



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

## CHAPTER 1: Discovery and the Evolving Role of the Library<sup>1</sup>

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<sup>1</sup> This document contains Chapter 1 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](http://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 1: DISCOVERY AND THE EVOLVING ROLE OF THE LIBRARY

Scholarly use of information services has changed substantially in recent years. Faculty members' research practices and teaching methods have both shifted, most often at a disciplinary level. Network-level services, such as digital content resources, a variety of new kinds of discovery tools, new services for information organization and use, and scholarly and pedagogical interaction and collaboration tools, have been the most important factor in leading this change. This section examines some of the most important trends in information discovery and use, and, because these services are increasingly provided online rather than locally, the profound challenges they pose for a diverse range of information service providers. Traditional research practices relied heavily on the library itself and on locally implemented library-provided tools for discovery of books, journal articles, and other materials. Today, there are numerous alternative avenues for discovery, and libraries are challenged to determine what role they should appropriately play. Basic scholarly information use practices have shifted rapidly in recent years, and as a result the academic library is increasingly being disintermediated from the discovery process, risking irrelevance in one of its core functional areas. This section examines how patterns of information discovery and usage by faculty members are changing and the implications of these changes for their perceptions of traditional and emerging roles of the library.

This document contains *only* the first 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.<sup>2</sup> Unless specified otherwise, all findings presented in this report are based on 2009 data.

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<sup>2</sup> 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,

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.<sup>3</sup>

**Table 1: Respondents by institution size**

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

**Table 2: Respondents by disciplinary grouping**

Disciplinary Grouping	Respondents	Share
<b>Area Studies</b>	191	6.3%
<b>Humanities</b>	652	21.6%
<b>Social Sciences</b>	1154	38.1%
<b>Sciences</b>	791	26.1%
<b>Other</b>	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.<sup>4</sup>

### *Information discovery and use*

Since the first Faculty Survey in 2000, we have seen faculty members steadily shifting towards reliance on network-level electronic resources, and a corresponding decline in interest in using locally provided tools for discovery. This section examines this trend through the lens of several questions posed to faculty about their information discovery and usage behaviors.

Versions of this study since 2003 have asked faculty to select their “starting point” for research from a list of four broad categories:

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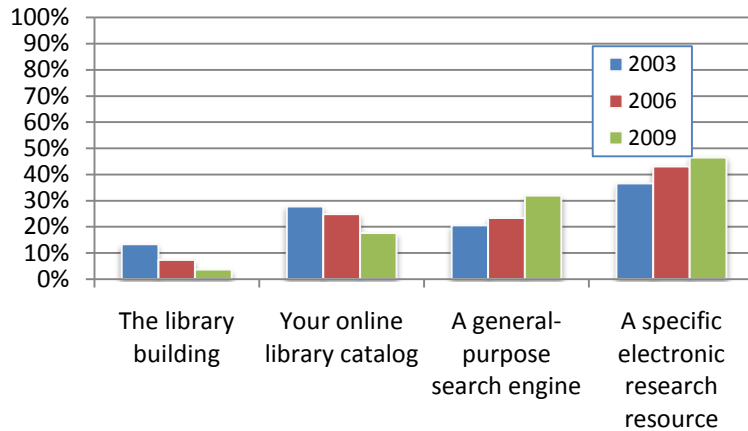
<http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMagazineVolume42/TheChangingInformationServices/161752>.

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

<sup>4</sup> With questions, comments, or requests, please contact us at [research@ithaka.org](mailto:research@ithaka.org).

- The library building
- Your online library catalog
- A general-purpose search engine on The Internet or World Wide Web such as Google or Yahoo
- A specific electronic research resource / computer database

