



PROJECT MUSE®

The Future Role of Publishing Services in University Libraries

Tyler Walters

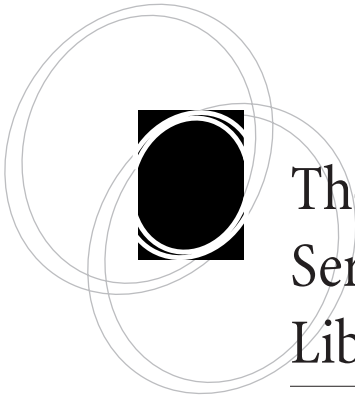
portal: Libraries and the Academy, Volume 12, Number 4, October 2012, pp. 425-454 (Article)

Published by The Johns Hopkins University Press
DOI: [10.1353/pla.2012.0041](https://doi.org/10.1353/pla.2012.0041)



➔ For additional information about this article

<http://muse.jhu.edu/journals/pla/summary/v012/12.4.walters.html>



The Future Role of Publishing Services in University Libraries

Tyler Walters

abstract: This study explores possible futures for university-based library publishing services (LPS) and uses scenario planning as its research method. The study posits that the major force in developing LPS is the level of funding from the host university, with the most uncertain factor being whether faculty will adopt LPS. The study participants comprised university library directors, library managers responsible for publishing services, and library association personnel and consultants involved in publishing. Many participants saw collaborating with multiple libraries and other stakeholder organizations to establish publishing cooperatives as essential. Issues discussed include whether university libraries will embrace this role, faculties' level of satisfaction with existing services, divergent disciplinary experiences, opportunism as a mechanism to develop services, technology challenges, international dynamics, traditional vs. new forms of scholarly publishing, and publishing cost considerations.

Introduction

The economic, technological, political, and cultural environments surrounding scholarly publishing are undergoing rapid and permanent change and the larger scholarly communication system itself is in great flux. There are many uncertainties in these environments and in regard to how they specifically will affect changes in scholarly communication at the global scale. Public policy and the rising mandates for access to publicly funded research output in the form of publications and their underlying data are a major driver behind digital publishing entities seeking new business models. In some cases, non-profit publishing is receiving a boost from these mandates. Google and the Internet itself are forcing the exploration of new business models as people come to expect information to be freely available through the World Wide Web. In academe, academic disciplines are embracing digital publishing at varying rates and are experiencing change in how to package and disseminate research and scholarship.

portal: Libraries and the Academy, Vol. 12, No. 4 (2012), pp. 425–454.

Copyright © 2012 by The Johns Hopkins University Press, Baltimore, MD 21218.



Pre-print servers, blogs, virtual communities, portals, and websites are challenging traditional forms of books and journals. Given this perfect storm of converging events, university libraries that are pursuing digital publishing services might benefit from examining possible futures that could develop for such services out of the ever-changing context of technological, economic, policy, and culturally based factors impinging upon them. It is through such an examination that these libraries can anticipate and adjust strategically for the changes in the scholarly communication paradigm and design the new role of university libraries as publishers.

Problem Statement

University libraries are both witnesses and actors in the process of change in scholarly communication. They are shaping their own responses to changes and guiding the responses in ways that bring economic sustainability as well as improved knowledge dissemination to the newly emerging scholarly communication paradigm. Much of the existing literature reviews the current technological possibilities, economic challenges, and initial paths forward, such as new business models and government mandates that support Open Access (OA) scholarship and research. However, no study has engaged a group of university library leaders, library-based publishing services managers, and library-based publishing thought leaders from organizations such as the Scholarly Publishing and Academic Resources Coalition (SPARC) and the Association of Research Libraries (ARL) in imagining and developing possible futures for library publishing services (LPS) and the changing scholarly communication landscape. The purpose of this study is to fill that void by postulating different futures wherein university libraries' act as digital publishers, and engaging experts to consider, respond, and advance those futures.

Such a study lays the groundwork for university libraries to engage in formal scenario planning for library publishing services. Scenario planning is a strategic planning method used by organizations to create stories or "scenarios" that describe potential future environments in which the organization will operate.¹ Scenario developers base the planning on identifying powerful influences, such as economic, political, cultural,

and technological forces, as well as important uncertain factors, affecting each scenario. An organization then responds to the scenarios by planning for how it will meet its goals, which may include undergoing organizational change within a scenario's context.

Creating stories that reflect possible futures for LPS will improve university libraries' positions by addressing the expanded suite of information services represented by digital scholarly publishing.

Creating stories that reflect possible futures for LPS will improve university libraries' positions by addressing the expanded suite of information services represented by digital scholarly publishing. Information professionals can use these stories to leverage new approaches that will inform both planning and implementation initiatives, with the



goal of comprehending and advancing university libraries' role as digital publishers. The findings of this study will assist university libraries that are developing publishing services by extrapolating current activities toward future publishing business models, collaborative settings, and technological environments. Directors of these university libraries, and perhaps others, can apply the scenarios and benefit from their considerations and forecasts. Understanding long-term scholarly communication scenarios will inform university libraries' approaches to developing publishing services, including their needed transformations in infrastructure, expertise, and advocacy.

By focusing on a population of library leaders, library-based publishing services managers, and library-based publishing thought leaders, the current study possesses some limitations worth noting. Specifically, it does not research other populations who are actors – experienced and emerging – in the scholarly e-publishing landscape. Among these populations are university faculty and administrators, university and commercial presses, scholarly societies, and Internet companies who are beginning to offer publishing services. They need to be the focus of future studies as well. The need for additional study is more completely addressed in the “directions for future research” section of this article.

Literature Review

The literature on publishing services and university libraries is dominated by assessment reports. Various organizations have commissioned efforts to examine, interview, and synthesize their thoughts on issues such as cooperative publishing models; new discipline-specific digital publishing approaches; the economics of and revenue streams for publishing, which include assessments of OA approaches; integrating publishing into emerging digital environments for researchers; and advancing the model of library-publisher collaboration. Organizations such as SPARC, Ithaka, ARL, the Modern Language Association, the Center for Studies of Higher Education at the University of California-Berkeley, and the Canada Foundation for Innovation/Canadian Research Knowledge Network, all have examined aspects of publishing services and its organizational and economic contexts.

There is a growing effort to contextualize the changes represented by new efforts such as library publishing services. The leading initiative is the ARL 2030 Scenarios.² The ARL planning effort makes use of the 25-year scenario planning approach developed by Royal Dutch Shell and adopted by other oil industry companies to describe and forecast the driving forces and leading uncertainties that organizations must plan for if they are to succeed in the future. The ARL Scenarios also borrow a significant quote from the “ARL Strategic Plan 2010-2012”:

Strategy 1: Initiate visioning and scanning activities focused on emerging roles for research libraries in the processes of research, scholarship, and graduate education. Encourage and facilitate member engagement in adopting new roles in advancing research and scholarship.³

A new study on success strategies for LPS delves even deeper into the current state-of-the-art for LPS and what needs to be done to nurture and grow this role.⁴ Beginning as



an Institute for Museum and Library Services (IMLS) funded grant project, the libraries of Purdue University, the University of Utah, and the Georgia Institute of Technology engaged consultants to examine their publishing services. They took their findings and hosted three workshops at the respective universities, inviting librarians and interested parties from other institutions and organizations to attend and discuss their LPS experiences.

These strategic reports and their statements underscore the importance of examining LPS as university libraries strategically alter their course to include processes that involve creating and producing scholarly information.

The net result is the “success strategies” report, which makes recommendations in areas of business planning, services assessment, staff skills, technologies, policies, and other areas, all based on the findings

from the three universities and workshop participants. These strategic reports and their statements underscore the importance of examining LPS as university libraries strategically alter their course to include processes that involve creating and producing scholarly information.

Other studies describe how library liaison programs are transforming to address and include issues related to changes in scholarly communication, such as author rights, as well as scholarly publishing operations, such as OA publishing services provided by university libraries. Karen Williams describes how research libraries are moving from managing the products of scholarship (for example, publications) to the processes of scholarship (that is, publishing and other forms of knowledge sharing).⁵ Using her own work at the University of Minnesota Libraries, she describes how liaison librarians are incorporating new services to support this transition into their job duties. Recent literature also covers the institutional repository (IR) movement and its effects on university libraries. Walters describes how IRs have been a driver behind reorganizing library staffing and workflows as university libraries “re-position themselves to become major digital publishers and broadcasters in the scholarly world” and increasingly develop into “active disseminators of intellectual output for entire universities.”⁶ These recent planning documents and articles describing change processes provide broader planning contexts as well as examples of librarian transformation that drive growth and change in university libraries.

