Stafﬁng for Electronic Resource Management:
The Results of a Survey

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The authors offer the results of an informal survey of library stafﬁng trends related
to the acquisition and maintenance of electronic resources. They test their hypothesis
that the problem of stafﬁng for e-resources has reached a critical level. Serials Review

Introduction

While most libraries are still spending signiﬁcant portions of their budgets on print resources, there is no doubt
that library collections of electronic resources have grown dramatically in the last ﬁve years. Indeed, both
authors of this installment of “Electronic Journal Fo-
rum” ﬁnd themselves deeply immersed in the purchase
and maintenance of electronic resources every workday
and have witnessed this amazing growth ﬁrsthand. One
of us holds a position with the title of Digital Resources
Acquisitions Librarian; the other is head of Collection
Management Services but spends well over ﬁfty percent
of her time working with e-resources.

Based on our own experiences, on the exchanges we
see on a variety of discussion lists, on articles in the pub-
lished literature, on the number of relevant sessions at
professional meetings, and on personal communications
with our peers across the country, our perception is that
the problem of stafﬁng for e-resources has reached a cri-
sis level in our profession that demands data, attention,
and action. In this column, we offer the results of an in-
formal survey intended to gauge e-resource stafﬁng
trends. Our expectation is that librarians in all kind of li-
braries can beneﬁt by access to information about what
other institutions are doing to handle the workload
created by e-resources.

When we conceived the survey, our goal was to inves-
tigate whether the amount of stafﬁng allocated to e-resources
in academic libraries is adequate to meet the demands
created by explosive growth in e-resource collections. We
gathered relevant stafﬁng data from 1997 and 2002, and
found that in every case the amount of stafﬁng devoted to
the activities we asked about has grown in this period,
but not as signiﬁcantly as the collection has grown. Our
analysis concentrates on the picture provided for 2002.

The Survey: Methodology

The survey we prepared was intended to identify how
prevalent the crisis in stafﬁng is. Since neither of us has
the time to ﬁll out surveys, we decided from the outset
that ours would be as brief as possible—we would not
attempt to offer a statistically representative sample for
full statistical analysis. In other words, we simply wanted
to gather enough information to tease out trends. We
sent the survey to approximately thirty colleagues in ac-
ademic libraries around the United States; we ended up
with ﬁfteen responses, including our own. Six of the ﬁf-
teen respondents provided information for all of the
units in a decentralized library system; another two re-
sponded for selected units in a decentralized system. The
other seven respondents all indicated that they were pro-
viding information for a centralized or single library.

We elected not to ask about selecting, marketing, or
teaching patrons how to use e-resources, or about gath-
ering usage statistics; we did not deﬁne or restrict the
term “electronic resources.”1 What we wanted was infor-
mation about how libraries are stafﬁng for activities
involving the acquisition and maintenance of e-resources
and access to them (i.e., the behind-the-scenes activities).
We told those to whom we sent the survey that they could

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provide an estimate if they were not certain of a precise number of people involved in any given activity and that they should feel free to include percentages of one FTE/person when that person is involved in multiple tasks.

We included the following functional areas related to e-resource acquisition in the survey:

- Acquisition/purchase process
- Licensing
- Setting up access
- Invoicing/payment problem solving
- Cataloging/OPAC work
- Record management/maintenance of non-OPAC systems
- Proxy server management
- Union listing
- Troubleshooting access problems
- Systems support
- Site monitoring
- Setting up/maintaining links to e-journals from I&A databases.

All respondents were guaranteed anonymity to encourage an open and honest response to the survey and to avoid any possibility of negative repercussions for the respondents at their home institutions. The sample included large and medium-sized academic libraries and a mix of public and private institutions.

Key Findings: Staff Growth versus Collection Growth

Our impressions that staffing for e-resources is largely inadequate were confirmed by the survey responses. The six institutions that responded to a question asking them to estimate overall e-collection growth in the five years from 1997 to 2002 provided answers ranging from a low of 100 percent to a high of 1,260 percent. The average e-collection growth during these five years was an astounding 1,100 percent.

