



Faculty Survey 2009: Key Strategic Insights for Libraries, Publishers, and Societies

CHAPTER 2: The Format Transition for Scholarly Works¹ April 7, 2010

Authors:

Roger C. Schonfeld (Manager of Research) & Ross Housewright (Analyst)

¹ This document contains Chapter 2 of Ithaka S+R's report "Faculty Study 2009: Key Strategic Insights for Libraries, Publishers, and Societies." The full report can be found at <http://www.ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/faculty-survey-2009>. If citing or linking to this report, we encourage you to cite to the full report.



Ithaka S+R (www.ithaka.org/ithaka-s-r) is the strategy and research arm of ITHAKA, a not-for-profit organization dedicated to helping the academic community use digital technologies to preserve the scholarly record and to advance research and teaching in sustainable ways. The Ithaka S+R team supports innovation in higher education by working with initiatives and organizations to develop sustainable business models and by conducting research and analysis on the impact of digital media on the academic community as a whole. Insights from these efforts are shared broadly, with more than a dozen reports freely available online. JSTOR, an accessible archive of more than 1,200 scholarly journals and other content, and Portico, a service that preserves scholarly content published in electronic form for future generations, are also part of ITHAKA.

CHAPTER 2: THE FORMAT TRANSITION FOR SCHOLARLY WORKS

As more and more new scholarly works are produced in digital form, and as increasing waves of digitization have brought a wide range of primary and secondary scholarly materials online, faculty attitudes and behaviors regarding digital scholarly materials have evolved rapidly, altering needs and expectations for scholarly materials in physical form. Scholarly journals have been at the forefront of this transition. Faculty attitudes suggest that a tipping point has been passed for journal current issues, and, with certain narrow exceptions, that print editions of current issues of scholarly journals are rapidly becoming a thing of the past. And although faculty attitudes on journal backfiles have not yet experienced the same nearly-complete shift, they are changing in parallel with library resource constraints such that backfile print collections will increasingly be replaced exclusively by digitized versions. Our findings raise key strategic questions for publishers and libraries alike on when and how to wind down print publishing and collecting programs and on how digitization will reshape collections management for print collections of journal backfiles.

The same transition in faculty attitudes has not yet occurred for other types of materials, perhaps only because digitization and digital dissemination has been a more recent phenomenon beyond journals. While e-books, for example, remain less important than e-journals to faculty research practices, they have come to play increasingly important roles and their preservation is valued. But, while the tipping-point has been passed for scholarly journals and access will ultimately be provided solely in electronic format, there is as yet little evidence to suggest that a print-to-electronic transition for e-books is likely to play out in the same way. Understanding the unique affordances of monographs is an important challenge for libraries and publishers that have successfully pursued the format transition for journals.

Looking broadly across material types, faculty members' growing comfort relying exclusively on digital versions of scholarly materials opens new opportunities for libraries, new business models for publishers, and new challenges for preservation.

This document contains *only* the second chapter of the full Ithaka S+R 2009 Faculty Survey report, presented separately for your convenience. The other chapters and full report can be found at <http://www.ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/faculty-survey-2009>. If citing or linking to this report, we encourage you to cite to the full report.

Methodology

Since 2000, our Faculty Surveys have examined how new technologies are impacting faculty attitudes and behaviors. Every three years, we have conducted large-scale studies of faculty members to learn more about their attitudes toward the transition to an increasingly electronic environment. These surveys have been limited to colleges and universities in the United States that grant bachelor's degrees or higher. They have been designed to allow for stratifications in each of the major arts and sciences disciplines, as well

as in a number of professional fields. We conducted these surveys in the fall of 2000, 2003, 2006, and most recently 2009, updating the questionnaire to match the rapidly-changing environment but allowing for powerful longitudinal tracking of change in faculty attitudes and practices.² Unless specified otherwise, all findings presented in this report are based on 2009 data.

Following an initial introductory letter, survey questionnaire booklets were mailed to 35,184 faculty members in September 2009. A total of 3,025 complete responses were received and tabulated, for a response rate of approximately 8.6%. Demographic characteristics, including discipline, are self-reported. Table 1 and Table 2 contain information on the breakdown of responses across demographic categories. In 2006, we deposited the dataset with ICPSR for long-term digital preservation and access, and we intend to do so again with the 2009 dataset.³

Table 1: Respondents by institution size

Institution Size	Respondents	Share
Very Large	893	29.5%
Large	482	15.9%
Medium	1038	34.3%
Small	361	11.9%
Very Small	251	8.3%

Table 2: Respondents by disciplinary grouping

Disciplinary Grouping	Respondents	Share
Area Studies	191	6.3%
Humanities	652	21.6%
Social Sciences	1154	38.1%
Sciences	791	26.1%
Other	237	7.8%