A recent study examining the future role of libraries in the scholarly communication process using scenarios surveys twenty ARL directors for their insight and opinions in response to the scenarios put forth by the authors. The authors discuss “[i]ssues such as library as publisher, the economy, and the need for collaboration,” asserting that libraries have the opportunity to define their role in the scholarly communication process.⁷ They point to a variety of tools, services, and initiatives such as the rise of institutional repositories, the OA movement, self-publishing, and social media software and claim that this emerging complexity and diversity is creating transformational opportunities for libraries. The authors’ Scenario #4 – library as publisher provides four variations (Scenario 4a – 4d) on how libraries might adopt and implement the publisher role.



What remains to be seen is whether the majority of university libraries can develop a rich set of digital publishing support services and operations, or a limited set of related services, such as playing a consultative role only (for example, librarians assisting faculty with retaining author's rights or re-using their content in the classroom). The scenarios offered in this study will help in forecasting these future directions. Furthermore, it will develop and describe one facet of the changing university libraries landscape – adopting new roles in advancing research and scholarship – and specifically delve into the drivers, forces, and points of uncertainty that impact the shaping of future library publishing services.

Publishing Cooperative Models and Library-Publisher Collaborations

Some experts are touting publishing cooperatives among the new structures to be used in maintaining economic and business model viability along with mission accomplishment. A future scenario might be one in which university faculty embrace library-based publishing services, but the university administrations do not fund it specifically. Hence, funding for library publishing may be low, necessitating ingenious approaches to leveraging resources across institutions, such as through publishing cooperatives and library-publisher collaborations. Cooperatives are owned and operated by their members, for the benefit of the members and their constituents or clients.⁸ A benefit of the cooperative model is that its members wield more market influence together than individually. They

A benefit of the cooperative model is that its members wield more market influence together than individually.

also can share in the infrastructure and expertise, as well as spread out the cost burdens associated with scholarly publishing. Some additional benefits include access to capital for investment purposes; spreading out business risk, business management, and technological expertise; sharing the business-to-business services that publishers need (for example, technology consulting, personnel management, and print distribution); and marketing services to promote the content being produced. The model lends itself more toward non-profit models of operation since its aim is not to maximize profits, but rather to achieve economic viability while ultimately attaining their mission and goals of producing and disseminating scholarly information.⁹

The library/publisher collaboration can be viewed as a specialized form of publishing cooperative. Several universities are putting units together to effect this style of publishing initiative. Among these are Purdue, Columbia, and the universities of Michigan, Utah, and California. The University of California collaboration is one of the older partnerships. Established in 2007 and with many collaborative projects behind them, the UC Press and the California Digital Library Publishing Group reach formal agreements to work in a tightly integrated fashion. Together, they produce print and e-journals, technical papers, print and e-books, conference proceedings, and the repository service, eScholarship. They claim that their collaboration has produced a new model, that of "University as Publisher" with fundamentally different ways of looking at publishing, which has been largely discipline-centric in its content, services, and client/user.¹⁰



Raym Crow and others writing about various forms of publishing cooperatives approach this model from the perspective of professional and scholarly society publishers, many of which typically publish only one to three journals, dedicated to a specific field or discipline.¹¹ In many cases, these publishers are presupposing non-profit (that is, cost recovery) publishing. University libraries therefore may find publishing cooperatives a useful model that they may either employ directly, or borrow concepts from, as they push forward with establishing and maturing their own services. If university libraries in the future operate under a scenario in which they garner only limited or shrinking resources for their operations, then the literature and research behind such cooperatives and collaborations might forecast library-based publishing's future.

Economics and Business Models

From 1999 to 2002, the Modern Language Association (MLA) began examining the impact on scholarship of electronic publishing and the corresponding changes in the economics of publishing. The MLA's Committee on the Future of Scholarly Publishing investigated the "scholarly communication crisis" and recommended strategies and actions to diminish it in 2002. The report identifies the "library budget problem" of sharply reducing monograph budgets and shrinking university press revenue, with a concomitant rise in manuscripts submitted to university presses. Hence, the focus on publishing income streams and revenue levels begins.¹²

The topics of revenue streams, new business models that support OA, and the overall economics of scholarly publishing dominate much of the report literature. These matters are reflective of a future scenario in which funding to research institutions and their libraries is curtailed and OA, or a "free to readers" approach, may be a chosen path forward to reduce the cost burden to the researchers and institutions that purchase the content. Overviews and analyses of income models to support OA approaches for academic journals are prevalent, in particular. The style, size, and profit orientation of the publishers range widely, from small society publishers involving volunteers in their staffing model, to multi-title commercial publishers with professional editorial staffs. Supply side models are examined. These include article processing fees, advertising,

Studies have shown that the same conditions do not exist for HSS journals as do for the science, technology, engineering, and medicine (STEM) journals.

sponsorships, surcharges, grants, donations, and endowments. Demand-side incomes models are equally investigated, including use fees, licenses, value-added fee-based services, and other e-commerce business settings. The appropriateness of each of these approaches when applied to the various publisher business models is assessed.¹³

Other studies assess the "supply-side" pro-OA business models and their economic viability and overall robustness to support the revenues necessary to sustain scholarly publishing. Corporate

sponsorship of journals in which the content might be of interest to a particular corporation (for example, Microsoft and the OA journal *Information Technology and International Development*), has been examined closely by publishing-related groups such as SPARC.¹⁴



These and related issues have been the province of humanities and social sciences (HSS) journal publishing in particular. Studies have shown that the same conditions do not exist for HSS journals as do for the science, technology, engineering, and medicine (STEM) journals. The STEM disciplines benefit from much more non-article content and sponsored support than do the HSS.¹⁵ The conclusions clearly are mixed on the efficacy of these kinds of business models. While they are successful in certain sectors of publishing, they are not successful in all sectors.

Discipline-specific Publishing Approaches and Deeply Integrated Digital Environments

Various studies and reports suggest that new discipline-based approaches to publishing can and will flourish, and will be deeply integrated with disciplined-centered digital environments. These publications support a future scenario in which faculty may adopt en masse the libraries' digital publishing services, especially if the services are strongly guided by faculty. In particular, reports sponsored by SPARC assess the scholarly publishing environment and suggest federations of publishing cooperatives based on the discipline-centric model.¹⁶ In Canada, Rea Devakos and Karen Turkos make a similar call, asserting the need for a shared, robust technology platform and subsequent online publishing capacities generated from investments made together by many institutions and stakeholders.¹⁷ An investment in such a vision ostensibly will transform the nature of scholarly publishing. The organizational structure supporting these technology infrastructures and e-publishing capacities will be jointly owned, operated and, as Crow suggests, become an alternative model for society publishers.¹⁸ This approach is aligned with a scenario in which university libraries' funding is relatively low or declining, and therefore resources need to be combined inter-institutionally, and faculty interest in library-based digital publishing and other alternative approaches embraced. These organizational arrangements are designed for scalability; publishers can be as involved and invested as they wish, driven by their publishing output and overall needs. These report authors assert that economic risk is mitigated by building the organizational structures and technology capacities around the discipline, and promote collaboration between disciplines to develop shared publishing platforms and capabilities. Further, the move to non-subscription funding models, in support of OA, for instance, will be facilitated by the investments that coalesce around a discipline, and then shared between disciplines with similar needs.

There are major, sweeping reports on scholarly communication and publishing that have informed the path taken by publishers, libraries, and researchers in the past few years. Influential reports have come from Ithaka, "University Publishing in the Digital Age," and from the Center for Studies on Higher Education, University of California, Berkeley, "Assessing the Future Landscape of Scholarly Communication."¹⁹ These two reports are based on interviews with hundreds of researchers, publishers, librarians, and other information professionals. The reports predict that scholars of all disciplines will become immersed in virtual environments that support e-research, e-publishing, and all manner of research and scholarly communication, formal and informal (for example, social networking, wikis, and blogs); however, their exact shape and contour



will be molded by the existing culture of scholarly practice, as well as the emerging digital culture of the particular discipline. Virtual collaboration with peer researchers, sharing and analyzing data sets, sharing documents and other information objects will be a standard operation in these digital environments. Some forerunner environments include arXiv (physics), RePec (economics), and AnthroSource (anthropology). The “communities” using these tools will be the disciplinary communities, and those smaller, sub-communities whose members investigate very specific scholarly and scientific problems and communicate together about them. In this regard, the community will continuously discuss and update its scholarship. In the scenario depicted in these reports, there is certainly a drive toward innovative approaches to digital publishing, but it’s not clear whether university libraries play a central role in service provision. Disciplines with existing and progressive organizations may be capable of building particular technology infrastructures and services; they may be the chosen path. However, libraries could partner with discipline-based organizations to provide such services as well. The jury is out with respect to the future directions being pointed to in these reports. The role of the library could be limited (that is, disciplines do it), or perhaps robust (that is, libraries do it on behalf of the disciplines). The scenario planning in the current study may assist in determining which direction is taken.