**Figure 1: Starting point for research identified by faculty, in 2003, 2006, and 2009**

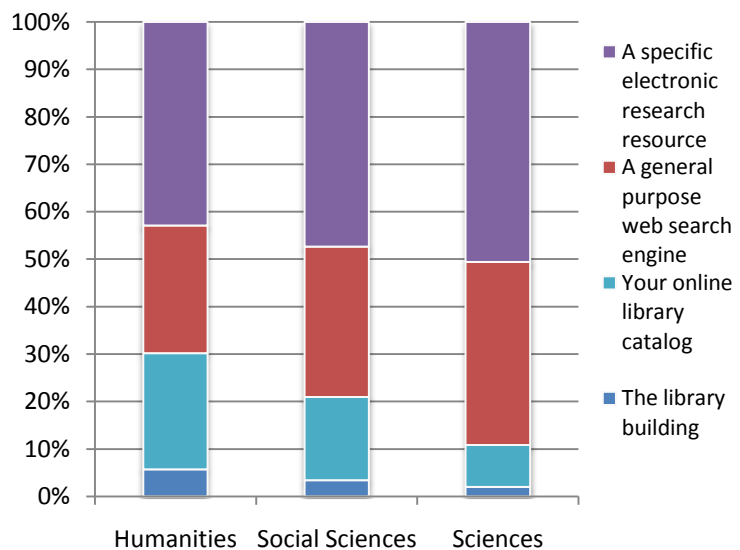


As Figure 1 illustrates, the library’s physical edifice and catalog have declined steadily as starting points for research. The research process is no longer likely to begin with a face-to-face consultation with a librarian, a visit to the library’s special collections service points, or a search of the online library catalog. Rather, faculty most often turn to network-level services, including both general purpose search engines and services targeted specifically to academia.

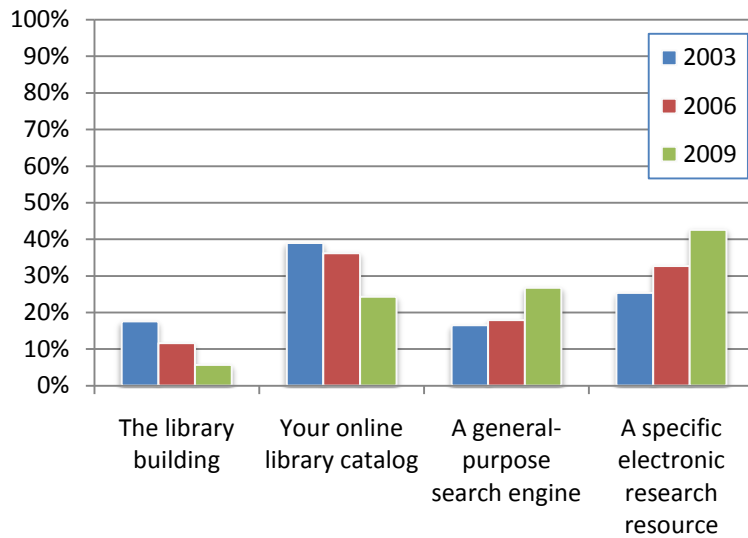
These services have steadily grown in importance to a growing share of faculty members, and there is every reason to expect this pattern to continue. Although they may rely on resources licensed by the library, their pathway for discovery of these materials no longer goes through the library, except in a very technical sense; their access is only facilitated by the library “behind the scenes.”

Of all disciplines, scientists remain the least likely to utilize library-specific starting points; only about 10% of scientists start their research at either of the library-specific starting points, while at about 30% of humanists do so (see Figure 2). Most of this difference comes from their relatively different usage of the online library catalog. This pattern likely stems from humanists’ continuing reliance on monographs, which have not made as complete a transition to digital as have the journals that have traditionally been used by social scientists and scientists.