Meanwhile, the staff growth reported by the fourteen respondents to this question in this same five-year time period averaged 614 percent, with a range from 70 percent to 4,900 percent increase in FTE. This average growth in FTE is not particularly meaningful, given the wide range of reported staff growth. More meaningful is the fact that eight of fourteen respondents reported staff growth for e-resource support hovering around the 100 to 200 percent range. Four respondents reported growth more than doubling, and no respondent indicated staff growth of less than seventy percent. Overall, then, we can conclude that for this group of libraries, staff at least doubled (100 percent increase), but collections grew at least ten times larger in the same period (1,000 percent).

Clearly, then, while libraries have been adding staff in response to needs for e-resource support, they have not been adding staff in a way that comes close to being in proportion to collection growth. While one would not expect or even need staff and collections to have grown in exact proportion to each other, the fact that staff and collection growth are an order of magnitude apart does strongly suggest that more staff needs to be deployed in e-collection support.

This conclusion is supported by the respondents’ answers to questions about whether various aspects of e-resource management were adequately staffed. Of the nine areas for which this question was asked, only two—invoicing (seven of eight reporting adequate staff) and systems support (eleven of thirteen reporting adequate staff)—were clearly adequately staffed in all respondents’ institutions. There were six areas in which staff was consistently reported as inadequate (by half or more responding to the question), including; licensing; cataloging; non-OPAC record management; troubleshooting access problems; site monitoring for content changes; and setting up links between I&A databases and full text. One area, the acquisition/purchase process, presented a mixed set of responses, with four institutions believing it was an area that was adequately staffed and three institutions believing it was not.

Respondents’ comments support these observations. One librarian offered the following: “I do not think my answers reflect how understaffed we are for dealing with digital resources. Because we have added only one staff position to assist with the proliferation of electronic materials, we are asking existing librarians and staff to continually do additional work while the existing work has not decreased.”

This same librarian makes the important point that not only is more staff needed to deal with digital resources, which have been added on top of other duties, but that the demands that electronic resources place on staff are qualitatively different than the demands of print, in that “(t)hechnology has raised expectations and has also added a layer of complexity in the delivery of information that requires greater expertise among staff.”

Certainly we have noticed this trend both in the MIT and University at Buffalo Libraries, where we find few, if any, “routine” tasks related to digital resource management, but many, many complex and interdependent tasks that require a broad knowledge of library systems, the campus network, and a proxy server, as well as broad and deep knowledge of the particular products we have purchased.

Most of the libraries responding to our survey have, as noted above, added significantly to staff working on electronic resources, but must have done so by distributing the work among many additional players rather than hiring staff to handle the particular demands of digital resources. One library, for example, reports that “we have approached the staffing to meet the demands created by new electronic resources through a distributed approach with only two positions having very specific and substantial functions related to the process.” Two other librarians reinforce this theme. One comments, “Due to enormous growth of e-resources, staffing sort of ‘happened’ to accommodate. In many cases, the growth in staffing was more an ‘absorption’ of tasks rather than getting new staff.” Another notes that “we have the process spread out over many depart[ments].” This librarian does not believe this distribution is very effective. In the long run, however, a distributed model may indeed be the best model, as it allows all of the staff to work with
the resources that are becoming the most significant and predominant in libraries today. The key to making a distributed system work would seem to be creating a team approach to pull together distributed functions rather than relying on the kind of fragmented system with many players and no well-developed communication channels that can emerge organically in response to the pressure of new tasks related to e-resources. Below we review each of these functional areas for e-resource management to provide a more in-depth review of what the respondents reported.