Karla Hahn asserts that publishing services are becoming the norm in research libraries and that the issues are more about which kinds of services will the library provide.²⁰ As disciplinary culture is shaping approaches to scholarly publishing, so is the culture of libraries, and in particular, their emphasis on service to the campus community and assessing campus needs. An increased e-publishing capacity, expertise on shifting publish-

ing paradigms, and erecting the desired digital, networked environments are all aspects of publishing that university libraries are addressing. Many university libraries involved in LPS are driven by their desire to transform publishing. The technology platforms are improving in their functionality and becoming more capable as they scale to take on increasingly demanding publishing initiatives. Such publishing efforts are

The cycle of digital production / dissemination / preservation is the growing landscape upon which scholarly digital publishing finds itself within the university library context.

being comingled with libraries’ efforts around the Digital Humanities, digital repositories, development of digital learning content, and digital preservation. The cycle of digital production / dissemination / preservation is the growing landscape upon which scholarly digital publishing finds itself within the university library context. From the springboard provided by Hahn and the other significant reports and publications mentioned, which point out the future directions of university library-based publishing, this study will detail the shape and characteristics that these publishing services will take on, based upon possible future scenarios and contexts.

Procedures

The investigator developed four publishing services scenarios (see Appendix I) using Dr. Joan Giesecke’s scenario-building methods and Dana Mietzner and Guido Reger’s

What forces will affect the future of research library publishing services over the next 15 years?
Economic
<ul style="list-style-type: none"> • Trends in public funding for research, research institutions, their libraries overall, and their libraries as digital publishers • For-profit publishing models increasingly costly to libraries and end users • Online content of all types increasingly available on the “free Web” • Entrepreneurial business models
Political
<ul style="list-style-type: none"> • Open Access legislation and governmental rules and regulations • Public support (or lack thereof) for research institutions and their libraries • Copyright and digital rights management for online resources (i.e. Google Books settlement)
Cultural
<ul style="list-style-type: none"> • University faculty adoption of library-based publishing as a legitimate approach to scholarly communication, given norms of discipline and employer • Public demand for information to be available on the “free Web” <p>Increase in researcher as self-publisher (via Web, free publishing tools, etc.)</p>
Technological
<ul style="list-style-type: none"> • Mobile devices (e-readers or equivalent) and the Internet are ubiquitous • Technology tools to support publishing processes are low to no-cost • Technologies allow publishing process to be diffused and global; new innovations occur
<p>Key force: <i>Economics</i>. Will economic forces over the next 15 years positively or negatively impact research funding, and specifically, the funding of research institutions? This force will impact the economics and funding of research libraries and their ability to carry out digital publishing services.</p>
<p>Most uncertain force: <i>Cultural: faculty perception</i>. Will university faculty adopt research library-based publishing as a legitimate approach to scholarly communication, given the norms of respective discipline and employing university? Which direction faculty perception of library-based publishing is trending is uncertain (i.e., on a large, national scale). If a trend in a particular direction becomes evident, it will have significant impact on the role of research libraries as publisher.</p>

Figure 1. Major Forces

criteria for good scenarios.²¹ The methods that Giesecke, an expert on scenario planning in libraries, expounds identify the key forces driving a certain phenomenon, as well as the most uncertain factors in shaping the particular phenomenon fifteen years in the future (see Figure 1). The approach creates possible futures that service organizations (such as libraries) can plan for with their strategic planning initiatives.

The scenarios were pretested with Giesecke for the four points of criteria that make up good scenarios, as put forth by Mietzner and Reger. They are:



1. Plausibility (each scenario is likely to happen),
2. Differentiation (each scenario differs from one another, and as a group, they postulate several futures),
3. Decision-making utility (each scenario provides insight that assists future planning),
4. Challenging (each scenario challenges traditional perceptions of the future).

Issues tested included the significance of the key forces and the most important uncertain elements affecting scholarly publishing as well as the content of the scenarios.

The four scenarios found in Appendix I are based upon a matrix derived from the key forces and the most uncertain elements (see Figure 2). Descriptions of each scenario are written in detail and illustrate the traits found in each quadrant. The planning timeframe for the scenarios is limited to a fifteen-year period. Research shows that fifteen years represents the limit of predictability and that accurate predictions decline beyond this period.²² Thus, the scenarios attempt to depict the year 2026. The scenarios address future library publishing services, based upon the trends evidenced in the literature on scholarly publishing and the key forces (for example, economic, technological, political, and cultural) involved. They focus particularly on the key force of economics, and whether funding for research institutions and their libraries will impact the development of library-based digital publishing services negatively or positively over the next fifteen years. The scenarios also examine the status of the most uncertain force, which is—whether university faculty will adopt, on a widespread basis, the acceptability of university library-based digital publishing services, given the norms of the discipline and the employing university. Based on the pre-testing and criteria review and through various iterations with the investigator, Giesecke endorsed the key force of economics (research institution funding) and the most uncertain force as being faculty adoption of the library in the role of digital publisher. These two elements together will produce a lasting influence on the nature of library-based publishing services.

A panel of eighteen experts was determined through a review of the authors of major publications on the topic of scholarly publishing trends over the past six years. Giesecke reviewed and approved the list.

After reviewing the set of scenarios depicted in Appendix I, the panel responded to a set of questions aimed at understanding how university libraries will develop as digital publishers while economic, technological, political, and cultural forces shape the larger context in which the libraries operate. Those scenarios have been generated to facilitate a better understanding of this future role. The questions directed at these scenarios ask:

- To what extent do you agree or disagree with the key forces as being the major drivers behind shaping the nature of scholarly digital publishing services (for example, rising or declining funding for research institutions and their libraries)? What others would you consider?
- To what extent do you agree or disagree with the elements of uncertainty (for example, faculty perception of library-based publishing services and whether faculty will embrace them)? Do you view these as the most significant points of uncertainty? What others would you consider?

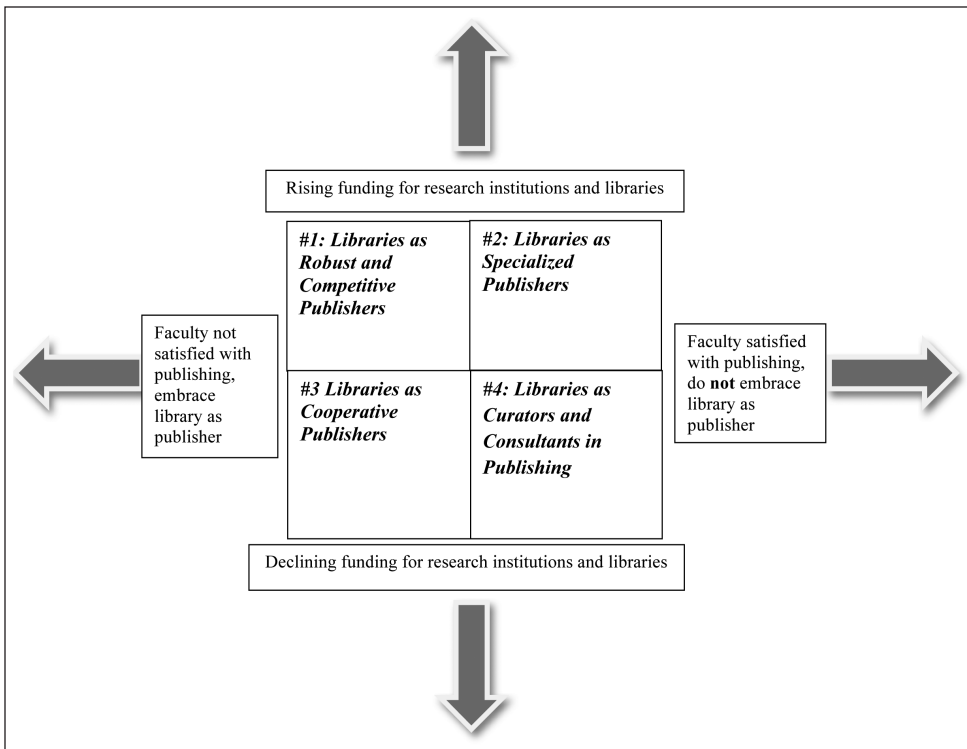


Figure 2. Final Scenarios Matrix

- Are there any scenarios that are significantly different from the four posited that you would suggest?
- What are the elements that you agree and disagree with for each of the four scenarios?
- Do you have a favorite scenario and what would it take to achieve that future? What are you doing now to realize this scenario?
- What is the efficacy of each scenario? What are the elements that support and/or hinder them and what should libraries do to prepare for their realization?
- What are the skills and expertise areas needed for research libraries to partake in digital publishing services in each of the scenarios?

