

# The future ain't what it used to be

Based on a paper presented at the 27th UKSG Conference, Manchester, March 2004

The knowledge economy and the growth of knowledge management as an essential competency of organisations provides new opportunities for librarians and information specialists to expand existing roles and utilise the skills they have honed to meet corporate objectives. The key information management role of both internal and external information alongside the contribution to information competence and the ability to contextualise information contribute to organisational excellence, customer benefit and competitive advantage, which can be achieved more effectively through collaboration and partnership.



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The famous American baseball player/philosopher/phrase-turner, Yogi Berra, once quipped: "The future ain't what it used to be." This simple phrase seems to resonate mightily in the academic library community at present. Technology has quickened the pace within academic institutions, within libraries, and within publishing. Some might argue that the pace of change for these rather monolithic communities is still too slow, but for many others, this pace is mind-boggling. The changing roles of libraries, the changing dynamics in publishing, the radical changes in resource sharing amongst institutions in large systems and consortia, the acute changes being considered in the discussions around open access, and perhaps the most profound change agent of all – Google – provide additional evidence of how dramatically our information ecosystem is shifting.

At JSTOR, we have been very interested in how these changes are affecting the perceptions of faculty in the academe. During the fall of 2003, JSTOR supported a study to learn about the needs and preferences of faculty at colleges and universities in the United States. Significant support was also provided by The Andrew W Mellon Foundation and JSTOR's partner, Ithaka, itself. Ithaka commissioned a large survey from the research firm Odyssey, with more than 44,000 surveys sent out. Of these, 7,400 faculty from numerous academic disciplines responded, for a response rate of

16.8%.\* The study was designed to permit breakdowns by various criteria, including discipline and size of academic institution, as well as comparison with baseline findings from a similar study initiated by JSTOR in 2000.

This paper will delve into some of the results of the survey of faculty designed to gather information about their needs and preferences related to library resources, with a particular focus on the ongoing transition from print to electronic resources. Many of the findings contained in this paper are stratified on a disciplinary basis, and our hope is that these stratifications may offer libraries

\* The disciplines that were included, by the disciplinary groupings used throughout this paper, were: Area Studies (including African Studies, African-American Studies, American Studies, Asian Studies, India Studies, Latin American Studies, Middle East Studies, Slavic Studies); the Humanities (including Classical Studies, History of Art, History or History of Science, Languages, Linguistics, Literature, Music, Philosophy, Theater and Drama); the Social Sciences (including Anthropology, Archaeology, Architecture, Business or Finance, Economics, Education, Law, Political Science, Population or Demography, Psychology, Sociology); and the Sciences (including Biology, Botany, or Ecology, Geography, Mathematics or Statistics, Physical Sciences, Public Health or Epidemiology).

the opportunity to consider how the needs and perceptions of these disciplines are evolving, both the similarities and the differences.

Before we proceed, however, a word of vigilance to readers: as Kenneth Boulding, the famous economist, once wisely observed: “[Surveys] are like bikinis. What they reveal is interesting, but what they conceal is essential.”

### Starting point for research

We started our thinking, and indeed, the survey instrument, by trying to understand how faculty approach the research process and how recent technological advances may have affected this.

Our opening question was: “Below are four possible starting points for academic research. Typically, when you are conducting academic research, which of these four starting points do you use to begin locating information for your research?”

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

Our findings suggest that faculty are beginning to depend on general search engines and the open web just as have students. Figure 1 lists the overall finding from this question, that general search engines are second only in importance to specific scholarly resource, with the library building coming in last place.

Although it would be expected that this question, when stratified by disciplinary grouping, would reveal notable patterns, the patterns are