Ithaka S+R collected thousands of survey responses with hundreds of data points each in 2009 alone, and due to the richness and quantity of the data this summary report can only scratch the surface of the analysis. For example, we have the ability to stratify by most individual disciplines in the arts and sciences and many professional fields, by characteristics such as time in field and faculty rank, by profile as a researcher or a teacher, and by institutional type, along with more sophisticated analyses. If there are survey findings that you believe would benefit from further detail, or where an organizationally customized lens would be helpful, please let us know so that we can respond to your interests.⁴

² Findings from the 2006 Faculty Survey can be found in Ross Housewright and Roger Schonfeld, “Ithaka’s 2006 Studies of Key Stakeholders in the Digital Transformation in Higher Education,” August 18, 2008, <http://www.ithaka.org/ithaka-s-r/research/faculty-and-librarian-surveys>. See also Kevin Guthrie and Ross Housewright, “Attitudes and Behaviors in the Field of Economics: Anomaly or Leading Indicator?” *Journal of Library Administration* 48, no. 2 (August 2008), pages 173 – 193, <http://dx.doi.org/10.1080/01930820802231369> and Roger C. Schonfeld and Kevin M. Guthrie, “The Changing Information Services Needs of Faculty,” *EDUCAUSE Review*, 42, no. 4 (July/August 2007): 8–9, <http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMagazineVolume42/TheChangingInformationServices/161752>.

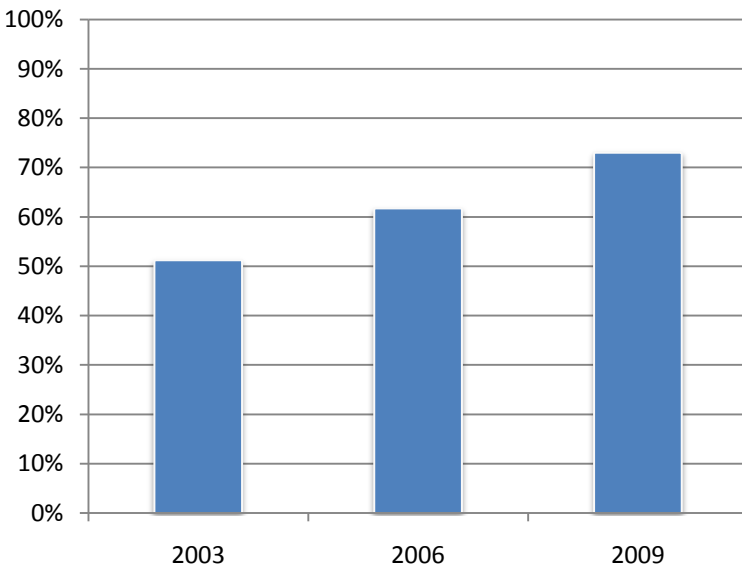
³ The dataset for the Faculty Survey 2006 is available at <http://dx.doi.org/10.3886/ICPSR22700>.

⁴ With questions, comments, or requests, please contact us at research@ithaka.org.

Current issues of scholarly journals

Scholarly journals have continued their inexorable transition to digital format, with growing acceptance and in some cases enthusiasm for the substitution of electronic for print journal materials. Long-standing disciplinary patterns continue to hold: humanists remain more attached to print than their colleagues in the social sciences and, especially, the sciences. All signs indicate that faculty are widely prepared for a complete transition away from print to digital-only for current issues of scholarly journals.

Figure 1: Percent of faculty strongly agreeing with the statement “If my library cancelled the current issues of a print version of a journal but continued to make them available electronically, that would be fine with me,” in 2003, 2006, and 2009

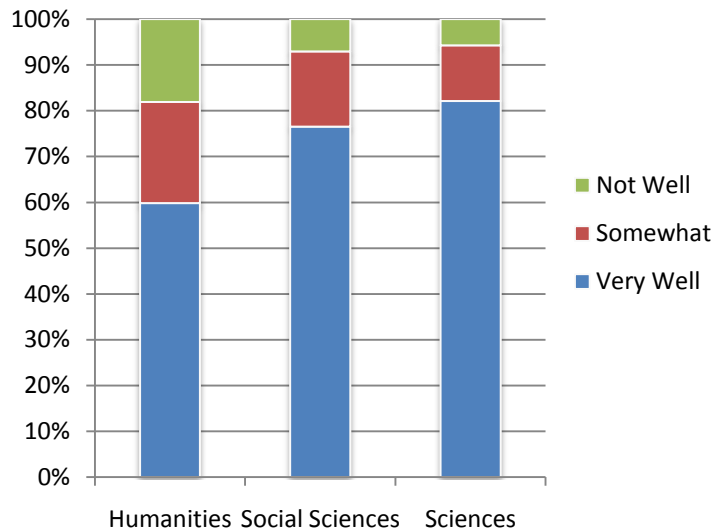


On current issues acquisitions, there is widespread agreement that the ongoing transition meets the needs of faculty. Nearly three-quarters of faculty agreed strongly that it would be “fine” with them for their library to cancel current issues of a print version of a journal while continuing to make them available electronically, a figure that has steadily and substantially risen over the years (see Figure 1). As publishers have indicated that electronic is the “version of record” and in many cases added additional content, features, and functionality to their electronic versions that are not available in print, this shift is not surprising.