Using the experts' first round responses to the scenarios, the investigator revised the scenarios. Then, a second round of interaction with the experts was conducted. They were asked once more to review the updated scenarios, give feedback on their efficacy, and review the areas of expertise and skills they put forth in the first round. The investigator then looked for any signs of consensus arising from the experts' responses and discussed those in the "participant discussion" section in the findings. The finalized, post-round two scenarios form Appendix II.



Findings

Of the eighteen participants, four are library directors responsible for publishing services, nine are managers of library publishing services (typically associate dean/associate university librarian level or library department heads) and five are LPS consultants or library association personnel involved with publishing. Table 1 indicates the choice for “favored scenario” from among the four put forth in this study. It reports the number of participants who favored each scenario in both round one and round two. It also provides the changes in scenario titles between the two rounds and identifies the three participant-suggested alternate scenarios. Nine participants chose the first scenario (two directors, four managers, and three consultants/association personnel), which is viewed as the “gold standard,” in which libraries have many resources, partners, clients, and users. Participants felt that libraries in this scenario could design their own future with regard to LPS and could compete with other publishing entities when necessary. The mix of good amounts of faculty support with plentiful budgetary resources make this scenario the most favored one, participants said. Five participants (one director, three managers, and one consultant/association personnel) saw the second scenario, library as a specialized publisher who has resources and targeted, niche publishing markets to exploit, as desirable and obtainable. Participants chose scenario two largely because they viewed it as realistic and as a pragmatic outcome of their current efforts. They expressed that scenario one seems overly zealous and that scenario two was tempered by realism in their eyes, yet a positive outcome and “good space” for libraries to occupy. Three participants (two managers and one consultant/association personnel) favored the third scenario, library as cooperative publisher, largely due to the scenario’s leveraging of resources across institutions and the desire of faculty to work with them. The participants who chose scenario three perceived it as delving deeper into the realism of the current fiscal environment, specifically, lowered library budgets. However, the participants saw scenario three as a positive outcome, capitalizing on faculty desires regarding e-publishing and finding creative, inter-institutional means to pool scarce budgetary resources and build necessary infrastructures and services. No participant chose the fourth scenario, libraries as curators and consultants. Several participants described this scenario as the status quo. One participant (a library director), however, chose an alternate scenario of multi-institutional, collaborative publishing only as the favored scenario.

For the next phase of the study, the investigator revised the scenarios based on the participants’ first round of input and distributed these for another round of participant review and response. As a result of the second round of participant review, the favored scenario changed somewhat, with support of the third scenario growing and support of the second scenario shrinking. Eight participants (one director, four managers, and three consultants/association personnel) favored the first scenario, and three participants (one director, one manager, and one consultant/association personnel) preferred the second scenario. More participants (one director, three managers, and one consultant/association personnel) liked the third scenario. One participant (a manager) preferred the fourth scenario as it was the one most likely for libraries to obtain and maintain. The same participant still favored the alternate scenario of multi-institutional, collaborative publishing.

Table 1

Favored Scenarios

Scenarios—Round 1	Number Selecting It (round one)
One: Robust publishers	9
Two: Limited/Mixed role as publisher	5
Three: Entrepreneurial libraries as publishers	3
Four: Curators and consultants in publishing	0
Alternate:	
• Collaborative only	1
• Centrally hosted	1
• Discovery/analytics	1
Total	18

Scenarios—Round 2	Number Selecting It (round two)
One: Robust and competitive publishers	8
Two: Specialized publishers	3
Three: Cooperative publishers	5
Four: Curators and consultants in publishing	1
Alternate:	
• Collaborative only	1
• Centrally hosted	0
• Discovery/analytics	0
Total	18

*See the section on “participant discussion” in the findings section offering alternative scenarios.

Participant Discussion

The responses to the first round of scenarios fall into the following nine broad categories: libraries’ decision to engage in the role of publisher; faculties’ level of happiness with current publishing; faculty as one monolithic group vs. being many divergent groups; opportunism in publishing services development; the promise of library publishing cooperatives; technology and its challenges and complexities; the international shift



in publishing industry and research dynamics; traditional publishing vs. new forms of scholarly communication; and the assumption that LPS will cost less than commercial publishing. A large majority of the study participants discussed each of these categories in their responses, which helped to inform and shape the scenario revision work before their second round of commentary. A distillation of the library publishing experts' analyses and comments will help promote an understanding of current LPS as well as the fifteen-year period represented by the scenarios.

University Libraries' Decision to Embrace Publishing Services is a Major Force

One of the most controversial topics is the decision on the part of university libraries and librarians to take on the role of digital publisher. Several participants noted that this is not yet concluded, in fact, they feel there is substantial debate about whether a preponderance of university libraries will develop in this direction. Another factor is the expressed resistance to this non-traditional role by the many librarians who the study participants describe as "traditional librarians." Their vocal and actionable resistance, as described by the participants, is significant and substantial enough that managerial leaders participating in the study have altered their plans for growing publishing services. Some university library managers also view the lack of financial and human resources as a barrier to becoming digital publishers. This "resource availability issue" resonates with the "traditional librarian resistance issue," because this resistance, will surface when a vacancy occurs and library leaders voice the potential of the vacant position becoming a publishing services-related position. One participant noted that university library leaders are faced with the multi-pronged challenge of mustering the ability to transition from traditional services to new program areas (libraries cannot do it all even with additional funds); achieving success in transitioning their existing staff into a new workforce with new skills, attitudes, and aspirations; and integrating the new visions and aspirations of other stakeholders, such as scholarly societies or Web platforms (for example, in 2011 Google started an e-publishing program and has interest in expanding it into areas such as conference proceedings).

None of the participants described their universities allocating additional funds to the library and its budget to hire in support of publishing services. Hence, the growth

is coming from internal reallocation of library resources. This dynamic between constrained resources and enough librarian resistance to effect the internal library discussion ensures a question of whether many university libraries will choose and commit to the role of being digital publishers.

None of the participants described their universities allocating additional funds to the library and its budget to hire in support of publishing services.

Choosing the Library as Publisher and Faculty's Level of Happiness with Existing Publishing

Two participants, while agreeing with the major force being faculty adoption of library as publisher, further articulated faculty's drivers toward embracing the library in this



role. They asserted that the motivating factor for faculty is not about the libraries' service offerings and whether they are attractive and compelling. Instead, these participants suggested the driver toward LPS will be faculty members' relative satisfaction or dissatisfaction with the publishing services from the existing publishers they interact with (commercial and non-profit). Dissatisfaction may motivate faculty to seek alternate publishing services. Suggested areas of potential dissatisfaction with existing publishing services were quality of peer review, speediness in publishing their work, difficulty in gaining access after publication, and levels of restriction on reuse of scholarly work. The researcher who led this study did not pursue potential areas of dissatisfaction very extensively. Therefore, this area of faculty dissatisfaction with existing publishing services may represent an area that bears future investigation.

Faculty are Not a Monolithic Group, but are Multiple, Divergent, Discipline-centric Groups

Several participants commented on the insinuation in the scenarios that "faculty" is one monolithic group at each university. In fact, most participants identified this as a misrepresentation, stating that faculty should be described as multiple groups at a given university, who identify with a particular discipline and shape their culture and processes regarding scholarly communication and publishing in discipline-centric ways. The participants felt this is a significant distinction, because the approach used by university libraries to engage faculty in publishing services will need to take disciplinary culture into account, and possibly be tailored to which discipline is involved. Many reports and professional literature have commented on this point in regard to LPS. Individual disciplinary cultures were taken into account in the revision of the scenarios prior to their dissemination for the second round of responses.

Opportunism as a Determining Factor in LPS' Future Success

The study participants brought up the theme of "opportunism" regularly. They projected that reallocating library resources will be the major means by which assets will be identified and marked for new publishing services. So, they conveyed consistently that they will be looking for reallocation opportunities. Opportunism also was invoked regularly when discussing the conditions under which libraries may experience growth in publishing. Specifically, the participants forecast that niche markets will develop wherein commercial publishing is no longer profitable. University libraries are mission-driven institutions; hence, they are in a position to justify providing publishing services to fields and organizations that are significant to the host university or research institution. While they will be concerned with controlling costs, they will not be concerned with generating profits. Some participants told stories of being given a unit on campus from outside the library (usually some kind of digital service or "think tank" group) and they incorporated it into their overall digital curation and publishing activities. Those participants who are directing libraries or managing LPS predict they will continue to look for such opportunities.