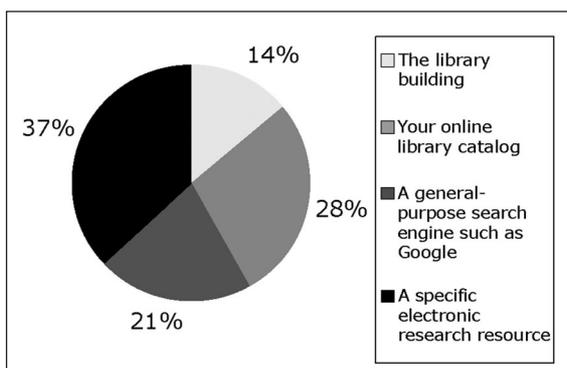


Figure 1. Starting point for research

dramatic. As Figure 2 shows, humanists and Area Studies specialists are much more likely to begin their research in the library catalog, probably due in large measure to their dependence on monographs and printed resources. Complementarily, social scientists and, especially, scientists are much more likely to begin in a specific electronic research resource. The well known dependence of these disciplines on the periodicals literature, much of which has been indexed and made available in electronic form, is the likely explanation. In all disciplinary groupings, but slightly more so the scientists and social scientists, general search engines have gained a non-trivial place in the research process. Although we do not believe that research is being conducted largely or exclusively on the open web (a charge that has been leveled against students), some components of all the disciplines have begun to make use of the web for research purposes. Understanding this, and improving the quality and finding aids for these materials, can offer value for faculty researchers.

### Value of library functions

The findings in the previous section – on the starting point for research – stratified on a disciplinary basis in expected fashion, confirming that technology is affecting different disciplines and their demand for different types of services at different rates. How does this demand for services translate into value for library services? In the question examined in this section, we broke the library's services into three core functions – gateway, archive and buyer – and asked: “How important is it to you that your library provides each of the following functions?”

- The library is a starting point or ‘gateway’ for locating information for my research
- The library pays for resources I need, from academic journals to books to electronic databases
- The library is a repository of resources – in other words, it archives, preserves, and keeps track of resources.

This question was designed to test perceptions of value, and the findings should not be interpreted as actually measuring the value of these functions empirically.