Observed Trends

Electronic Resource Acquisitions

All fifteen libraries responding to the survey indicated that they are actively involved in the acquisition of electronic resources. Seven said that they have one or more positions with responsibilities dedicated to acquiring electronic resources. In every case the level of the staff member responsible for acquiring e-resources was that of a librarian, although nine libraries said that they have support staff, often "high level" support staff, involved as well. Only four sites indicated that they had hired a new or additional librarian to handle e-resource acquisition; the remaining institutions reported that the individuals handling e-resource acquisitions had been reassigned from other tasks or had simply had the duties added to existing workloads. As noted above, respondents from four out of seven institutions indicated that they believe that they have sufficient staff to adequately handle e-resource acquisition; three believe staff to be insufficient in this area.

Licensing Electronic Resources

In days of yore, when library resources were purchased on paper, in microform, or on an audio or video medium, the library staff seldom needed to have anyone review a license agreement before cranking out a purchase order. With the introduction of computer files, traditional approaches began to change, and with the introduction of licensed Internet resources, having someone on staff to review licenses and perhaps to consult with legal advisors became a fact of life. All fifteen of the responding libraries are involved with licensing agreements, and more than half (eight) have someone on staff who is specifically assigned to handle them. In every case the person in question is a librarian, although support staff or even student assistants were sometimes said to be involved in controlling the associated paperwork. Once again, three sites indicated that a new librarian was involved in handling this activity. Only four sites reported having sufficient staff to adequately review and negotiate license agreements.

Setting Up Access

Libraries need to have staff to handle the registration of e-resources, to provide information about IP address ranges or passwords, and to actually set up access to e-resources. Once again, all fifteen libraries have someone who does this activity, six having one or more dedicated positions—the range was from approximately .10 FTE to two staff members. Ten libraries have librarians handling registration, but in this case more high level support staff are stepping up to the plate. Three libraries had new positions added to take responsibility for the task; others have been handling e-resource registration through reassignments or adding new duties to someone's job description.

Invoicing/Payment Problem Solving

Since all fifteen of the libraries surveyed indicated that they were purchasing e-resources, naturally all fifteen reported being involved in paying and resolving problems with invoices for these products. Four of the institutions responding to the survey indicated that they have dedicated some percentage of a staff member to working specifically with e-resource invoices and problems. In 2002, the percentage of that staff member's time dedicated to e-resources ranged from .05 to .50 FTE. The remaining institutions reported between .10 and .25 FTEs involved in fund management for e-resource invoices. Eleven of the fifteen libraries reported having a librarian handling, or to some extent involved with, invoice payment and problem resolution for e-resources. In only two cases were new staff lines added to help with this new workload, but seven institutions indicated that they believe that they have adequate staff to meet these needs.

Cataloging/OPAC Work

Fourteen of the fifteen libraries responding to the survey indicated that they have staff involved in cataloging e-resources or in otherwise representing the presence of these materials in their online catalogs. Of the fourteen, four indicated that their institutions have dedicated anywhere from .75 to 2.5 librarian and support staff lines to e-resource cataloging and OPAC work. One respondent stated that the institution "would like a new digital resources catalog librarian." In all but one case the potentially highly labor-intensive work of representing e-resources in OPACs has been handled through reassignment and/or the addition of duties to current workloads. Only one institution firmly indicated that they believe they are adequately staffed to handle the e-resource cataloging workload.

Record Management/Maintenance of Non-OPAC Systems

We indicated on our survey that this category should include "Web design for delivery of e-resources and adding resources to Web pages." That is, we intended for this question to address access to e-resources through library Websites rather than, or perhaps in addition to, access through the OPAC. Fourteen of the fifteen librarians responding to the survey indicated that their institutions are actively involved in providing and maintaining this kind of access to e-resources. Eight institutions said that they currently have staff dedicated to this activity, ranging
in total from .10 to 3 FTE, who are generally either librarians or systems/computer support staff. Six respondents said that their institutions have devoted some percentage of a new FTE to non-OPAC access to e-resources. The respondent from one of the institutions which had added a new staff position to help with this new workload said that they were adequately staffed for it. A second said, "Yes [we are adequately staffed for this need], until aggregator titles are added." Ten institutions believe they are inadequately staffed to provide access to e-resources through Websites. We wonder how outsourcing solutions such as those offered by Serials Solutions and TDNet will affect this area in the future.