**Figure 2: Starting point for research identified by faculty, by disciplinary grouping**



**Figure 3: Starting point for research identified by *humanities* faculty, in 2003, 2006, and 2009**

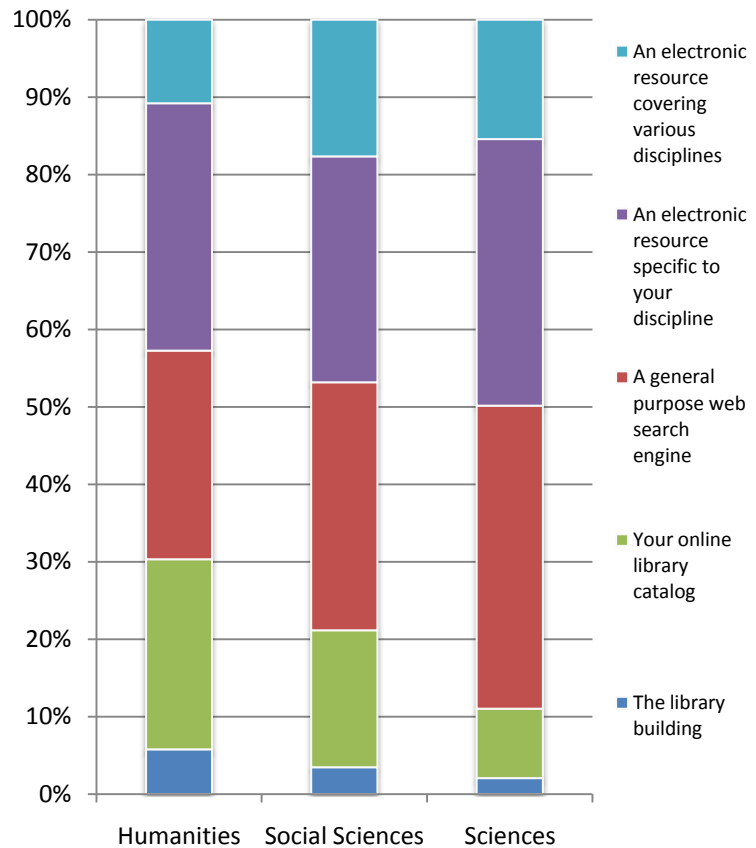


Still, humanists have also trended steadily away from library-specific starting points and toward the network level (see

Figure 3). Even for more monograph-oriented humanistic scholars, network-level services are increasingly important for discovery, not only of monographs and journals but archival resources and other primary source collections. And, as book digitization projects advance and the opportunities to use full-text search more broadly in the discovery of monographs grow, this pattern seems likely to develop further.

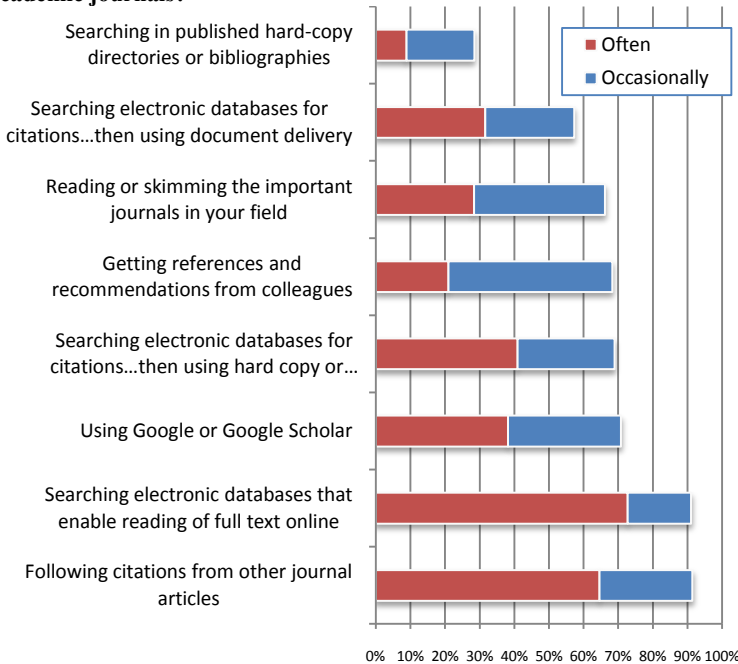
In the 2009 Faculty Survey, we drilled deeper into this issue, asking faculty members who report starting their research with a specific electronic research resource a subsequent question about whether this resource is discipline-specific or covers multiple disciplines. The survey found that scholars tend to prefer electronic resources specific to their own discipline over those that cover multiple disciplines (see Figure 4). This pattern holds across disciplines, although social scientists are relatively more reliant on multidisciplinary resources than either humanists or scientists. The use of resources focused on a specific discipline may simplify the research process for scholars, reducing their need to sift through unrelated materials in their search for items of interest. And targeted resources may be able to offer discovery mechanisms and other tools that speak directly to a

**Figure 4: Starting point for research by disciplinary grouping, with responses of “A specific electronic research resource” broken down based on the complementary question “Which of the following types of specific electronic research resources would you be most likely to start with?”**



discipline’s unique research needs and practices, further facilitating an efficient and effective research process.

**Figure 5: Percent of faculty responding “often” or “occasionally” to “How often do you use each of the methods listed below to find information in academic journals?”**