Library Publishing Cooperatives

University libraries will cooperate and collaborate inter-institutionally to succeed as digital publishers. Almost every participant mentioned that LPS would grow and be successful by using inter-institutional cooperatives. Hence, cooperative approaches were described more in-depth in the second version of the scenarios than the first. Three participants thought that the cooperative approach is significantly different from the four scenarios posited and suggested it could stand on its own as a separate scenario. The cooperative approach involves more than just libraries sharing resources of some kind. It involves partnering with scholarly societies who publish or are interested in publishing and with groups of faculty and academic units at individual universities. Many participants mentioned varying approaches to library cooperative publishing. Some stressed the benefits of shared technology infrastructures. Others described sharing creative talent, such as graphics and Web designers, marketing professionals as well as business planners and business developers. Some discussed specific organizational approaches, such as each library focusing on developing certain areas of expertise. The areas of expertise mentioned included software application developers; systems and network administrators; creative professionals, business planners, financial professionals, contract administrators and legal staff; and publishing services managers to interact with the partners and manage specific publishing projects or programs. Participants pointed to distributed as well as centralized approaches to hosting these varieties of employee, but not articulated in-depth. Cooperative publishing holds promise in the minds of the study participants. Further research and planning is needed to advance this approach and determine the specific cooperative techniques and arrangements that will yield future successful library publishing services.

Technology and Its Complexities

Technology was discussed frequently from the standpoint of building a technology infrastructure to share between libraries, but some participants stressed its complexities and challenges. For instance, a few participants noted that publishing technology is not library technology. Because library staff are not as experienced with publishing technology and related workflows as they seem to think, libraries need to gain or import publishing technology expertise. Several participants commented on the need for a shared technology infrastructure, but some pointed out that this is a significant challenge to overcome.

Establishing the organizational system under which the technology is developed, deployed, managed, and shared are open-ended questions as well.

Establishing the organizational system under which the technology is developed, deployed, managed, and shared are open-ended questions as well. Others identified challenges with regard to user interaction with digital scholarship, such as designing the intellectual output for mobile and hand-held devices as well as for social media sites. Addressing the use of Web-based publishing tools that are open and free to researchers and incorporating their use into the technology services of a shared infra-

technology and related workflows as they seem to think, libraries need to gain or import publishing technology expertise. Several participants commented on the need for a shared technology infrastructure, but some pointed out that this is a significant challenge to overcome.



structure was also identified as a sizable challenge. Much remains undetermined when it comes to technology and the library publishing services of the future, and several participants were quick to point to this.

The International Shift in Publishing Industry and Research Dynamics

While short on specifics, five of the participants specifically brought up the changing nature of both research and the publishing industry as forces worth studying, due to their potential for significant impact on LPS. Mostly, participants stressed the international context of these aspects. Two participants specifically mentioned the shift in research capacity moving toward China. Similar comments were made about publishing industry developments in Europe and that they should be watched closely. Other participants made general statements about the changing academic publishing industry in both the commercial and non-profit sectors. Most of the participants did not have specifics to refer to, but seemed aware enough of these international contexts that they recommend studying the two sectors more and adjusting for them.

Traditional Publishing vs. New Forms of Scholarly Communication and the Libraries' Role

Most participants made statements about LPS not solely being about traditional publishing (books and journals), but increasingly about new forms of published content, including informal means. Many examples were cited, such as publishing digital data on the Web; student-run journal publishing; blog-based publishing; use of pre-print digital repositories; Web-based virtual communities with a variety of commentary apparatus with journal content and its core; and digital humanities-like projects that build, organize, and present scholarly content specifically for the Web (that is, typically text-based book content becomes visual/text/numeric content expressed as an interactive website). Some participants specifically identified "researcher self-publishing on the Web" via freely available Web publishing tools as a phenomenon that university libraries should address; how will they be involved via new value-added services? Participants feel that there is less competition with established commercial and society publishers in this "new media and informal" realm. Most are looking to grow their LPS programs in this arena.

Assumption that LPS will Cost Less than Commercial Publishing

Many study participants questioned the economic efficiency of LPS. A few went as far to say that it will take several years for libraries to gain the business efficiencies realized by the commercial publishers. However, they also state that the priority focus of LPS should be on reducing costs for end-users. Many of the participants mentioned they are not pursuing LPS to displace commercial publishers, but rather as a mission-driven endeavor to provide value to their university and its key disciplines. They are striving to keep costs down for end-users and for non-profit journal producers and publishers, and leverage and integrate existing library programs regarding digital curation, repository platforms, digital preservation, technology infrastructure, and rights assistance. Based on the responses, most LPS activity is aimed at being supplementary to commercial



and large-scale society publishing. While not planning to directly compete with these publishers, and despite any evidence that LPS will operate at a lower cost, over the next fifteen years the purpose and nature of LPS could change, and the majority of the study participants acknowledged this.

Alternate Scenarios

Three participants offered alternates to the four scenarios developed in this study.

Multi-institutional, collaborative publishing.

One posited scenario focuses on multi-institutional collaborative library publishing only. This scenario also could involve university presses, scholarly societies, and other university units in addition to the libraries. The collaborative method to carrying out digital publishing functions, as well as the organizational approach of establishing publishing cooperative organizations, was so prevalent in many of the participants' responses that these perspectives were incorporated prominently into the scenarios after the first round of feedback.²³ Even though these perspectives were represented in the second round of the scenarios, three participants still insisted that an alternate scenario dedicated only to multi-institutional collaborative digital publishing could exist on its own merits. They claim that the existing scenarios could see library publishing develop in a way that does not involve the creation of publishing cooperatives, nor any form of inter-library collaboration. The commentary offered shows the perceived strength of multi-institutional collaboration and the desirability of formal publishing cooperatives as major techniques in advancing future university library-based digital publishing services.

Centrally hosted large-scale publishing.

Another alternate scenario offered by a study participant represents a centralized regional or national-scale approach to hosting publishing services. Such a scenario involves a few well-funded libraries to host the digital publishing service, hence dominating the university publishing landscape. This approach would not involve library collaboration or cooperative publishing organizations as described in other scenarios. Instead, one or a small group of large, well-situated university libraries who could exert much influence in the university library community could dominate the scenario. The participant who articulated this scenario saw similarities between it and the HathiTrust for digital preservation services. The result, as described by the participant, would be an imbalance in the field, with a very small number of libraries providing publishing services to many universities and their faculties directly, possibly even circumventing the library of the faculty receiving the services, if that university is not involved in supporting the centrally hosted publishing service. The participant further suggested that while this scenario may not be easy to imagine, its existence is, however, quite possible.

Discovery/analytics services.

This last alternate scenario has traditional publishers relying less on subscription revenue for journal content and instead moving more into the Web scale discovery/ analytics business. An example of this could be Elsevier making Scopus its primary product, enhancing



it as a discovery platform, and then turning all its journals into OA content. Publishers derive revenue in this scenario from the use of new discovery and information analytics services that users apply to the scholarly content. This development consequently cedes more space to the libraries for publishing, but many publications could be left out of this scenario if the discovery and analytics business does not operate evenly across all OA resources. The participant offering this scenario felt that this “unevenness” is likely.

Skill Needs in Future LPS

All participants identified needs in terms of business- and publishing-related and library-related abilities. They perceive many of these as generally applicable business expertise, while they regard some other skills as in part unique to the publishing industry (such as publishing technology and product management). Many participants stated that university libraries lack business acumen, but must acquire it to become successful publishers. The most often used descriptors of business / publishing proficiencies are:

- assessment of publishing services
- business modeling
- business negotiation
- client needs assessment
- commissioning authors and writers
- copyright, rights management, licensing, and legal experience (library as licensor)
- editorial services
- graphic design
- marketing
- new media and social software expertise (mentioned as both publishing and library skill)
- product design
- product management
- project management
- publishing technology and software programming
- revenue generation
- user experience
- user needs assessment

Library-related skills needed in publishing services described by the participants are:

- digitization
- digital curation
- metadata
- organizational vision
- outreach
- repository infrastructure
- research data management
- scholarly communication awareness and training
- search and discovery technology
- understanding the faculty in their disciplinary setting



Many participants commented on the need to combine both sets of expertise for the university library to be successful as a publisher. One participant described this blending as a “mission-maximizing strategic business management perspective.” Several participants

Leadership was most often characterized as needing to be “transforming,” “galvanizing,” “relationship-building,” “persuasive,” “collaborative,” and “innovative.”

discussed the provision of a compelling organizational vision as a critical need. They described it as the ability to be persuasive and to bring together several important partners to make LPS a reality, such as other

libraries, scholarly societies, university administrators, faculty members, and other academic units. Leadership was most often characterized as needing to be “transforming,” “galvanizing,” “relationship-building,” “persuasive,” “collaborative,” and “innovative.”