This attitude is almost universally shared by social scientists and scientists (see Figure 2), with less than 10% of these faculty members holding a negative perception about print cancellations. Even among humanists, strong support for this point of view has continued to grow over time, and a solid majority of humanists have asserted their comfort with such substitution for current issues of journals.

There are, certainly, differences even between humanists. Art historians and Asian studies faculty are the only disciplines in which less than a majority support the transitioning of

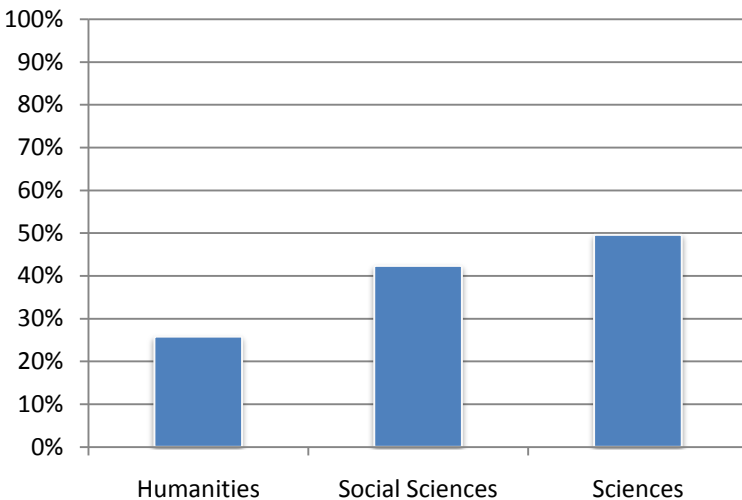
Figure 2: Percent of faculty strongly agreeing with the statement: “If my library cancelled the current issues of a print version of a journal but continued to make them available electronically, that would be fine with me,” by disciplinary grouping



current issues, while philosophers are relatively more accepting of this transition than are most humanists. But even among more “conservative” faculty, attitudes have continued to shift and comfort with this transition has continued to grow. For example, although still less accepting than their peers, art historians’ comfort with the transition has grown at about the same rate as their humanist peers. Although humanists are not yet as uniformly accepting of this transition as the other disciplinary groupings, attitudes are relatively positive; less than 20% of humanists strongly disagree with the assertion that it “would be fine” with them to cancel print current issues in favor of electronic.

This growing acceptance of digital current issue substitution validates the choices of many libraries to transition their subscriptions to electronic-only. Although a sensitive and nuanced approach is needed – as mentioned above, several disciplines remain less comfortable with such a transition even for current issues – these national findings suggest that libraries may be able to move relatively aggressively in switching most remaining print subscriptions to electronic-only with minimal impact on users.

Figure 3: Percent of faculty agreeing strongly with the statement: “I am completely comfortable with journals I use regularly ceasing print versions and publishing in electronic-only form,” by disciplinary grouping



But the nature of the print to electronic transition for current issues looks somewhat different if examined not from the campus level but instead from the system-wide level. Although faculty members are broadly accepting of the cancellation of local print subscriptions for current issues of the journals they use, they are less comfortable with the idea of the journals they rely on switching to an electronic-only publishing model (see Figure 3).

Harley et al suggested that, as authors, faculty view the print versions as fulfilling other important purposes, such as setting limits on

acceptance rates and thereby establishing the prestige of the journal title itself.⁵ It is also possible that lingering concerns about the reliability of e-journal preservation may drive relatively lower faculty acceptance of the cessation of print publishing. While some publishers had envisioned a relatively straightforward winding-down of print publishing programs, these findings suggest that more strategic planning, perhaps engaging publishers and libraries together, might be called for to make a smart and

