Defining an open access resource strategy for research libraries: Part I—The coming main streamlization of open access resources?

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Abstract   Open access (OA) resources are becoming a main part of scholarly information. The paper summarizes the fast growth of OA journals and OA repositories, the outstanding OA journal impact increase, the rise of mega-OA journals like *PLoS ONE*, the overwhelming support of research communities to open access of publicly funded research, and the quick building up of OA support structures. These forces work together to push scholarly communications toward a turning point where OA resources occupy a major and increasing share of scholarly research resources and when management of OA resources becomes a strategic, yet unfamiliar, and potentially disruptive task for research libraries. This paper is composed of two parts. The first part will focus on the development of OA resources, while the second part will analyze the challenges in management of OA resources and develop an OA resource strategy exemplified by some of NSL's initiatives.

Open access (OA) information resources are fast becoming a major part of scholarly resources that research libraries rely on so much to support their users. However, these resources come with the ways vastly different from what libraries are used to in terms of acquisition, collection management, utilization, and preservation. In this sense, OA resources constitute a disruptive force with possible catastrophic effects to the future roles and impact of research libraries.

At the same time, OA resources still face many challenges if they will be soundly managed as part of the knowledge infrastructure for research and educational organizations. This situation gives research libraries great opportunities to devise strategies in helping their parent organizations achieve a solid and sustainable management of OA resources, and meanwhile, to compete for a leading position for libraries in the emerging open information environment.

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With the above in mind, we will investigate in the Part I of this paper the great coming-into-the-main-stream trend of OA resources. Then in the Part II we will analyze the challenges (by a challenge metrics) in managing OA resources from research organizations' point of view, and outline an integrative OA resource strategy a research library may take, with illustrative examples from the National Science Library started. We offer these as a test bed, in the hope that the issues of managing OA resources will be an important part of strategic planning for research libraries aiming for the future, before it is too late.

As we position our study from research libraries' point of view, OA resources discussed here will mainly be scholarly journals and research papers. Though scholarly monographs and textbooks are indeed important in research and learning, and in open access movement, the overwhelming share of latter in the use and library budgets merits this approach, especially when the situation of OA books is fluctuating greatly and use/impact data is yet hard to come by. However, the authors intend to carry their study of OA resource strategy into this area soon.

1   The growth of OA journals and OA papers

Statistics and studies indicate a strong growth trend of OA journals and OA papers. According to the Directory of Open Access Journals (DOAJ)[1], there now it has 7,522 quality controlled scientific and scholarly open access journals by Feb. 25, 2012. In addition to these full OA journals, there were about 2% take-up rate in journals offering hybrid open access options in 2009, according to Suenjr Dallmeier-Tiessen et al[2].

Adding the full and hybrid OA papers together, Suenjr Dallmeier-Tiessen and colleagues calculated that there were about 120,000 scholarly OA articles in full or hybrid models in 2009 (notice that they only included those OA journals published regularly, about 2,800). This, by their counts, was about 8%–10% of the yearly global scientific scholarly article output in 2009, considering the yearly scholarly article output was estimated about 1.5 million[3].

A recent study[4] then explored the growth rate of OA journals and reached the conclusion that, from 1993 to 2009, the annual growth of OA journals was 18% and 30% for OA articles (including OA articles deposited into OA repositories). Though the increase of new OA journals may not be as dramatic now as before, the growth of OA articles may still hold on to its fast pace, considering the rise of the mega OA journals like *PLoS ONE* and increased taken-up of golden OA journals by publishers of subscription journals, both we will turn to later in this paper.