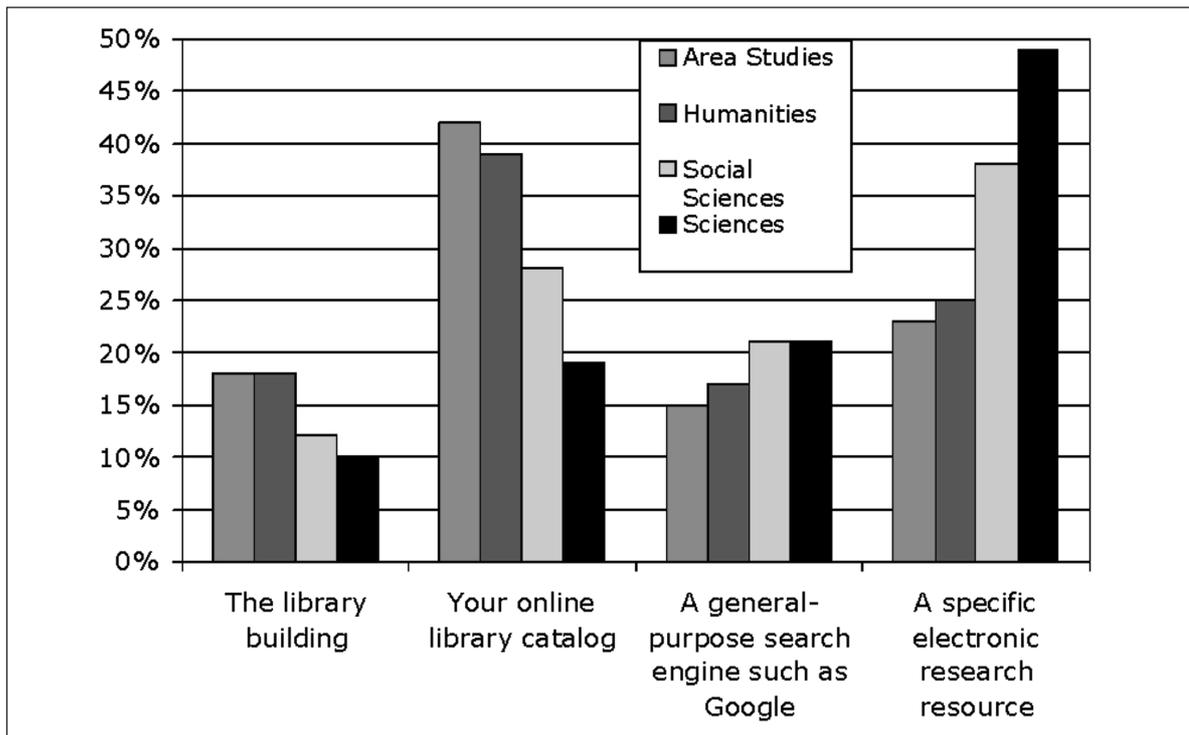


Figure 2. Starting point for research, by disciplinary grouping

As Figure 3 illustrates, the value of each of these functions has not changed dramatically in the past three years, with the buyer function continuing to be valued highest. The value of the gateway function has increased somewhat, and libraries have invested significantly in gateway resources and functionalities for their electronic resources in the past few years. The value of the archiving

function has declined somewhat, and there has been little investment by most libraries in electronic archiving in the past few years. Given the modest shifts in value perceptions, these factors may be unrelated. In 2000, faculty respondents expected their value for all three functions to decline, yet only the reported value of the archiving function did, in fact, decline.

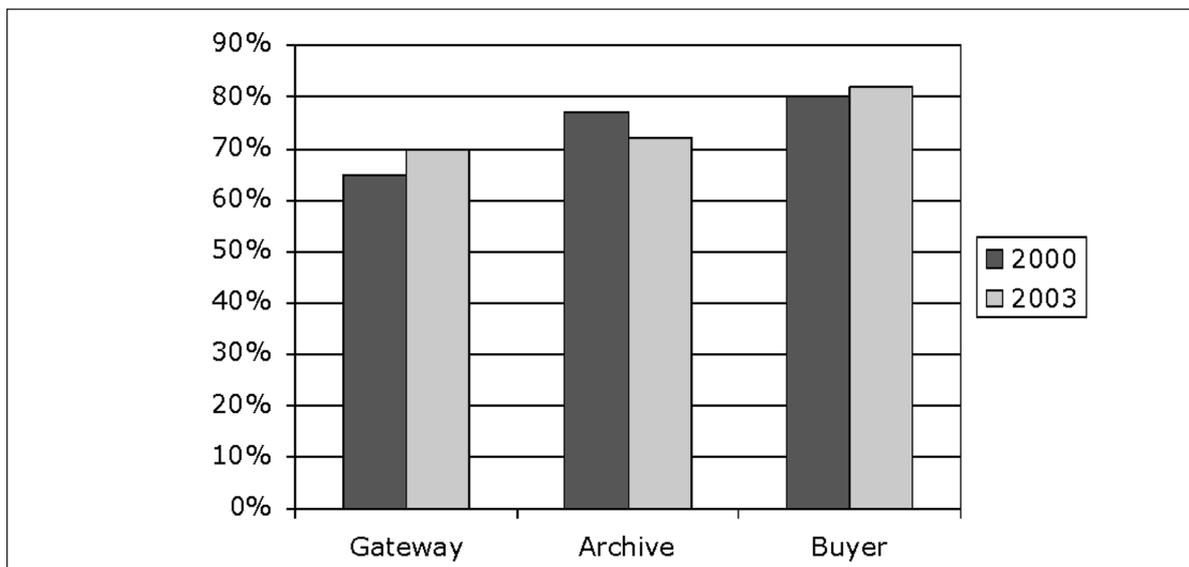


Figure 3. Value of library functions, percent reporting a function is 'very valuable'