Proxy Server Management
Fourteen of the fifteen institutions responding to the survey have proxy servers, and the fifteenth is in the process of creating one. Five institutions have staff dedicated to handling the proxy server, with the amount of time ranging from .06 to 2 FTE. Ten sites specifically mention systems or computing professionals or technology support staff; in the remainder of cases, the task falls to librarians. Only three institutions indicated that they had hired new staff to help, at least in part, with proxy server management. In other cases, existing staff have had to absorb this new workload. Six institutions said that they are adequately staffed to handle the activity.

Union Listing
Eleven out of our fifteen responding institutions indicate that they are actively involved in union listing. However, our survey form failed to clearly ask whether they union list e-resources. The results led us to surmise that they do not, since not one of those responding, including the authors, indicated that they have a position dedicated to handling the union listing of e-formats.

Troubleshooting Access Problems
If a library offers e-resources, then without a doubt it needs staff to troubleshoot inevitable access problems. All fifteen respondents indicated that they are involved with this activity; six indicate that they have dedicated anywhere from .10 to .50 FTE to troubleshooting. Both librarians and support staff are reported as regularly involved, and in only three cases were new staff members hired to help. Five institutions said that they believe that they have adequate staff available for troubleshooting, while eight believed that they did not have adequate staff. One institution indicated that until they added titles from aggregator databases, they had been in good shape, but that they need to get additional staff involved.

Systems Support
On the survey, "Systems Support" included a parenthetical remark explaining that systems support included activities such as writing scripts to encode passwords for access; proxy server management was considered separately. Two of the fifteen institutions said that they are not involved in systems activities such as writing scripts to encode passwords, but the remainder indicated that they are. Five institutions reported having FTE dedicated to systems support, although the amount of time involved is very small, ranging from .05 to .25. The level of staff involved included librarians, systems, or systems support staff, and some support staff. The respondent from one institution indicated that her institution actively discourages purchasing or establishing access to e-resources that require encoded passwords. Three institutions had new hires involved in systems support; only one institution indicated that it had insufficient staff to meet this need.

Site Monitoring
There are many reasons why libraries need to monitor the links that they set up for e-resources. E-resources can disappear altogether; their URLs can and do change; their scopes and titles can change; and access to full text can be interrupted, sometimes because a new pricing model has been adopted by the publisher or provider and the library has either not paid the new fee or signed a newly required license agreement. We asked respondents to tell us not only whether they actively monitor access to their e-resources, but also whether they do so manually or with the assistance of a software program. Nine libraries answered that they engage in site monitoring, two said that they did not, and four left the question blank or indicated that they had not understood the question. Two institutions said that they have only automated link checking; six said that they did both automated link checking and manual site monitoring. One library that said that it monitored its e-resources failed to say how it checked. Nine institutions said that they have FTEs dedicated to site monitoring. Most respondents did not estimate the staff time devoted to this activity, but of the five sites that did provide an answer, the responses ranged from .10 to 2 FTE and included not only librarians, computer professionals, and support staff, but in two cases student assistants. Existing staff oversee this workload except for two institutions which are incorporating new FTEs. Of the nine institutions monitoring e-resources, four indicated that they are adequately staffed for the task, while five said that they are not.

Setting Up/Maintaining Links to E-journals from I&A Databases
Our final question dealt with the concept of software that allows libraries to create links to bibliographic databases to external full-text articles stored on other Web-based systems. Examples include Ovid's OpenLinks, PubMed's Linkout, ISI's Links, and Ex Libris' SFX. Thirteen respondents indicated that they are involved to some extent in this activity in 2002, but only one was said to be so in 1997. Five of the thirteen have a dedicated position, though the amount of staff time devoted is low, ranging from .10 to .50 FTE. Librarians, computer staff, support staff and, in one case, student
assistants help with this activity. Two institutions reported having new staff lines to deal with links from I&I databases to available full text, and only two (the same two) reported having sufficient staff to handle the workload. We expect this area will demand even more staff in the future as more libraries implement SFX or other similar linking schemes.