Some of the study participants commented about specific skills and experiences to be emphasized under each of the four scenarios. For example, they saw scenarios (for example, #1) requiring skills be deployed at a much larger multi-institutional level than before. Hence, libraries must become skilled at managing large publishing infrastructures and services across many organizations; they will become masters at designing partnerships and collaborating. They will need substantial information technology development capacity and a capacity to analyze and forecast publishing opportunities and needs. This scenario may not require altogether different skills, but rather skills at a different scale. In Scenario #2 and the targeted, niche publishing opportunities it represents, several study participants felt that expertise would be emphasized somewhat differently. They stated this scenario might emphasize the need for working with traditional publishers, a more targeted IT development capacity, as well as the partnering/collaborating, opportunity analysis, and needs assessment characteristic of Scenario #1. Similarly, with Scenario #3, some of the participants identified a need to develop expertise with regard to copyright, carry out client/user relations work, such as “outreach,” “engagement,” “communications,” and “marketing,” as well as opportunity/needs analysis. They saw this scenario as emphasizing partnerships to be effective publishers in a very challenging resource environment. In Scenario #4, which characterizes the libraries’ role in publishing services as consultative and perhaps ad hoc, participants thought that skills need to be developed in areas that would help them surmount the obstacles to engaging in publishing more deeply. They mentioned items such as “service innovation” experience, well-developed project management skills, repurposing library infrastructures and services, and learning to satisfy faculty’s and readers’ needs in the publishing cycle, as important to developing a successful role for libraries in the fourth scenario.

The current study produces a clear picture of the body of skills and experiences the participants feel are necessary to succeed with LPS. The key aspect is the incorporation of a variety of general business acumen, some specific publishing industry expertise, and certain library skills into any library organization with the goal of becoming a publishing services provider.



Directions for Future Research

The investigator identified some prominent areas for future research while conducting the study. The first relates to conducting research into the factors that lead to faculty members' relative satisfaction or dissatisfaction with current publishing services. While the current study develops scenarios that help us to imagine future cases for LPS, little research exists on how current publishing services meet faculty's information dissemination and use needs as perceived by faculty. Another research area relates to identifying, observing, and analyzing success factors of library-based digital services cooperatives, especially those that involve any form of publishing. Other future research initiatives may investigate how university library directors will tailor the scenarios for local use in strategic planning. Also, what type of publishing services will university library leaders offer after 2026 and how will they resource and organize libraries to implement them? Will university libraries or other publishing entities become the dominant base of publishers by 2026 and after? The role of collaboration and cooperative organizational structures were mentioned so frequently in the current study that further research into what makes existing library cooperatives successful could benefit the future design of library publishing services and may provide further indications of their development. Another study also could examine how large cooperative entities, such as open source software foundations (for example, the Apache Foundation), could serve as a model for cooperative library publishing services.

Additional studies are needed to better understand the complex nature of the e-publishing environment in which library publishing services will operate. A future study is needed to focus on university administration and faculty. An improved understanding of how university administrators view LPS could help libraries in shaping their approaches to developing and managing them. However, one study participant stated that university administration, in his eyes, is not as important an actor as people think. This participant's provost tells him that if library publishing services (and other new library services) are important, then it's up to the participant as library director to make them happen. The implication is that no new funding will be forthcoming and that university administration does not focus on such issues; "that's why they have a library director," the participant said. Studies focusing on self-publishing services as well as commercial and university presses and Internet services companies' publishing activities are beyond the scope of this study, which focuses specifically on the insights and opinions of university library leaders, managers, and library-based publishing thought leaders. Studies focusing on these additional populations could examine how LPS will interact, compete, and be shaped by these other actors in the publishing realm. Additional research is necessary to more fully understand the environment in which LPS are being developed.

Conclusion

Engaging in research to develop future scenarios for publishing services by university libraries supports libraries' strategic planning and analysis of their operating environments. There are many service providers active in the publishing arena, ranging from the well-known commercial, scholarly society and university publishers, to the newer



OA publishers, such as Biomed Central, PLOS, and Hindawi, and the even more newly emerging efforts from Web-based companies, such as Google and Amazon. Once planners have developed their scenarios, libraries can adjust their preferred scenario to the local situation and then engage in scenario planning. The result can be that university libraries advance their role as a digital scholarly publisher.

New library publishing service scenarios, such as those offered here (Appendix II), help provide advanced thinking, analysis, and planning for the future of university libraries in this service area. They can help libraries develop as publishers when their host universities provide funding, as well as offer approaches that libraries may adopt when resources are more constrained. As is the case in this study's scenarios, the libraries' level of involvement depends a lot upon the interest of external groups and the ability to shift internal library resources.

Revisions to these scenarios may take the local vision and decisions of university librarians and library administrators more into account, and whether they choose to embrace a changing and evolving future or struggle to maintain library services as they are. Several of the study participants pointed to this issue as the next most significant determiner of outcomes for LPS. Libraries utilizing these four scenarios might pick

New library publishing service scenarios, such as those offered here (Appendix II), help provide advanced thinking, analysis, and planning for the future of university libraries in this service area.

selectively from various aspects and build their own. On the other hand, they might move on from the current scenarios and create new ones altogether. In either case, libraries will review their current status in LPS and reflect on the scenario for which they intend to plan. In so doing, they will need to

consider their overall future as a university library, reflect on their core mission, and on the core mission of the library's host institution. Libraries will also need to consider the role and impact of other organizations in scholarly publishing up to 2026 and beyond, and how these other organizations will impact and influence university libraries as future publishing service providers.



APPENDIX I

Final Scenarios

Scenario #1: Libraries as robust and competitive publishers

University libraries operate in a world in which library-based publishing services are valued by faculty and their disciplines, funded by the university, and embraced by the library. This is occurring because faculty can see the benefits of directing the production processes. The faculty can design and guide the editorial process; they form and lead editorial boards, establish peer review procedures, and create editorial policy in order to ensure top quality and well-vetted scholarship, much as they do through more traditional publishing venues. They also perform these functions through their scholarly societies or university presses, which oftentimes they continue to leverage and utilize. Increasingly, faculty retain their copyrights and grant licenses to both non-profit and for-profit publishers to publish and disseminate their works.

A rising approach to library-based publishing is that of cooperative *digital* publishing services established between several universities, their libraries, scholarly societies, and/or university presses. In this segment of the scenario, individual libraries may be well funded by their universities, but trying to maintain a complex set of skills and functions alone makes the prospect of collaborating internally, as well as across institutions, quite attractive. These multi-institutional, multi-unit cooperative publishing ventures are well funded by the libraries, since they are supported very well by the universities' administrations.

Among the newer skills needed to make LPS successful are business negotiation; business modeling and revenue generation; marketing; outreach; multiple project management; rights and legal services; publishing technology expertise, including software programming, graphic and Web design; publishing services assessment; and observational assessment of faculty and their scholarly communication behaviors within a disciplinary setting. Transformational leadership and risk-taking on the part of the library leaders are crucial as well. The successful outcomes of such leadership are partnerships between multiple libraries, one or more scholarly societies and university presses, and groups of faculty and administrators. Libraries continue to bring their original base of skills to publishing, such as repository services, metadata and indexing, curation and preservation, and technologies involving search/discovery and digital libraries, which complete the scholarly communication business cycle when joined with the newer skills mentioned above.

Production costs are more invested and embedded in the university (and library) and they remain at about the same level as in the for-profit publishing industry (the development of commercial publishing infrastructure benefitted from large infusions of capital over time). Over this fifteen-year period, libraries strive to match and exceed the production scale that commercial publishers had achieved. However, instead of gaining cost-recovering revenue *and* profit to distribute to shareholders, the library-based publishers place an emphasis on gaining revenue for cost recovery, reducing the cost for the end-user, and applying the financial surplus as reinvestment in the continued development of this model. They seek new business models and new ways of creating



and disseminating scholarly thought and research outputs to meet these goals. The faculty in some disciplines, but not all, realize this approach reduces barriers to circulating important research findings, making it much easier and faster to obtain the scholarship they need. Consequently, many markets develop for library-based publishing, as faculty from certain disciplines acknowledge and desire these benefits, while other disciplines maintain opposing and divergent perspectives. Some disciplines adopt the approach articulated above due to a growing public interest in their scholarship, such as the medical sciences, wherein the public wants fast access to the latest research on a particular disease, or the astronomical sciences, because of the sharp rise in “citizen science” that has taken place with regard to stargazing.