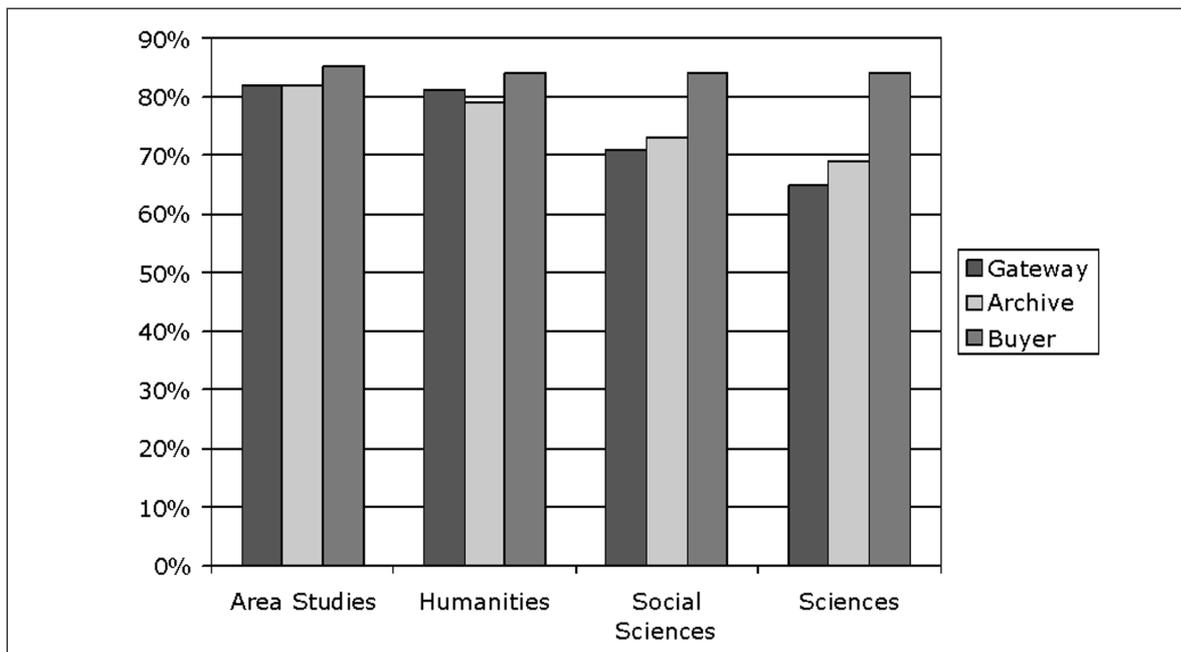


Figure 4. Value of library functions, percent reporting a function is 'very valuable', by disciplinary grouping

When stratified by disciplinary grouping, the responses to this question offer further reason to focus on the differences between the Humanities and Area Studies on the one hand, and the Sciences and Social Sciences on the other. As Figure 4 illustrates, the former disciplinary groupings value the three functions at about the same rate across the board, while the scientists and social scientists report a lesser value for the gateway and archiving function.

### Degree of dependence

In the survey, faculty were asked: "How dependent would you say you are on your college or university library for the research you conduct?" The point of this question was not to gauge actual levels of dependence, but rather to estimate respondents' perceptions of their dependence. We believe that such perceptions are important, because they play an important role in library management and funding, regardless of their basis in reality.

Perceptions of dependence vary most notably by the size of the institution, which we believe may serve as a proxy for affluence.<sup>1</sup> At the 'very small' institutions, about 25% of respondents categorized themselves as very dependent; at the 'medium' institutions, it was about 33%; these are the two classes of least well resourced institutions

in the United States. At the 'small', 'large', and 'very large' schools, between 40–50% of respondents considered themselves very dependent, with the highest rate at the well-resourced 'very large' research universities. It appears that a better financed institution's faculty members tend to perceive greater dependence on their library; one explanation could be that their libraries meet a greater share of their research needs.

While patterns by type of institution are notable, it is perhaps even more interesting that perceptions of dependence do not seem to vary by the discipline of the respondent in any obvious pattern. Disciplinary groupings of Area Studies, Humanities, Social Sciences, and Sciences all report being very dependent in the range of 30–40%. This is important because, as we have suggested above, both research strategies and valuations of library functions vary noticeably by discipline. The lack of variance here suggests that perceptions of dependence are mainly a reflection of resources available locally.

Overall, perceptions of dependence declined between 2000 and 2003, with about 45% of respondents reporting they were very dependent in 2000 and about 40% responding similarly in 2003. Less than 35% expect to be very dependent in five years from now, indicating that the trend may be likely to continue. It can be attributed, at least in part, to the increasing availability and use