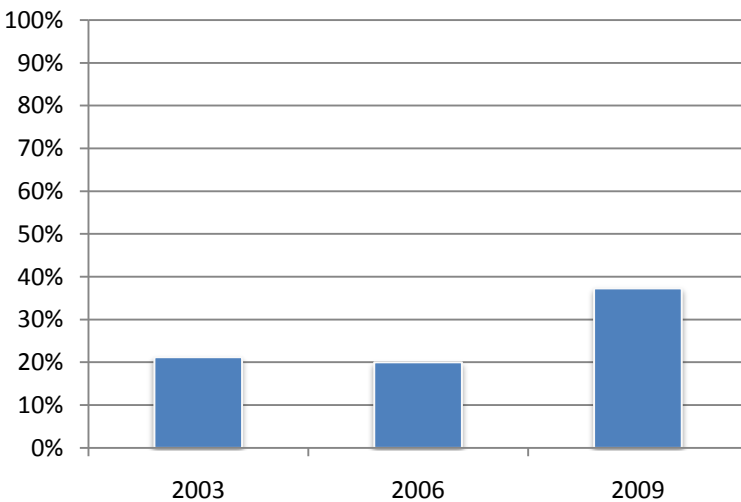
⁵ The recent work of the Center for Studies in Higher Education at UC Berkeley corroborates this author impression, especially in certain disciplines such as political science, with faculty describing electronic-only journals as “lack[ing] prestige” or not having “gravitas.” Diane Harley et al., “Assessing the Future Landscape of Scholarly Communication: An Exploration of Faculty Values and Needs in Seven Disciplines” (UC Berkeley: Center for Studies in Higher Education, 2010), http://escholarship.org/uc/cshe_fsc.

complete transition from print to electronic journal publishing both taking into account library, publisher, author, and reader perspectives.⁶

Backfiles of scholarly journals

While there is great and growing agreement that current issues can be migrated to an electronic-only format, especially now that electronic is often the “format of record,” faculty attitudes toward backfiles are somewhat more mixed. For backfiles, a variety of providers, including but not limited to publishers, have digitized thousands of journal titles, at various levels of quality that may at times diverge to at least some degree from the original published print version, with a variety of provisions for digital preservation and post-cancellation access. It is therefore understandably more difficult for faculty members to contemplate removing a resource currently available to them than to consider foregoing purchase of the new digital “format of record,” especially if the opportunity costs associated with retaining print are not borne by faculty members but rather by the library. Even so, the trend line indicates that faculty support for a backfiles format transition is increasing.

Figure 4: Percent of faculty agreeing strongly with the statement: “Assuming that electronic collections of journals are proven to work well and are readily accessible, I would be happy to see hard-copy collections discarded and replaced entirely by electronic collections,” in 2003, 2006, and 2009



Our study gauged the reaction of faculty to an extremely strongly worded statement, asking if they would be “happy” with their library having “hard-copy collections discarded” and replaced entirely by electronic collections. The notion of anyone being “happy” about any loss, no matter how minor, may seem unlikely. Still, attitudes on this question changed significantly between 2006 and 2009. Although still a minority, more than a third of respondents now agree strongly that they would be “happy” to see hard-copy collections of scholarly journals discarded and replaced entirely by electronic collections (see Figure 4). And exactly half of

respondents respond at least somewhat positively to this notion,⁷ indicating that although faculty members may not be “happy” to see print backfiles go, many are at least not strongly opposed to the idea.

⁶ Some publishers have begun to shift their print publishing to “condensed and rotated” format, continuing to produce a print version at least for the time being while reducing its cost. In the medium term, perhaps there is a role for print-on-demand, potentially driven by the Espresso Book Machines that have been acquired by a number of libraries, in this wind-down.

⁷ While we measure “strong agreement” as responses of 8-10 on a 1-10 scale, positive responses include the wider range of responses from 6-10.

Unsurprisingly, social scientists and scientists are far more comfortable with such a substitution than are their colleagues in the humanities, but attitudes have shifted substantially among all disciplinary groups since 2006. Even among scientists, the majority of respondents are still not “happy” about the prospect of wholesale electronic-for-print substitution, but the accelerating rate of change in attitudes on this topic seen in the 2009 study suggests that a tipping point may be in sight even if it has not yet been reached (see Figure 5).

Figure 5: Percent of faculty agreeing strongly with the statement: “Assuming that electronic collections of journals are proven to work well and are readily accessible, I would be happy to see hard-copy collections discarded and replaced entirely by electronic collections,” by disciplinary grouping in 2003, 2006, and 2009