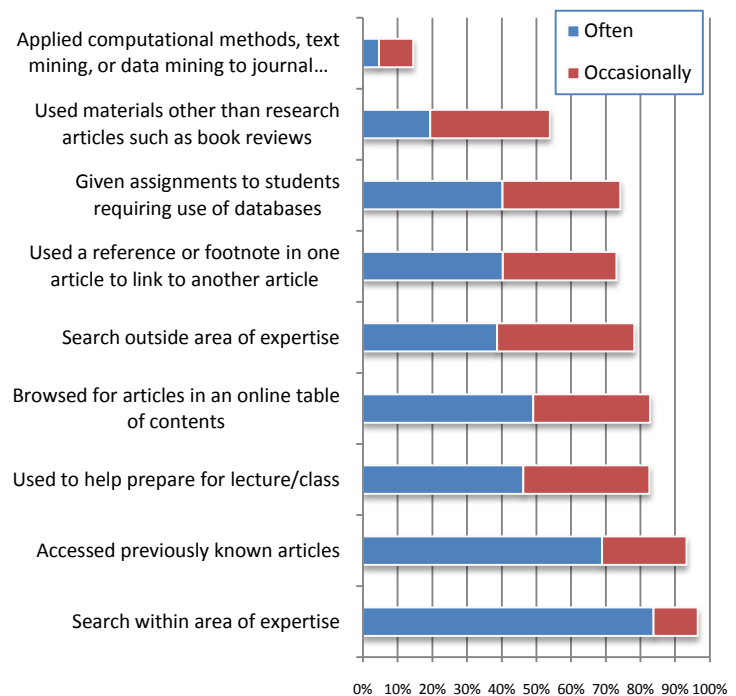


In addition to examining how faculty members begin their research, we also investigated how they discover materials throughout the research process, asking about the methods they use to find information in academic journals. Two of the methods listed were nearly universally used among respondents: following citations from other journal articles and searching online databases that offer full-text access to scholarly articles. As Figure 5 illustrates, discovery through Google and Google Scholar is in a third-place position, virtually tied with a variety of other discovery practices, perhaps because full text is not always easily accessible when discovered through such services.

The survey also asked about a broader set of faculty practices surrounding use of electronic journal literature, including a number of discovery issues. Nearly all faculty use electronic journal resources to search for materials within their area of expertise and to access known articles of interest. A smaller but far from insignificant set of faculty use these same tools to search beyond their immediate field (see Figure 6).

For all the journal usage tasks that we tracked in 2006 as well as 2009, there has been modest growth, with one exception. A somewhat smaller share of faculty members reported utilizing non-research articles (such as book reviews) at least occasionally in 2009 than did so in

**Figure 6: Percent of faculty responding “often” or “occasionally” to “How often have you done each of the things listed below using electronic collections of academic journal articles?”**



2006, with a drop in share from 59% to 54%.

More than half of the respondents in 2009 said that they “occasionally” or “often” use electronic academic journal collections in eight of the nine ways laid out in the survey. The one exception was “applied computational methods”: less than 20% of respondents said they at least occasionally use computational methods such as text-mining and data-mining with electronic collections of academic journal articles, though the far greater use of these methods in the sciences (19%) than in the social sciences (15%) or humanities (8%) could be interpreted to suggest that these methods will likely grow in prevalence.<sup>5</sup> Further change in methods and behaviors in information discovery and usage can therefore probably be expected.

### *The changing roles of the library*

As faculty research and teaching practices continue to shift in response to their rapidly changing information environment, their uses of the library also change, as does their perception of the value the library offers. Faculty used to rely almost exclusively on the library for the scholarly materials they needed for research and teaching, and librarians guided faculty to and otherwise facilitated the discovery of these materials. As scholars have grown better able to reach needed materials directly online, the library has been increasingly disintermediated from research processes, as the previous section on shifting discovery practices illustrated. The library must evolve to meet these changing needs. To do so effectively requires awareness of how faculty members evaluate different existing library roles and react to potential changes in library services. Since 2003, the Faculty Survey has asked about faculty perceptions of the importance of three traditional functions of the library:

- “The library is a starting point or ‘gateway’ for locating information for my research” (which we refer to as the “gateway” function)
- “The library pays for resources I need, from academic journals to books to electronic databases” (which we refer to as the “buyer” function)
- “The library is a repository of resources – in other words, it archives, preserves, and keeps track of resources” (which we refer to as the “archive” function)

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<sup>5</sup> Recent funding investments may help to draw the interests of humanists in this area. See for example the Digging into Data challenge of the NSF, NEH, JISC, and SSHRC: <http://www.diggingintodata.org/>.