Faculty can more easily experiment with innovative, non-traditional approaches to scholarly communication because they have access to a team of people in the library who can produce these new approaches with them. Members of such a team include application and Web developers, usability specialists, graphic artists, editors, project assistants, and managers, as well as repository, metadata, and preservation specialists who can help with the access and sustainability of the published scholarly resources. The digital humanities and social sciences are a group of fields that take great advantage of this development. They are able to move away from the sharply underfunded and understaffed projects of the early 2000s. Instead, they move toward an increasingly team-based and diverse set of skills, technologies, and other resources that produce the more significant scholarly resources of the digital humanities and social sciences by 2026. Similarly, the science/technology/engineering/medical (STEM) fields engage in inter-institutional digital data publishing services to disseminate their latest research findings to interested colleagues around the world. They increasingly perfect emerging practices to verify and certify the authenticity of their data and the repository structures that enable research data management. The goal of these efforts – in the humanities, social sciences STEM, and all other academic fields – is to increase the scope and impact of academic research, which enables the ultimate goal of increasing the rate of new discoveries and the amount and quality of human knowledge. Consequently, the developing cyber-infrastructure effectively diminishes the barriers between the academic disciplines and promotes their cross-pollination. As a result, publishing in this robust scenario may witness collaborations inter-institutionally between academic research entities, academic–commercial publishing partnerships, as well as international collaborations.

Libraries in this “robust publishing mode” produce in a variety of scholarly genre, including e-journals, e-books, conference proceedings, technical reports, digital datasets, and a range of Web-based resources aimed at developing and supporting scholarly community-building, discussion of research, and idea-generation. These library publishers compete with commercial and other academic publishers openly. Given the libraries’ rising success as publishers and especially with new forms of scholarly content and production processes, the large commercial and society publishers step up their competitive responses. They devise new services and marketing plans in an attempt to woo faculty authors back with new enticements, perhaps similar to the tools and services offered by the libraries, but promise these services come without the “headache” of faculty being so deeply involved in their management and direction (that is, the commercial publishers will operate them). In this scenario, the libraries are either striving to or have



achieved excellent reputations as publishers, in domains that are “areas of excellence” for their particular universities and produce traditionally published materials such as e-journals and e-books that successfully compete for readership with similar products from commercial publishers.

As libraries develop as robust and competitive publishers, the prospect of their collections and personnel budgets being redirected toward publishing services rises due to the latter’s popularity and success. University administrators are satisfied with this development, because they see a developing “mixed economy” in scholarly publishing that allows for many different publishing outlets for their faculties’ works. Some administrations are moved to provide incentives to faculty for choosing publishing outlets that: 1) meet standards for high quality scholarly review, and 2) keep publishing costs within the higher educational system, as opposed to exporting large amounts of financial resources outside the system. Any revenue, then, is received by and benefits university units, such as the library, university presses, technology divisions, and others involved in the publishing cycle. In turn, university administrators see the value and good “return on investment” in library-based publishing services. It facilitates the universities’ mission of disseminating knowledge while retaining rights to it, as well as controlling costs, production capabilities, and the means to be creative and flexible with new approaches to scholarly communication.

Scenario #2: Libraries as specialized publishers

Libraries will have targeted opportunities to develop as publishers. Universities are willing to allocate financial resources for developing library-based digital publishing services, and their libraries, long having plans to do so, embrace this new role and the financial resources provided. These libraries are committed to the role of producer and disseminator of new scholarly resources. However, many disciplines represented by the faculty do not value library-based publishing services. They are satisfied with their current publishing experiences. However, existing publishers will not be able to control all the opportunities. Libraries will operate in some scholarly areas that well-established commercial and society-based publishers do not find lucrative enough to be involved. Libraries will seek other “low-hanging fruit,” for cultivation and harvest as a publishing opportunity, regardless of existing publisher activity. However, as they make inroads, the libraries are keen on watching for large commercial and society publishers’ responses and perhaps a re-invigorated competition in certain publishing domains. The libraries involved in this scenario of specialized publishing must strategize and plan for a publisher response, and for how they will remain viable and competitive. Still, the libraries in general will be able to develop successful digital publishing services in such targeted markets.

For the disciplines who express a disinterest in the new library-based publishing services, there are several concerns. Many faculty remain “sitting on the fence,” apprehensive about not using the brand-name university presses, commercial publishers, and esteemed journal titles that are so well established in their respective fields. The new “carriers” being produced to host the fresh scholarly content will not have established reputations or desirable impact factors (or some other similar measure) for many years. Serving on the advisory boards of the publishers and the editorial boards of their note-



worthy journals also bring important status to faculty members, and they are not too keen on giving that opportunity away.

University administrators and faculty recognize the value in library-based publishing services. These leaders see the opportunity to reduce costs to end users in specific fields, more widely disseminate valued scholarship, and attach their university's brand name to important and visible publishing ventures. First, the library may begin by publishing in fields with less formidable competition. These disciplines may or may not be in the university's major areas of excellence; in fact, they may be important, but of secondary interest. However, these fields tend to work with a particular university and its library for their own reasons (that is: prestige of the university, reputation of a leading faculty member, quality publishing services, etc.). In these cases, traditional publishing that produces journals and books is more viable because competition with commercial publishers is minor. This approach is a good way to begin building the library's publishing services. A well-funded journal hosting service may be able to produce many e-journals, giving the university notoriety in those fields.

Publishing scholarly resources in their university's major subject areas of excellence motivates administrators, augmenting the university's reputation as a premier research institution. The administrators understand that becoming a respected publisher in those fields is one way to build the university's presence and leadership. This motivation is tempered by their understanding that some commercial publishers may operate and even dominate in their university's "areas of excellence" and they therefore must look for entry points to publishing in these fields. In these cases, the libraries must be creative and persuasive in their outreach to faculty and their disciplines. The libraries also consider exploring non-traditional and informal approaches to scholarly publishing, such as using social media tools, building virtual communities around scholarship, publishing digital datasets, and incorporating digital media content. The number of publishing initiatives like these may tend to stay small and depend on the amount of resources the university invests, because they require multiple technology staff members, including application and Web developers and Web/graphic/interface designers. There also may be a limited number of faculty or disciplines interested. These published resources tend to shed the old containers of "journal" and "book," and focus on Web-based virtual environments for scholarship, communication, commentary, and idea-generation. Certain faculty may even be interested in publishing on their own or with small groups of colleagues, but may look to the libraries for help with these Web-based technologies. Less formal modes of publishing, such as conference proceedings and technical papers series, may be entry points as well. Library publishers taking informal and non-traditional publishing approaches also work with scholarly societies and/or university presses to gain their sponsorship, asking them to lend their name to these initiatives. While the scholarly society involved may not invest resources into these ventures, the association of its name with the particular library's publishing efforts helps the library as a producer and disseminator of new, important scholarly resources to gain legitimacy in the field. In addition, they may collaborate to facilitate the auditing and certification of the local nodes of information and data that they jointly produce or sponsor. These explorations into non-traditional, less formal, data- and media-rich publishing that emphasizes online communication and interaction provide the new entry point to becoming publishers in areas of excellence that interest university leaders.



Given that library publishers are operating in targeted environments, they initially work with well-defined groups of faculty and disciplines who want the publishing services. The services will not be “mainstreamed,” but rather remain specialized at a university. If libraries intend to expand their publishing services, they may spend their university-provided resources on marketing to groups of resisting faculty and their disciplines in an attempt to get them on board. They consider doing this after developing successfully targeted publishing services that can be used as demonstrations of their abilities and accomplishments. With university administrations financially supporting libraries in the role of publisher, the libraries look to new modes of outreach while keeping their publishing services lean and flexible, hoping that they can find a way to appeal to more disciplines. Libraries want to find ways to capitalize on the universities’ interest in supporting the “library as publisher.”

Scenario #3: Libraries as cooperative publishers

University faculties value the library as digital publisher, but the universities do not see enough value in this role, and therefore, are unwilling to allocate additional scarce resources to libraries for this specific purpose. Many groups of faculty across the disciplines want to improve their ability to direct the publishing process, make their own policies, try new technologies, create virtual communities who will engage in and discuss new scholarly content, and advance data publishing in new and value-added ways. They grow tired of profit-oriented publishers insisting on faculty giving up their copyrights, being slow to provide new digital tools in the publishing process, and putting up barriers to reuse their own content. They see a new Web 5.0 world (it will be “Web 5.0” in about fifteen years) in which scholars, research content, and readers connect in new and different ways that lead to new conversations, new discoveries, and, ultimately, new and innovative learning communities. This new world of dynamic, Web-based scholarly communication and interaction awaits faculty and many of the disciplines can see it coming. However, university administrators have chosen not to add funds into this enterprise. Instead, they put it back on the library deans and tell them “if you want this new role, that’s fine, but you need to make it happen on your own.” The administrators state, “there are just too many competing demands on the very limited university budget” (that is, new buildings need to be built and new sought-after faculty need to be hired). Given this situation, it will be very difficult for library leaders to convince their university administrators that they can make a large enough impact as a digital publisher. Despite the fact that the libraries can be a positive and liberating force among the faculty, unleashing them to explore “new and improved” modes of scholarly communication, the work is just not significant enough to compete successfully for additional university funding.