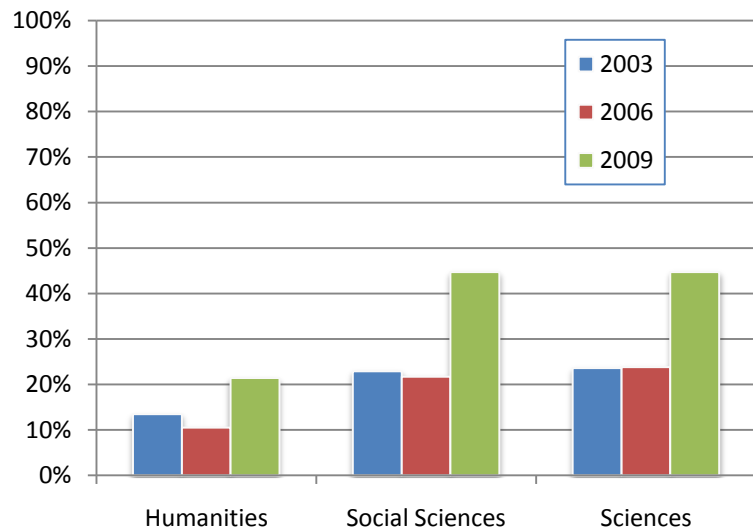
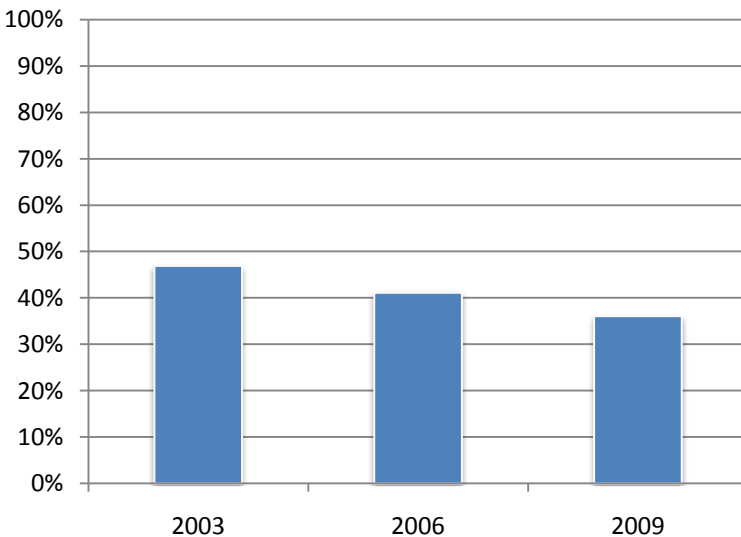


Figure 6: Percent of faculty agreeing strongly with the statement: “Regardless of how reliable and safe electronic collections of journals are, it will always be crucial for my college or university library to maintain hard-copy collections of journals,” in 2003, 2006, and 2009.



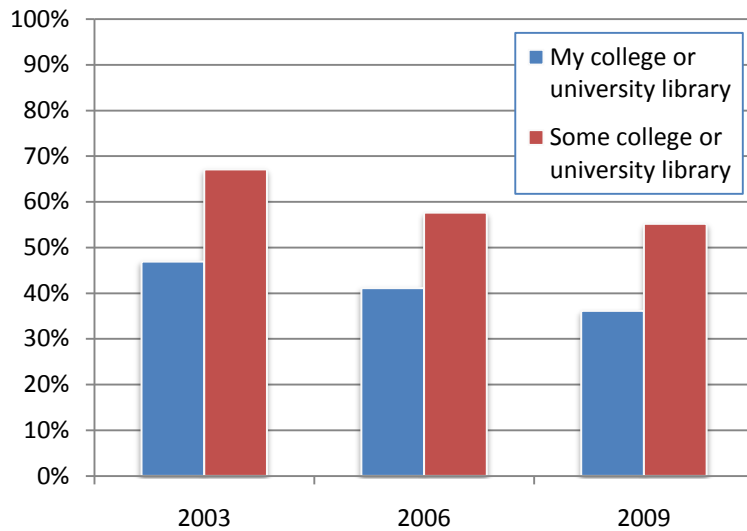
When asked about their continuing need for access to backfiles in print form, a complementary picture emerges: only slightly more than a third of faculty indicated their sense that it would *always* be *crucial* for *their own* college or university library to maintain print journal collections (see Figure 6). These overall figures mask dramatic differences among individual disciplines’ reactions to print backfiles deaccessioning. Faculty in business, economics, and several of the sciences are among the most enthusiastic about the transitioning of print backfiles to electronic-only, offering an opportunity for

immediate impact, while humanities disciplines like art history and classics are not ready for local print holdings to be replaced with electronic resources.