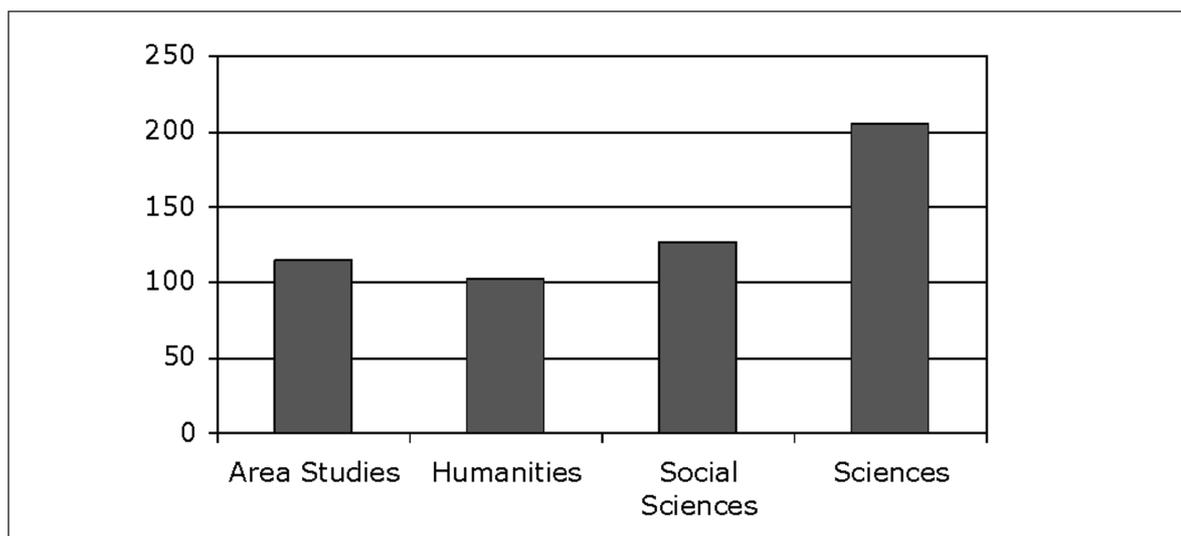


Figure 5. Number of times you have used computer-based electronic resources in the past year, by disciplinary grouping

of electronic resources, the usage of which may not be recognized by all faculty members as provided by the 'library.' The trend may be worthy of consideration by libraries assessing how they should continue to adapt to the use of digital resources on their campuses. When scholarly resources such as JSTOR include 'provider designations' for users indicating that their library has paid for access, this is a small step towards helping to inform students and faculty that they are, in fact, depending on library-provided resources for their research.

response to a question about how often electronic resources are used. As Figure 5 shows, here the principal difference in amount of usage is between the Sciences and the other three disciplinary groupings.

It is important to note, however, that in this case these groupings mask underlying complexity. As Figure 6 shows, usage varies dramatically even within the Humanities, with the average art historian using electronic resources just as frequently as the average social scientist.

**Usage of electronic resources**

**Electronic archiving**

The pattern we have observed about differences by disciplinary grouping reappears once again in

We end with a look at electronic archiving, which faculty members support virtually unanimously.