**Figure 7: Percent of faculty rating these roles of the library as important, in 2003, 2006, and 2009**

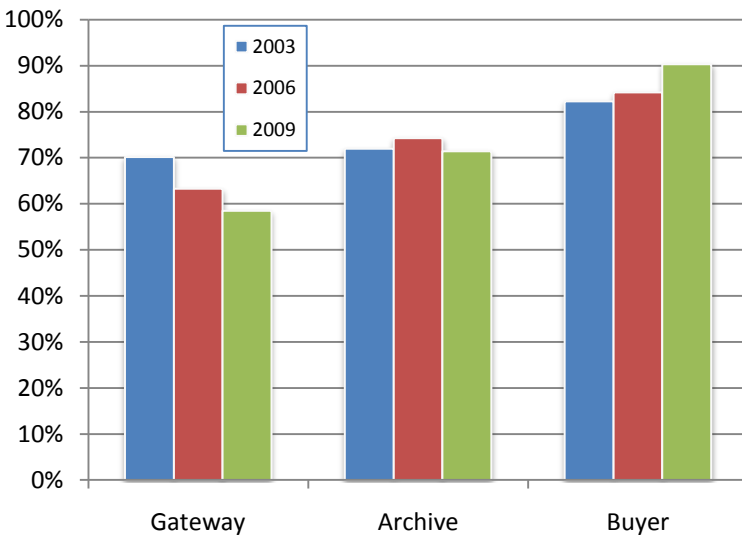


Figure 7 illustrates the gradual decline in the perceived importance of the gateway function over time and the gradual increase in the perceived importance of the buyer function. Over time, the gap between roles has grown substantially. While the buyer role has always been important to the most faculty members, it is now *by far* the most important of the three: while 90% of faculty members view this buyer role as very important, 71% and 59% now view the archive and gateway roles as very important, respectively. As individual faculty subscriptions have declined in favor of an

increasingly broad set of library-licensed resources, faculty perceptions of the importance of the library as their “purchasing agent” has steadily increased.

The gateway, archive, and buyer functions are among the core traditional roles of the library. But many believe that these historical roles will not be the main focus of libraries in the future, and envision the transformation of the library from an institution focused on acquiring, maintaining, and providing services centered on a local print collection into a more electronic hub offering a variety of services to support campus needs for research, teaching, and learning.<sup>6</sup> Many libraries have made significant investments in such a transformation, reducing print collections or moving them to less central locations to enable the use of prime real estate for new learning and collaboration services such as information commons.<sup>7</sup> In addition, libraries are taking on new research-support roles, providing digital information curation and management services and even establishing a new professional identity for themselves as “informationists.”<sup>8</sup>

In order to evaluate the impact of these transformative services, our 2009 Faculty Survey asked faculty about their perceptions of two additional roles for the library beyond the three reviewed above:

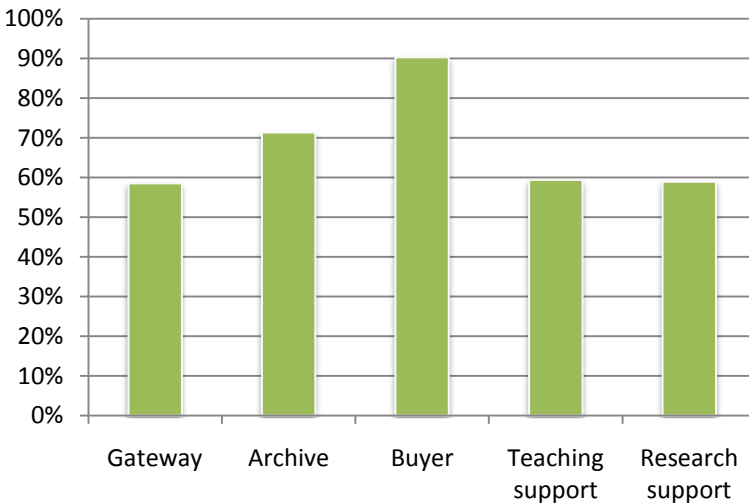
<sup>6</sup> For example, see David W. Lewis, “A Strategy for Academic Libraries in the First Quarter of the 21st Century,” *College and Research Libraries* 68, no. 5 (September 2007): 418-434; Joseph Esposito, “What if Wal-Mart Ran a Library?,” *Journal of Electronic Publishing* 9, no. 1 (Winter 2006); Lyman Ross and Pongracz Sennyey, “The Library is Dead, Long Live the Library! The Practice of Academic Librarianship and the Digital Revolution,” *The Journal of Academic Librarianship* 34, no. 2 (March 2008): 145-152.

<sup>7</sup> See for example Joan K. Lippincott, “Information Commons: Meeting Millennials' Needs,” *Journal of Library Administration* 50, no. 1 (January 2010).

<sup>8</sup> D. Scott Brandt, “Librarians as partners in e-research: Purdue University Libraries promote collaboration,” *C&RL News* 68, no. 6 (June 2007); Kathleen Burr Oliver, “The Johns Hopkins Welch Medical Library as Base: Information Professionals Working in Library User Environments,” in *Library as Place: Rethinking roles, rethinking space* (Council on Library and Information Resources, 2005).