Libraries will need to develop revenue-generating business models to survive as a publisher, given that no additional, publishing-specific funding is coming from the universities. However, they are free to move internal resources around as needed to support the publishing role. Some business models may involve charging the faculty who produce the information, to publish and make this content free to readers. Other models may look more traditional with subscription and licensing agreements that charge readers and/or other libraries fees for access. Other approaches may include sponsorship by companies and other organizations interested in the new scholarly resource’s



subject matter. The libraries also realize that where they are trying to generate revenue from the publishing process, commercial and society publishers may have tread already. In fact, the libraries may be competing with these publishers to attract the revenue they seek. Specifically this may mean re-directing dollars that are going to commercially interested publishers and drawing it to the libraries and their cooperatives. The positive motivations for faculty, presses, societies, and others to collaborate with the libraries, as well as the value-add of their services, must be compelling enough to attract revenue.

Libraries, starving for capital to use in meeting faculty interest and demand, increasingly turn to developing new publishing cooperatives to leverage scarce resources and begin erecting a shared infrastructure for the publishing service. The quest for finances drives the libraries toward collaboration and to new grant opportunities. Private foundations and public grantsmaking agencies may play an important role in providing the necessary capital and operating expense support for initiating new publishing cooperatives. The libraries need to develop a robust enough technology infrastructure to become successful digital publishers. This need is very similar across many libraries and, therefore, a shared technology infrastructure becomes a positive strategic step in an otherwise significantly resource-constrained environment.

While libraries may have enough funds to put such cooperatives together and share a technology platform, they still need business planners, managing editors, production managers, and sales and marketing managers, as well as access to copyeditors, typesetters, and designers. It remains to be seen whether enough funds can be pooled to develop these areas of expertise in a shared way or the libraries will go it alone in these areas. In facing this variable, these cooperatives differ from the much more richly endowed cooperatives present in the Scenario #1. If the funds can be raised, each partnering library may develop its own niche of skills and services (that is, accruing business planners and marketers vs. technologists on staff), or they may choose to pool financial resources collectively and hire shared staff who are based in one location. Other libraries may contribute to the cooperative by being the steward of the content through their repository and metadata services. While this is a more traditional role, it is nonetheless a necessary one. Any of these variations on the publishing cooperative approach fosters a more regional and possibly national approach to publishing. Moreover, the “faculty as content creator” and “library as publisher” want to team up, but the more “business-like” university administrators are reluctant to increase funding for the library’s publishing activity.

The drive to cooperate comes from this desire for faculty and libraries to collaborate in publishing as well as from a scarcity of financial resources and human capital to do so. Cooperating libraries will benefit from revenue-generating business models to grow beyond the technology base that forms the bedrock of publishing cooperatives typical of this scenario.

Scenario #4: Libraries as curators and consultants in publishing

Both the faculty and the research institution do not value highly the university library as a publisher. There are too many competing interests winning out, such as the need for new science laboratories and recruiting new, notable faculty. Therefore, libraries will struggle significantly in taking on the publishing role. Specifically, university admin-



istrations are unconvinced that the library-based service provides a high enough level of added value to the research enterprise and therefore are not agreeable to allocating financial resources for it. Libraries may have to become quite creative in finding new entry points into the scholarly communication and publishing cycle. In the end, libraries may not take on the publishing role and back out altogether. For instance, some universities may have a creative university press that has produced a business model successful in generating enough funds for its sustainability, addressing desires for OA, and providing new digital tools and virtual environments in the scholarly communication process. In this case, libraries at such universities may not need to be involved in publishing; they would only be duplicating the “new and improved” press. Perhaps the library and university press could find ways to collaborate in this scenario, but it is also possible they may not find them, nor be interested in collaborating.

Libraries may key on roles that are less about production and more about consulting, instruction, and content stewardship. They may focus on assisting faculty with rights issues and promoting awareness of OA approaches to disseminating scholarly resources. Libraries in this scenario also may focus on providing their repository and digital preservation services, continuing to be the “keepers of scholarship.” They may arrange agreements with specific publishers to curate their content. There also may be an instructional role present, in which librarians and staff teach faculty and students new skills that can be applied in the scholarly communication cycle. These may include instruction on using repository and preservation services or on publishing openly using free Web-based publishing tools. Librarians and library staff may also teach faculty and students (students in particular) how to design and create worthwhile scholarly resources, especially those rich with digital media, as libraries move toward providing instruction in areas such as media and visual literacy and data management. In this scenario, libraries will be debating whether they have a role in publishing at all, and what that will be. More than likely, libraries will play a long-term limited role in the publishing system in this scenario.

Tyler Walters is Dean, University Libraries, Virginia Tech; e-mail tyler.walters@vt.edu.

Notes

1. Joan Giesecke, *Scenario Planning for Libraries* (Chicago: American Library Association, 2008).
2. Karla Strieb and Susan Stickley, *The ARL 2030 Scenarios: A User's Guide for Research Libraries* (Washington, DC: Association of Research Libraries, 2010).
3. Association of Research Libraries, “ARL Strategic Plan, 2010-2012,” *Research Library Issues* 268 (Feb 2010): 11-19.
4. James L. Mullins et al., *Library Publishing Services: Strategies for Success. Final Research Report* (March, 2012) (Lafayette, IN: Purdue University, 2012). http://docs.lib.purdue.edu/purduepress_ebooks/24/
5. Karen Williams, “A Framework for Articulating New Library Roles,” *Research Library Issues* 265 (2009): 3-8.
6. Tyler Walters, “Reinventing the Library: How Repositories are Causing Librarians to Rethink Their Professional Roles,” *portal: Libraries and the Academy* 7, 2 (2007): 213-225.
7. Maria Carpenter et al., “Envisioning the Library's Role in Scholarly Communication in the Year 2025,” *portal: Libraries and the Academy* 11, 2 (2011): 659-681.



8. Raym Crow, "Publishing Cooperatives: An Alternative for Non-profit Publishers," *First Monday* 11, 9 (2006).
9. Robert Schroeder and Gretta E. Siegel, "A Cooperative Publishing Model for Sustainable Scholarship" *Journal of Scholarly Publishing* 37, 2 (2006): 86–98.
10. Catherine H. Candee and Lynne Withey, "The University of California as Publisher," *ARL: A Bimonthly Report* 252/253 (2007): 10-11.
11. Crow, "Publishing Cooperatives."
12. MLA Ad Hoc Committee on the Future of Scholarly Publishing, "The Future of Scholarly Publishing," (2002), <http://www.mla.org/pdf/schlrlypblshng.pdf> (accessed 17 June 2012).
13. Raym Crow, *Income Models for Open Access: An Overview of Current Practice*, (Washington, DC: Scholarly Publishing & Academic Resources Coalition, 2009).
14. Raym Crow, SPARC, *Sponsorships for Nonprofit Scholarly and Scientific Journals: A Guide to Defining and Negotiating Successful Sponsorships* (Washington, DC: SPARC, 2005).
15. Mary Waltham, "The Future of Scholarly Journal Publishing Among Social Science and Humanities Associations: Report on a Study Funded by a Planning Grant from the Andrew W. Mellon Foundation," *Journal of Scholarly Publishing* 41, 3 (2010): 257-324.
16. Crow, "Publishing Cooperatives"; Crow, *Income Models for Open Access*.
17. Rea Devakos and Karen Turko, "Synergies: Building National Infrastructure for Canadian Scholarly Publishing," *ARL: A Bimonthly Report* 252/253 (2007): 16-19.
18. Crow, "Publishing Cooperatives."
19. Laura Brown, Rebecca Griffith, and Matthew Rascoff, "University Publishing in a Digital Age" (2010). *Research on Institutional Repositories: Articles and Presentations*. Paper 32. <http://digitalcommons.bepress.com/repository-research/32>. Diane Harley et al., "Final Report: Assessing the Future Landscape of Scholarly Communication: An Exploration of Faculty Values and Needs in Seven Disciplines," *Research and Occasional Papers Series, CSHE* 1, 10 (2010).
20. Karla Hahn, *Research Library Publishing Services: New Options for University Publishing*. (Washington, DC: Association of Research Libraries, 2008).
21. Giesecke, *Scenario Planning for Libraries*; Dana Mietzner and Guido Reger, "Advantages and Disadvantages of Scenario Approaches for Strategic Foresight," *International Journal of Technology Intelligence and Planning* 1, 2 (2005): 220-239.
22. Joseph P. Martino, "The Precision of Delphi Estimates," *Technological Forecasting* 1, 3 (1970): 293–299.
23. Crow, "Publishing Cooperatives."