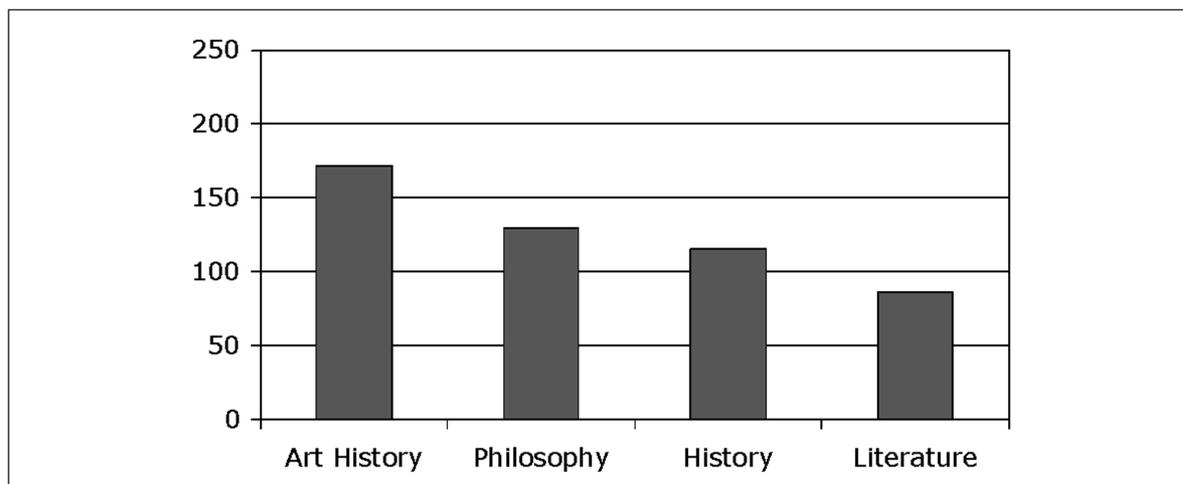


Figure 6. Number of times you have used computer-based electronic resources in the past year, by selected Humanities disciplines

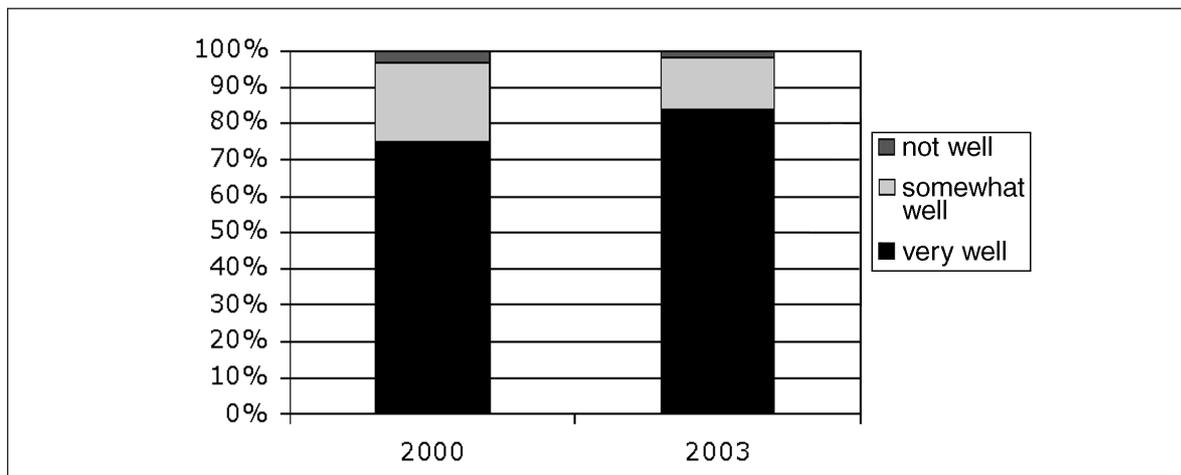


Figure 7. *Electronic archiving is growing in importance*

We proposed the statement: "With more and more journals becoming available electronically, it is crucial that libraries, publishers or electronic databases archive, catalog, and protect these electronic journals," and asked faculty members how well that statement matched their views. As Figure 7 illustrates, a high – and increasing – number of faculty report that this statement matches their views very well. Electronic archiving is clearly of importance to the overwhelming majority of faculty members, and JSTOR, along with its affiliated organization, E-Archive, is striving to meet these needs.

## Conclusion

There is much reason to be pleased that faculty members continue to adopt electronic resources in their work, and the high levels of usage, along with the increasing commitment to electronic archiving, are indicative of this trend. At the same time, this shift opens up important strategic questions for libraries about the value of the functions that they provide and faculty perceptions of dependence. Are these questions serious, or are they merely a natural part of the transition? We observe that there are some disciplines that are moving at a faster rate towards electronic resources, with differing values of library functions, and we pose the question of whether some disciplines that have made the transition relatively early are indicative of the transitions that other disciplines may make in the future.

As this study indicates, faculty are in the sometimes uncomfortable position of changing their

activities – and attitudes – as technology changes the environment around them. They are no more immune to these changes than the libraries that service their research needs, the publishers that publish their scholarly endeavors, or the institutions which support their academic work. Obviously, different faculty will have different views as to whether these changes have provided additional value to their academic pursuits. As J Robert Oppenheimer, the physicist famous for his work on the Manhattan Project in the 1940s wisely observed: "The optimist thinks this is the best of all worlds, and the pessimist knows it."

## Reference

1. For information on these size classes, please see: <http://www.jstor.org/about/class.html>

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