- “The library supports and facilitates my teaching activities (which we refer to as “teaching support”)
- “The library provides active support that helps to increase the productivity of my research and scholarship” (which we refer to as “research support”)

**Figure 8: Percent of faculty rating these roles of the library as important**



As Figure 8 illustrates, a roughly equal share of faculty members rate these roles as very important, and the importance of both of these roles is rated at almost exactly the same level as the library’s gateway function. Neither receives anything close to the universally high importance expressed about the library’s buyer role. In the absence of tracking data, it is impossible to speculate whether recent library investment in these roles has positively affected their value to faculty members or if they will over time come to be among the most

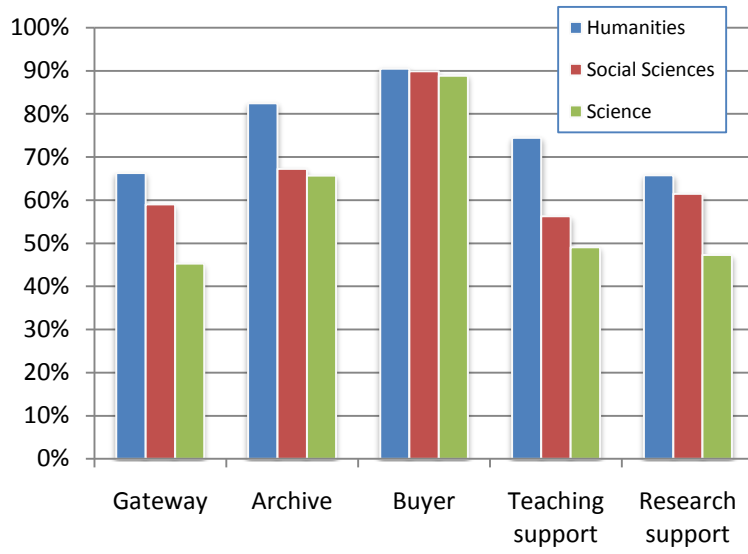
widely valued roles of the library (although analyses stratified by years in the field or faculty rank do not show noteworthy patterns). It is clear, however, that many libraries will increasingly focus on these roles going forward, both developing new services and seeking to direct faculty attention to existing activities. As libraries continue to invest in developing new emphases on these sorts of services, active evaluation of their impact will be crucial to help libraries direct limited resources to the most valuable activities.

There are several deeper patterns in response to this question that may have important strategic implications for libraries. Significantly more faculty members who consider themselves as “more of a teacher” rather than “more of a researcher” rate both the library’s teaching (67% vs. 45%) *and* research (62% vs. 51%) support roles as valuable. And faculty members at the very largest research universities are less likely to appreciate the library’s research and teaching support roles. Taken together, these patterns suggest that the relationships built through engaging faculty in supporting their own teaching activities (which have historically proven harder to scale at the largest institutions) may be an especially beneficial way to build relationships with faculty members more broadly.<sup>9</sup>

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<sup>9</sup> Karen Williams’s forthcoming “Transforming Liaison Roles” report (part of the Association of Research Libraries’ *New Roles for New Times* series) may offer valuable insight on these questions, especially in the context of large institutions. See <http://www.arl.org/rtl/plan/nrnt/nrntliaison.shtml>

**Figure 9: Percent of faculty rating these roles of the library as important, by disciplinary grouping**



As always with information services, disciplinary stratifications are especially revealing (see

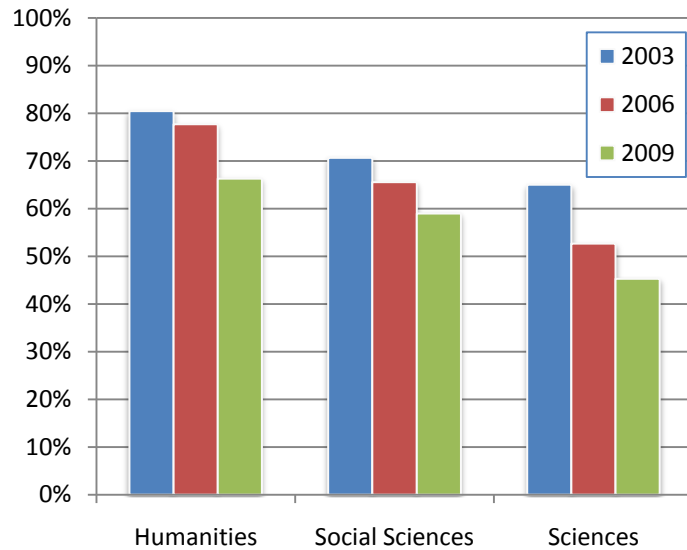
Figure 9: Percent of faculty rating these roles of the library as ( ). Virtually all faculty members in all important, by disciplinary grouping ( ). Disciplines uniformly rate the buyer role as very important. A large majority of humanists also value several other library roles highly, but for social scientists and scientists the buyer role is by far the most important role of the library. It is striking how faculty members have come to universally perceive the library role as purchasing agent for institutional information resources as essential.