Declining faculty reliance on local print collections may pose a challenge for libraries, as local investment in print preservation efforts may go unrecognized and unrewarded just as efforts to withdraw local print holdings may elicit controversy. Notably, there is no more interest in local print preservation efforts among faculty at the largest institutions, which are assumed by many to bear the lion’s share of responsibility for preservation, than at other institutions. New methods to more efficiently distribute these

responsibilities and costs in ways that better balance with faculty valuation of local investment in print preservation are needed and are the principal motivation behind the library movement to develop print repositories.⁸

Figure 7: Percent of faculty agreeing strongly with the statement: “Regardless of how reliable and safe electronic collections of journals are, it will always be crucial for _____ to maintain hard-copy collections of journals,” in 2003, 2006, and 2009



In comparing the previous statement about local retention with a similar question about retention *somewhere* in the library community, it is clear that, while faculty continue to value print preservation, they seem to be feeling less of a need to have immediate access to print journals locally. Both figures have drifted downward over the last decade (see Figure 7). They have varied predictably by discipline – both numbers are substantially higher for humanists than for scientists. Overall, over time and by discipline, concern that print be maintained *somewhere* has consistently trumped interest in local print preservation.

These attitudes do not give libraries a clear mandate with respect to print preservation: they neither indicate that local print collections remain functionally relevant to faculty work processes nor suggest that faculty are increasingly willing to see local print collections discarded and rely on remote access; rather, they seem to demonstrate a slowly declining valuation of print preservation in general.

These faculty attitudes may in the long term prove challenging to the print repository strategy that many libraries and consortia are today pursuing. Today, a slim majority of faculty members agree strongly that print collections should be retained remotely following their digitization, but long-term trends indicate a continuing decline in prioritization of these activities. Just as decreasing faculty support for local print preservation activities shapes the environment for library investment in these areas, so the declining mandate from faculty members to support remote preservation activities may have an impact over time. A print repository strategy therefore must also incorporate system-wide efficiencies in print collection management that reduce the burdens of preservation while still prioritizing the responsible maintenance of print.⁹

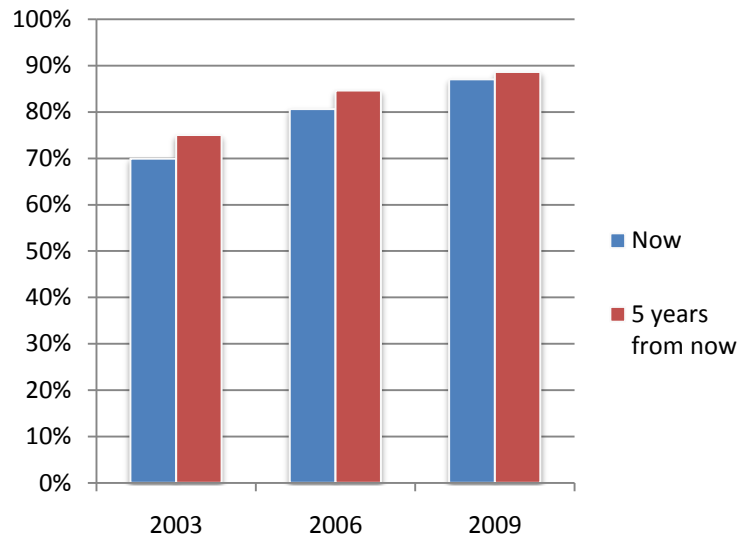
⁸ For more on print repositories, see Reilly, Bernard F., Jr. *Developing Print Repositories: Models for Shared Preservation and Access*. Washington, DC: Council on Library and Information Resources, 2003.

⁹ Ithaka S+R’s What to Withdraw initiative provides a framework for balancing these considerations from a system-wide perspective to enable library action. Roger C. Schonfeld and Ross Housewright, “What to Withdraw? Print Collections Management in the Wake of Digitization” (Ithaka S+R, September 29, 2009), <http://www.ithaka.org/ithaka-s-r/research/what-to-withdraw>.

Preservation of electronic journals

Faculty attitudes with respect to electronic preservation of journal materials appear much less complex; faculty members' sense of the significance of long-term preservation of electronic journals has steadily increased over time (see Figure 8). Interestingly, faculty assessments of the importance of these preservation activities have grown even faster than faculty themselves expected. There is now virtually unanimous agreement on the importance of long-term e-journal preservation, suggesting that faculty care most about the preservation of those materials that they make greatest use of today and expect to be important to them in the future.

Figure 8: Percent of faculty responding “very important” to the question “How important is the long-term preservation of electronic journals to you?” today and to the question “Thinking about 5 years from now, how important do you think the long-term preservation of electronic journals will be to you?” in 2003, 2006, and 2009



Libraries may be able to harness this near-unanimous agreement to garner support for a more holistic view of the preservation of the intellectual contents of journals across formats, linking up their diverse preservation activities into a coherent vision. Publishers may also find guidance in these findings, which suggest that a transparent program for long-term electronic preservation of their publications may be viewed positively by, and afford value to, many of their faculty constituents. In any case, effective and sustainable models for the preservation of electronic journals— which will likely look very different from the “preservation by proliferation” approach used in the long-term maintenance of physical materials — must be developed.¹⁰

¹⁰ See the recent report, “Sustainable Economics for a Digital Planet: Ensuring Long-Term Access to Digital Information” (Blue Ribbon Task Force on Sustainable Digital Preservation and Access, February 2010), http://brtf.sdsc.edu/biblio/BRTF_Final_Report.pdf.

