access movement. Growing from a few journals sharing files on pre-Web networks to the now over 15,000 journals publishing over a million articles per year (Crawford, 2021), this movement has greatly impacted the scholarly communication cycle.

The amount of serial literature available via academic libraries has increased substantially, possibly exponentially. The number of current journal subscriptions offered by American academic libraries through their catalogs effectively doubled between 2000 and 2006. The total number of serial titles offered in American academic libraries grew over 70% from 2016 through 2020, with a decrease in the serials expenditures per full-time equivalent student (ACRL Benchmark, n.d.).

Growth in access to journal literature via libraries in countries in the Global South has been affected by the print-to-electronic transformation, as well as by the Open Access movement. While some regions have greater barriers to the information-digital economy than others (Hilbert 2015), most urban centers in the world have a well-developed technological and knowledge infrastructure (Baker 2009). Some regions have, notably Latin America and Asia, have an OA ecosystem that is well-developed and integrated within that region, but which is considered “inaccessible” to the Global North due to the language barrier. The linguistic domination of English as the lingua franca in scholarly communications has stymied the flow of research “from poor to rich” (Minniti et al., 2018). Other regions, specifically the African continent, are more isolated geopolitically and have more inconsistent development of OA initiatives.
Impact of Open Access on Library Collections and Collection Development Services

Incorporation of open access materials in the libraries of these regions has been hard to measure. While the technological challenges of fully-incorporating OA resources into the libraries’ systems are universal, access to the solutions are inequitably distributed (Asogwa et al., 2021; Raliat & Adenike, 2020). Globally, there has also been inconsistent acceptance of open access as a fully-upstanding member of the scholarly communication community, due in part to perceived resistance to open access literature by scholars, lack of awareness of the opportunities, and the damage from the “predatory journals” scandal (both the label and the offending journals themselves) (Czerniewicz & Goodier, 2014; Dalton et al., 2020; Sawant, 2009; Smith, 2019).

When libraries in these regions do take up the mantle of Open Access, however, they have been able to bring to their scholars the full scope of serial literature, very often more relevant to the local needs and interests than that published in paywalled journals (Chigbu et al., 2016; Raju et al., 2017; Uzuegbu & McAlbert, 2012; Zharinov, 2020). Furthermore, they are able to participate in the building of their own open access ecosystem through development of robust and interoperable institutional repositories, no-fee or low-fee journals, and providing services to assist their faculty and students with navigating the complexities of scholarly communication in today’s world.

Greater Responsibilities, not Shifts

The aphorism, “Free, as in puppies”, clearly applies to Open Access. Despite the extraordinary increase in OA literature available, libraries have made no significant shifts in funding for serials. They have merely taken on greater responsibilities for inclusion of these resources in our systems, working within the environments and constraints that is our scholarly communications ecosystem. Likewise, libraries have added (to greater and lesser extents) responsibilities for providing services to support the dissemination of the hard work of their own institutions’ scholars through technology and education. There have been, again, no major shifts in library services, however; they are provided as part of standard liaison or collection responsibilities.

Greater Hope for the Future

Despite facing obstacles and pressures of hyperinflated APCs, dealing with complex transformation agreements, and being pushed to the sidelines by publishers, administrators and funders, libraries are advised to stay in the mix. Our expertise with organizing information can enable greater exchange across global communities. Our success with advocacy could raise awareness of continued inequities of access to both reading and publishing. Our experiences with community outreach could smooth the interface between communities and funders to enable greater participation in the information-digital economy. Our growing skills at negotiation, advocacy, and information sharing could enable the very competition in the marketplace that is advocated by the commercial publishers.

There are further hopes for library collections, as well. By fully incorporating the wealth of information available through openly into their collections, librarians have the opportunity to make clear choices about the value of open access to their patrons.
REFERENCES


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APPENDIX

THE INTEGRATION OF OPEN ACCESS JOURNALS IN ACADEMIC LIBRARIES: A CASE STUDY OF THE UNIVERSITY OF NAMIBIA LIBRARY

By Anna Leonard, Katharina Ngandu, and Karen R. Harker

Introduction

The evolution of information and communication technologies, especially the advancement of the internet, have transformed the way science is produced and communicated. This has led to an increase in online publications and an increase in open access publishing of books and journals. Combined with the high subscription cost of subscription electronic resources, these changes have resulted in libraries across the globe to explicitly include open access in their service provision and collection development (Dempsey et al., 2014). Libraries are now being engaged and will continue to support open access initiatives by supporting the publishing of open access books and journals, archiving of open access information resources, and open education resource initiatives, while librarians are serving as advocates for open access to scientific information (Grabowsky, 2017). In addition, libraries are continuously integrating open resources into their collection development and collection assessment, with some libraries replacing high-cost subscription resources with quality open-access information resources (Grabowsky, 2017, Reed & Jahre 2019). This is also the case for most libraries in Africa, where budgets to subscribe to scientific online resources are limited. This case study will provide a status quo of the University of Namibia Libraries’ initiatives and approach to open access resources and services integration.