But for other library roles, there are noteworthy disciplinary differences in faculty perceptions. Almost three-quarters of humanities faculty indicated teaching support is a very important role of the library, while a notably lower share of social scientists and scientists saw teaching support as very important. Is this role really most strongly valued by humanists and if so why? Alternatively, is there some reason that perceptions vary so significantly? As numerous libraries have invested in building information commons over the past decade, are there alternative or additional teaching roles that would be valued by social scientists and scientists?

The library's role as archive is very important to a very high share of humanists (82%), a relatively close second to the buyer function. For social scientists and scientists, however, the archiving role is a distant second, with 66% and 65%, respectively, ranking the archival role as very important. Perhaps this pattern is unsurprising, given the humanities' continuing reliance on print monographs, paper archives, and special collections, which have not yet seen the same dramatic format and preservation shift to the digital and the network level as have journals. Over the next few years, it will be interesting to track this question as more and more monographs are readily available to faculty members as e-books.

Finally, the library's role as a gateway demands attention. Helping users "locate information for their research" has become a far more competitive endeavor than it was in the days of print, and the library now competes with Google, publishers, aggregators, and other network-level services to serve its constituents. The fact that the perceived value of the gateway role has declined is a point that must be factored into libraries' resource allocation decisions; the trend over the last decade makes an even more powerful argument that libraries need to consider very carefully the investments they make in search and discovery services. The decline in the library's perceived role as a gateway matches the shift to network-level discovery and has been steady and consistent over the last 10 years, holding across disciplinary groupings (see Figure 10).

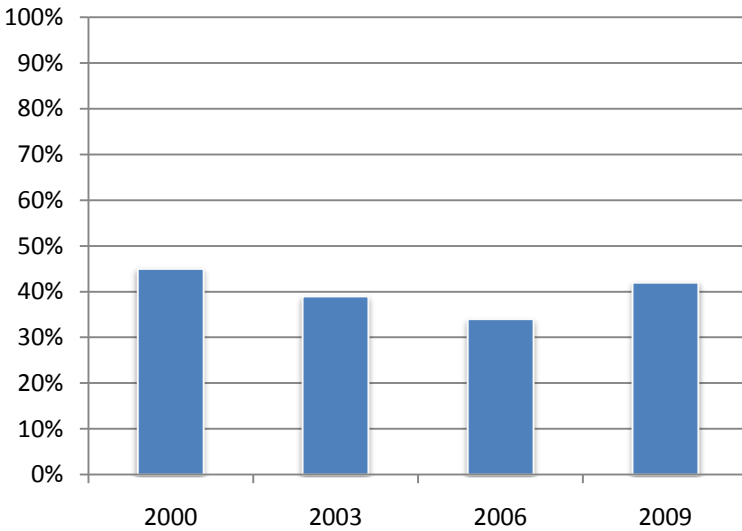
**Figure 10: Percent of faculty rating the library's "gateway" role as very important, by disciplinary grouping, in 2003, 2006, and 2009**



A particularly small share of scientists (less than half) see this gateway role as very important, and notwithstanding efforts to provide advanced alerting and discovery services to faculty members at some institutions,<sup>10</sup> scientists' support has eroded most dramatically since 2003. Libraries need to regularly assess whether their constituents continue to use and value the gateway services that they provide to ensure that the level of investments being made are justified by the benefits being gained by their constituents. Libraries should also give careful consideration to ways to deliver these services more efficiently through collaboration and participation in services delivered "in the cloud" or at the network level.

<sup>10</sup> Jay Schecker, "The Unseen Scholars: Researching Information in the Digital Age," *1663: Los Alamos Science and Technology Magazine*, December 2008, [http://www.lanl.gov/1663/files/documents/Item/627/1663\\_dec08\\_dialogue.pdf](http://www.lanl.gov/1663/files/documents/Item/627/1663_dec08_dialogue.pdf).

**Figure 11: Percent of faculty responding “very dependent” to “How dependent would you say you are on your college or university library for research you conduct?”**



Despite the reported declines in importance of all the library’s roles other than as a buyer, the 2009 study saw a slight rise in perceived dependence on the library (see Figure 11). In fact, in each disciplinary category, faculty rated their dependence on the library higher in 2009 than they had in 2006, and in some cases at their highest level since 2000. Frankly, we were surprised by this result. We do not have definitive evidence to explain why the trend has reversed, but one possibility is that faculty have become much more aware of the library’s role as buyer, and in this

economic environment that strikes them as especially important. Furthermore, library efforts to raise awareness of their purchasing role may complement increased scrutiny on the costs of scholarly journals brought on by the open access movement, together making the effort and expense of library purchasing activities clearer to faculty.