Format & preservation of other scholarly materials

Although scholars across disciplines highly value the electronic format for journals, opinions on the importance of other types of digital materials vary more widely. Broadly speaking, scholars, regardless of field, indicate a general preference that digital materials be preserved. This interest in preservation sometimes outpaces actual use substantially: while there is rough parity in levels of agreement about the importance of e-journals and of their preservation, other formats vary substantially. In the cases of both e-books and digitized primary source collections, far more faculty feel that it is important that these materials be preserved than actually feel that these types of materials are particularly important to their research and teaching at this point in time (see Figure 9).

Figure 9: Percent of faculty responding “very important” to the questions “How important is this item to your research or teaching?” and “How important is the long-term preservation of this type of digital materials?”

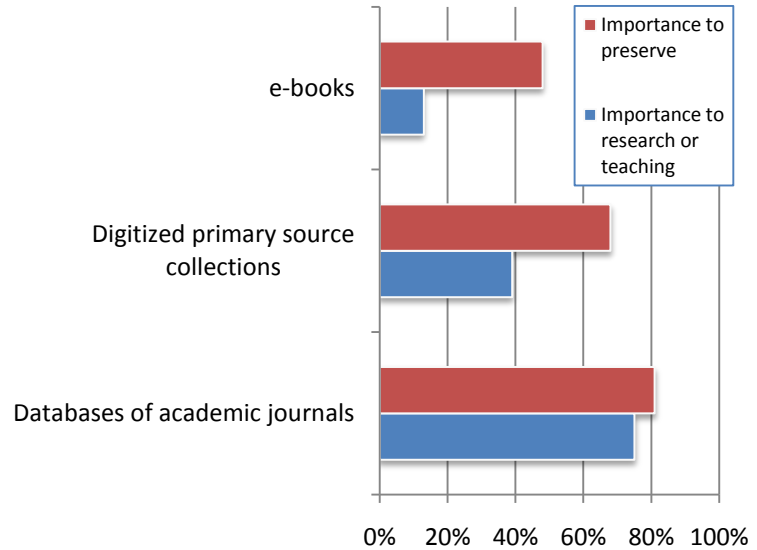
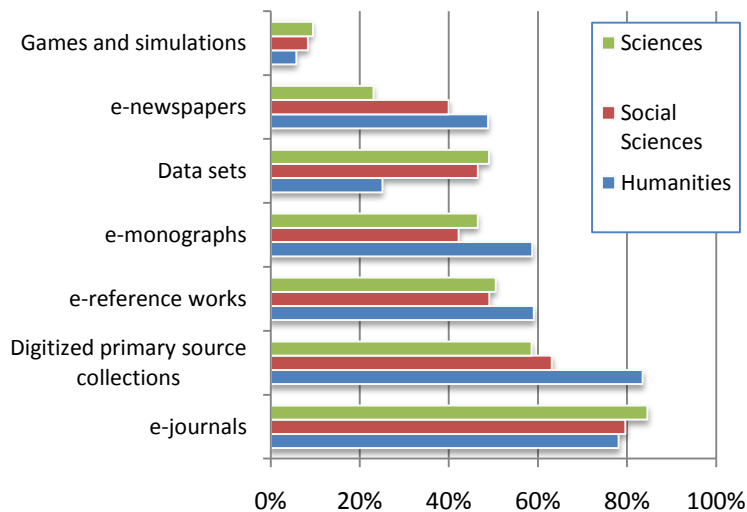


Figure 10: Percent of faculty responding “very important” to the question “How important is the long-term preservation of these types of digital materials,” by disciplinary grouping