The University of Namibia (UNAM) was established in 1992 two years after independence. The university houses four faculties: the Faculty of Agriculture, Engineering and Natural Sciences; Faculty of Commerce, Management and Law; Faculty of Education and Humanities; Faculty of Health Sciences and Veterinary Medicine. The University has 12 campuses spread across the country with each housing a library that facilitates access to high quality information resources and services. The UNAM Library aligns with the university’s strategic plan and is geared towards supporting the academic and research goals of the university. The overall UNAM Library print collection stands at 180,000, supplemented by subscribed electronic journals, e-book collection and print journals.

Open Access and Collection Development

The university library continues to develop its collection by integrating more open scholarly scientific resources, especially with the economic downturn causing financial resources to be scarce and libraries facing deep budget cuts. The UNAM integration of open access into the library collection is supported by the “Scholarly Communication Policy for the University of Namibia”, as well as the library’s collection development policy which supports the integration of open access into its collection using the same selection and assessment criteria that are used to integrate other resources (University of Namibia, 2013). The emphasis of the open access resource collection development is on the relevance and quality of the resources to support teaching, learning, research and innovation development at UNAM, as well
as the reputability of the publisher and the resource (UNAM, 2017). This is due to the complex nature of open access and the growing number of potential publishers that are tarnishing the integrity of open access publishing. Although, academics have the right to suggest a specific resource for inclusion in the library collections, the faculty librarians are responsible for conducting a thorough evaluation and making an informed decision on the inclusion and exclusion of the resource. Subject librarians also review course outlines to identify possible relevant, prescribed, and recommended resources for inclusion in the collection.

Because the library does not have an e-resource management system, open-access resources are not included in the library’s catalog. However, link resolvers, such as EBSCO link resolver, are used to integrate the open-access resources into the entire library’s online collection. This ensures that these OA resources are accessible at the point of need within the discovery system, as well as the abstract and indexing databases. For access at the journal title level, the open access directories, such as the Directory of Open Access Journals (DOAJ) and Directory of Open Access Books (DOAB), are indexed on the library e-resources listing on the website to optimize use. Due to their complexity, hybrid journals are not included in library collections, unless the library subscribes to providing the complete full-text for such a journal. These efforts have enabled discoverability and findability of OA resources for our students and academics.

Finally, open access is also heavily promoted during orientations and training sessions for both students and academics. The use of discovery search tools allows students and researchers to find scientific information without any discrimination of publishing mode: open or subscribed content, which maximizes the use of open access content as well.

Open Access Publishing and Archiving

Open access publishing and archiving is supported and governed by the institutional policy, the “Scholarly Communication Policy for the University of Namibia”. The policy provides a mandate that “all UNAM journals shall be published open access free of cost to the author and the user” and directs that UNAM research submit their research raw data and publications for inclusion in the institutional repository (University of Namibia, 2013). The library, as a supporting strategic entity and knowledge management institution, provided expertise in establishing the open access platforms and managing and maintaining the institutional repository. The library provides support to journal editors on how to use the platform, training licensing model, and copyright issues. In addition, the library serves as an advocate for open access through its campaign for open access publishing and by training researchers on copyright to better understand authors’ rights in terms of publishing and archiving. While the university Centre for Research Services funds open access publishing for article processing charges, the library onus is on conducting in-depth resource evaluation to validate the reputability of the journal in which the author intends to publish, to avoid the investment of university resources in potential predatory publishing.

Usage of Open Access Collection and Publishing

Although there are no tools to evaluate the actual usage of open access collections, we are convinced that the open access resources are used, especially now during COVID-19 when most students and researchers access the library remotely. An internal collection assessment conducted in 2015 on the use of the library collection analyzed references of academic and student publications found that open ac-
cess resources were mostly used. The use of open access resources can also be observed by the level of open access publishing at the university. There has been a high rate of open access publishing at UNAM for the past five years. The Scopus index database also shows that about 631 out of 1245 publications published during the past 5 years (2017–2021) are open access publications.

Conclusion

In the wake of economic downturn in the country, government funding of the University has been greatly reduced. Hence, each unit of the university has been encouraged to devise innovative means of optimizing their service with limited resources. To be good stewards of institutional resources, information management and provide access to information, the UNAM Library has embrace and taking advantage of the Open Access resources to support the academic community. During the COVID-19 health emergency in the year 2020, UNAM librarians observed that some library patrons were not always aware of the open-access resources available to them; many inquired about access to journal literature which was readily available to them via open access. Additionally, many UNAM scholars continue to express reservations in publishing their research finds in open access journal. Hence, in order for the institution not lagging behind in publishing research work, active participation should be encouraged.

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