We also asked faculty members about their level of agreement with the strongly worded statement, “Because faculty have easy access to academic content online, the role librarians play at this institution is becoming much less important.” Although few faculty agreed strongly (an average of just 14%, with 20% of scientists, 15% of social scientists, and 7% of humanists), the share of survey respondents who do hold this belief has grown across disciplines in the last several years (in 2006, it was 8%, with 13%, 8%, and 4%, respectively). Taken together, these findings suggest that this increased perception of dependence on the library may be primarily derived from recognition and appreciation of the library’s role as a buyer.

In several disciplines, the library is perceived as becoming more and more exclusively a purchaser of needed resources. And while in tight economic times, faculty awareness and appreciation of the library’s role in financially supporting access to needed materials may rise, this is a relatively “background” role for the library. The declining visibility and importance of traditional roles for the library and the librarian may lead to faculty primarily perceiving the library as a budget line, rather than as an active intellectual partner.

### *Summary*

Network-level discovery tools include disciplinary resources and powerful search tools which dramatically improve research efficiency while also increasing effectiveness. As a result, faculty discovery practices across all disciplines have continued their marked shift to the network level. This key finding has important implications for resource providers and libraries alike.

Faculty members are reducing their usage of local library services for discovery purposes and, as a result, put less value on the library's traditional intellectual value-added role as a gateway to information. Faculty members, by comparison, most strongly support and appreciate the library's infrastructural roles, in which it acquires and maintains collections of materials on their behalf.

The two new roles in our most recent survey, teaching support and research support, suggest unique opportunities for libraries to further develop campus relationships. But notwithstanding noteworthy library investments in everything from the information commons to data curation services, faculty members across disciplines do not yet value the teaching and research support roles nearly as highly as they do the "infrastructural" roles. Developing research and teaching services that are valuable to scholars in the science and social science fields seems to have been a particular challenge for libraries.

All this suggests a key dilemma for the libraries pursuing these directions strategically and their parent institutions. On one hand, the fields whose practices are most traditional also appear to contain the library's greatest supporters; therefore, if the library shapes its roles and activities based on what is currently most highly appreciated by faculty, it may lose a valuable opportunity to innovate and position itself as relevant in the future. On the other hand, if the library develops new and innovative roles and services that address unmet needs, becoming newly relevant and even essential to those scholars who have moved farthest away from it, in the near term it may lose the support of its most ardent supporters. Can the academic library reengage with scientists? If not, is it realistic to expect humanists to remain wedded to it, given that humanists' declining support for the library's gateway role indicates they may be following in the footsteps of their peers in other disciplines, a trend which may only accelerate as a broader range of humanistic scholarly materials is made available in digital form? Addressing this dilemma is perhaps the most urgent strategic challenge facing academic library leaders.

Few libraries possess the resources to pursue every strategic opportunity they perceive. For this reason, many may face a strategic choice between investing to reengage with scientists and certain social science fields or building on their existing strength with humanists to develop durable services for an increasingly online future, or similar kinds of strategic resource prioritization decisions. In contemplating such decisions, it is necessary to examine the range of feasible services needed or wanted at a disciplinary level. Moreover, many libraries will find it useful to consider unique assets and opportunities on their own campuses in the context of this broad strategic backdrop, perhaps investing in individualized strategy analyses for their own institutions.<sup>11</sup> Certainly, in this environment, academic libraries can benefit from a culture of re-investment, experimentation, assessment, and as necessary regular re-direction, which can impact everything from how budgeting exercises are conducted to the types of information gathered from regular stakeholder investigations.

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<sup>11</sup> See the University of Minnesota's "A Multi-Dimensional Framework for Academic Support," available at [http://www1.lib.umn.edu/about/mellon/UMN\\_Multi-dimensional\\_Framework\\_Final\\_Report.pdf](http://www1.lib.umn.edu/about/mellon/UMN_Multi-dimensional_Framework_Final_Report.pdf); the "NYU 21st Century Library Project: Designing a Research Library of the Future for New York University," available at <http://library.nyu.edu/about/KPLReport.pdf>; and "Studying Students: The Undergraduate Research Project at the University of Rochester," available at <http://hdl.handle.net/1802/7520>.