



A Summary of Business Options for NSDL

David McArthur, with Sarah Giersch, Gerry Hanley, Kate Wittenberg,
the NSDL Core Integration Project, and
the NSDL Sustainability Standing Committee

Background

The National Science Digital Library (NSDL) is an NSF research program funded through FY2006. However, NSDL will need to establish an operational business plan and an organizational structure that reflect the overall NSDL mission and at the same time provide for long-term sustainability of the enterprise. Identifying a business model for NSDL will be challenging. Unlike seemingly similar digital enterprises, NSDL potentially encompasses a diverse number of marketable products and services. In short, NSDL's value-proposition may be manifold, and difficult to articulate to both users and partners.

Several strategic documents have begun to outline business models and planning processes for NSDL, most notably, papers from Bernie Rous, Stuart Takeuchi, and the Core Integration (NSDL CI), led by Dave Fulker. Building on these previous efforts, the main goal of the current work, summarized below, is not to converge immediately on a single detailed business model, but rather to first consider several different business options at an intermediate level of detail. *Feasibility studies of multiple business options represent a preliminary step to business planning in depth.*

This work has been initiated in two ways. First, we are planning a workshop that will bring together the NSDL and potential users, customers and partners, including higher education and K12 representatives, open-access advocates, professional-society and commercial educational publishers, as well as developers of institutional repositories and members of the academic library community; this is supported by a supplemental grant to Columbia University. Second, companion papers will provide a market scan and analyze several business options in depth, using a framework of questions (see Figure below); this is supported by an NSDL CI grant to UCAR.

Business Options for NSDL, in Brief

Following are several business options for NSDL that are being considered. By no means do they exhaust the possibilities:

- *Open-access aggregator* – Could NSDL work exclusively, or primarily, as a distributor of free resources that require no direct payment from end-user communities? If so, how will it cover costs (and measure them)? To minimize costs what value-added services might it need to forego, such as editorial/quality control? If there is no charge for basic access, should NSDL charge for other services?
- *Partner with publishers* – Can NSDL establish business partnerships with commercial and/or professional society publishers? If so, which of several different relationships might be most valuable to all? How will NSDL and the publishers gain revenue from such partnerships, provide valuable content and services to educational communities, and also adhere to the NSDL mission?

- *Value-added service provider for specific sectors* – A current NSDL strategic plan focuses on providing digital content as well as extensive learning- and teaching-related services to middle-schools, and possibly matching NSDL resources to K12 state standards. Who demands these services and who will pay for them? Can this venture sustain NSDL as a non-profit business, and can it be extended to other educational sectors?
- *Institutional subscriptions* – Especially in higher education, could NSDL provide valuable services and generate cost-recovery revenue from subscriptions or individual-access sales? What services and licensing arrangements will be critical to include in this package, and how will it need to be priced, considering the budget constraints of many institutions, and their growing reluctance to accept costly “bundled” information services?
- *Research facility* – Could NSDL remain a research and development testbed of new learning technologies and innovative educational integration practices? What would justify this long-term facility-level public support by NSF or other agencies? Would this option be compatible with other options? For example, could NSDL receive research funding from the NSF and also gain revenue from publisher partnerships?
- *Self-sustaining community or set of communities* – Could NSDL become the *SlashDot*, *DMOZ*, or *Wikipedia* of education, relying primarily on the charitable contributions of time and resources by its end-users to sustain itself? What costs can this community-based model reduce, or cover, and how will additional revenue be obtained? What value could this option bring to constituents that doesn’t appear in other business models? What are the risks of this option, and can they be mitigated?

A framework of questions for an NSDL business option:

- What’s being proposed (e.g., what set of products and services is the NSDL envisioning under this option)?
- Why is it important (not only in terms of demand, but, more broadly in terms of the goals and mission of the NSDL, its core values and definition of success)?
- Who wants it (the ultimate customers for the products or services)?
- Who will pay for it (in many cases, but not all, this would be the immediate customers; this addresses funding models for the NSDL, in the context of a specific option)?
- Why would they come to the NSDL (what’s the comparative advantage of the NSDL in developing and delivering the products or services)?
- How will the NSDL do it (what skills and resources does it have, what resources and investment will it need, and what partners will the NSDL also require to play key roles)?
- Why might this fail (what are the key risks for the option, and how might the NSDL mitigate them)?
- What benefits might be realized if it succeeds and how will the NSDL know it has succeeded (like the failure risks, these may have to do not only with the main value-proposition of an option, but also with how they address other “hot issues” for a constituency, such as intellectual property control and professional advancement)?

Conclusions and Next Steps

One conclusion of our initial feasibility studies is that convergence on business models for NSDL is likely to be complex because the NSDL mission is broadly scoped and because NSDL is comprised of multiple projects contributing content and services to meet the needs of a diverse range of end-user communities. As such, NSDL will probably want to consider *multiple business options*—from the set discussed above and others—as part of its business planning. Furthermore, each business option may only be compatible with specific funding alternatives (e.g., subscriptions might pay for aggregator services; federal grants might continue to fund research prototypes and projects). NSDL can consider a number of these components as part of



a full business plan. One of the only real risks of this might be that coordinating multiple business directions and funding streams will not only impose management and organizational costs, but could also threaten to fragment the unified mission of the NSDL.

Another main conclusion from the initial feasibility studies is to recognize the importance of the *process* of converging on feasible business options, rather than the details of specific alternatives. Even if the options mentioned in our studies do not ultimately fit the needs of NSDL, business planning should start by using the framework of questions developed here to initiate a feasibility assessment of whatever options become serious choices for NSDL. As Bernie Rous recommended, real progress in formulating a business plan means getting together the key constituents—users, contributors, developers and R&D staff, managers and owners, as well as other community members—and engaging in a sustained dialogue about their roles as partners, the benefits they would derive from the business, and the resources they would invest to help launch and sustain NSDL as a business.