Conclusion

Our survey confirmed the sense that we had from our own institutions and those of our peers that academic libraries are in dire need of more staff to support the acquisition and ongoing management of digital resources. Respondents were clear that staff growth, while not insignificant, has not been sufficient to keep up with collection growth. The most critical problems reported were in the functional areas of licensing, cataloging, record management for non-OPAC systems, troubleshooting access problems, site monitoring for content and access changes, and setting up links to full text.

In closing, it seems relevant to provide examples of staffing changes from the authors' institutions. At the time of this writing at the close of fiscal year 2002, the MIT Libraries have devoted thirty-three percent of their total serial dollars to electronic resources. In this same fiscal year 2002, the MIT Libraries spent eighty-seven percent of the total new serial funds on electronic resources. This strong emphasis on collecting electronic resources demands a comparable commitment of staff.

In response to the pressures of this growth, MIT libraries have just completed a reorganization that shifts responsibility for acquiring and maintaining the electronic resources collection from one service unit to three, and from two part-time positions, amounting to a total of 1.25 FTEs in 2001, to parts of six different positions for the latter part of 2002, adding roughly one full FTE to e-resource acquisition and support.

The University at Buffalo Libraries are decentralized and have not effected an overall reorganization to take e-resource acquisition and management into account. However, in response to the enormous growth in the number and range of e-resources offered since 1997, the libraries have created lines for an Assistant Acquisitions Librarian for Electronic Resources and for a Virtual Library Support Librarian. Other new positions—a Coordinator of Electronic Collections, a Coordinator of Libraries Web Development and Services, and a Head of Electronic Information and Access Services in the Law Library—involves reassignments. In addition, a number of staff in Central Technical Services, the Health Sciences Library's Collection Management Services, the Law Library's Technical Services, and the University Library's Systems Office have absorbed sometimes very significant workloads that involve either the purchase, licensing, and tracking of e-resources or the provision and maintenance of access. Many staff in the libraries continuously and actively monitor the information environment for new ways to more efficiently and effectively manage e-resources through additional local reports to improve control and monitor access and possible outsourcing solutions for a comprehensive e-resource management scheme.

Efforts at the University at Buffalo and MIT to reorganize and/or reassign duties to accommodate growth in e-resource collections reflect a recognition of the need seen across this survey to focus more staff on the labor-intensive jobs of acquiring and maintaining electronic resources. As discussed above, one could debate whether a centralized staff to support such resources or an integrated, mainstreamed approach is better. But the survey's bottom line is that in academic libraries today, more staff is needed to support e-collections which are growing rapidly in size and significance. Libraries have clearly made fairly significant efforts to reallocate staff or redefine positions, but if this group of libraries is at all representative, these efforts have not been adequate to meet the rather astonishing level of demand created by the volume and complexity of digital collections.

Note

1. We did not ask about these areas of electronic resource support since they seemed to fall beyond standard acquisition and maintenance channels, which are the focus of this study. However, it is important to note that selecting, marketing, and instruction related to e-resources also present serious demands on staff time and in many cases present issues more complex than those raised for comparable print collections. In particular, the need to gather effective use statistics represents another labor-intensive process that requires a significant commitment of fairly high-level staff time and is increasingly essential to every library's mission. The recent work by the Association of Research Libraries to provide a standard for gathering and reporting usage statistics as part of their E-Metrics project is an important step to bring libraries together on this important issue (see http://www.arl.org/naaa/newmeas/emetrics/contract00-01.html, last accessed 4 August 2002).