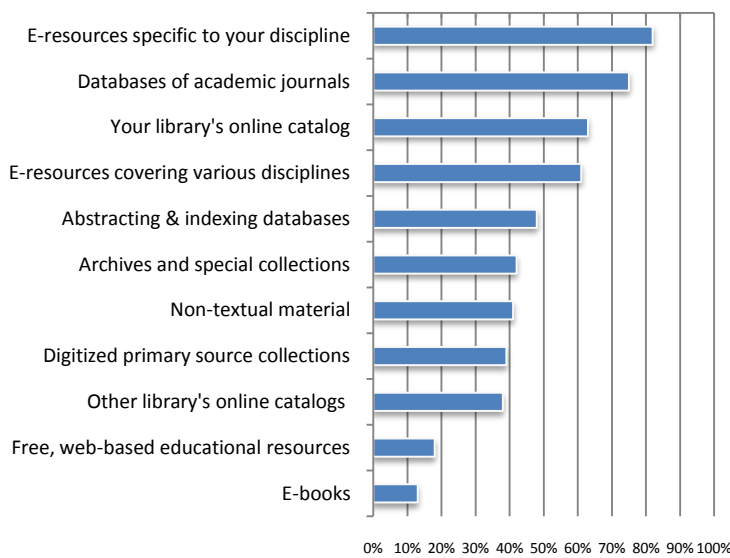
Different disciplines value preservation primarily of the materials that they most value for their research or teaching: reasonably, humanists prioritize preservation of digitized primary source collections and e-newspapers far more than their colleagues in the social sciences and sciences, while scientists and social scientists value the preservation of data sets far more than do humanists (see Figure 10).

If many faculty members think all information sources are trending to digital over time, views on preservation outpacing actual usage may represent a kind of forecasting

of expected value. Alternatively, the divergence of concern for preservation from actual use could be interpreted to suggest that much of this demand for preservation is soft – faculty would prefer preservation in the abstract, but ultimately may not yet receive enough real-world value from some materials to support investment in their preservation when this comes at the cost of other and more immediately valuable activities.

The case of e-books draws this contrast into stark relief: while about half of all respondents indicate long-term e-book preservation is very important, only a small fraction of faculty actually make use of e-books in the course of their research or teaching. Balancing apparent faculty demand for the preservation of e-books with their relatively low level of use may pose a future challenge for the library that in some ways parallels current print collections management dilemmas: either invest in redundantly preserving materials that receive relatively little use, or help faculty understand and accept the strategies that underlie deaccessioning decisions. For e-books, if a format migration is eventually expected, dual-format preservation strategies may yield additional value in the long run, but otherwise they may eventually need to be rethought. Some libraries are already electing to pursue digital-only acquisitions for science monographs that have strong digital preservation assurances.

Figure 11: Percent of faculty responding “very important” to the question “For each item that you use, please indicate how important that item is to your research or your teaching.”



Despite the arrival of devices like Amazon’s Kindle – and about ten percent of respondents indicated that they own an e-book device like the Kindle – e-books have remained marginal to scholars as tools for their research and teaching. When asked to rank a variety of different types of electronic resources according to their importance to research and teaching, faculty placed the e-book solidly in last place, lower than free web-based educational resources (like MIT’s OpenCourseWare) and trailing all other resources by a significant margin (see Figure 11). Still, more faculty members expect

e-books to be important in five years from now, with 31% expecting that e-books will be valuable in five years as compared to only 13% today, suggesting that it may yet be early days for scholarly monographs in digital format.

Unlike the case of journals, where many faculty members are willing to imagine that within a few years, electronic surrogates will largely replace print originals, virtually all respondents dismiss the notion that e-books will displace print originals in a relatively short timeframe. Only four percent of faculty members expressed strong agreement with the statement “Within the next five years, the use of e-books will be so prevalent among faculty and students that it will not be necessary to maintain library collections of hard-copy books.” Given the anticipated growing importance of e-books, it will be important to continue assessing whether a format transition similar to the one which has occurred for journal materials is likely.

Summary

In the eyes of faculty, electronic versions of journals are now utterly mainstream. While print journals may continue to play a limited role for faculty with specific needs that are otherwise poorly met, digital versions are clearly the medium of choice for most faculty members, even among humanists. Bringing together the preservation and business models to wind down print publishing and collections programs wherever appropriate would probably reduce expenditures by publishers and libraries alike.¹¹

Especially in the case of backfile journal collections, structural changes in system-wide library collections management processes may be needed in order to facilitate a print-to-electronic transition that will support remaining faculty needs for some print materials and effectively balance local flexibility with system-wide preservation priorities. Beyond preservation of print versions, there are also opportunities for publishers and other backfile suppliers to ensure that their digitized versions not only meet faculty access requirements but can also serve as a substitute for print for a preservation perspective. The time to lay the groundwork for this transition is now.

Other types of scholarly materials have not yet experienced the same type of transition, and careful attention must be paid to the different roles that digitized and born-digital versions of other materials have the potential to play. But as faculty increasingly turn to digital materials such as e-books, new dissemination and preservation models will surely need to be developed.

¹¹ It certainly would do so for nonsubscription costs for libraries: Schonfeld, Roger C., Donald W. King, Ann Okerson, and Eileen Gifford Fenton. *The Nonsubscription Side of Periodicals: Changes in Library Operations and Costs between Print and Electronic Formats*. Washington, DC: Council on Library and Information Resources, 2004.