



Library Systems Office Organization

A SPEC Kit compiled by

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SURVEY



Executive Summary

Introduction

In 1994, when the survey for SPEC Kit 211 *Library Systems Office Organization* was conducted, the growing popularity of the Internet/World Wide Web and advances in information technology were starting to cause dramatic changes in library systems functions and organization. Systems offices were managing far more than the traditional library management systems, bibliographic utilities, databases, and networks, including a myriad of new Internet-based services and resources. The overwhelming trends were: more staff for the systems office, more hardware and software to support, more resources in electronic format, and more library services delivered to remote users. The environment had begun to change from mainframe to client-server architecture, from stand-alone to networked, and from independent to integrated. The 2002 survey was designed to investigate the changes in research library systems operations since 1994 and identify some of the directions of future trends.

Today, change and growth in the number and types of library information technologies and digitized resources continue unabated, as evidenced by the advent of new interoperability standards and protocols; the proliferation of digital image, text, and audio collections; and the move toward seamless patron-initiated electronic services and resources. The survey's results show that systems organization, staff, and functions have changed markedly to meet these increased demands. The results and respondents' comments describe trends and challenges that may affect library systems operations and research well into the future.

Survey Results

This survey was distributed to the 124 ARL member libraries in June 2002. Seventy libraries (56%) responded to the survey. A large majority of respondents confirmed that their libraries employ staff dedicated to operating, maintaining, and/or servicing computers and networks (100%), library Web sites (94%), library digital services/projects (93%), integrated library systems (ILS) (91%), and other information technology initiatives (83%). When the library does not employ dedicated staff, it is most often in the area of ILS management, usually because the library either participates in an ILS consortium or shares management responsibility with departments other than the systems office. A few respondents noted, as well, that responsibility for library Web sites and digital projects is either shared or falls into the purview of other library departments.

Organization and Administration

Fifty-eight of the responding libraries (83%) organize systems-dedicated staff in centralized units and twelve (17%) distribute these staff across their organizations. In separate comments, however, a few respondents expressed concerns about the centralized/distributed dichotomy of the question, stating that another model might include a complex combination of the two types. These concerns will be addressed in the conclusion of this report.

Sixty percent of respondents report that the organizational structure of the systems office has changed since 1994. More than half of the centralized units (32, or 55%) have reorganized; all but two of the distributed organizations have changed. The explanatory comments offer many detailed and disparate reasons for that change. Whether the structure is centralized

or distributed, there are some common factors among the explanations. New units were created to handle evolving systems-related areas (e.g., digital library projects and multimedia services). Computer support changed from centralized to local units, and vice versa. Workloads increased (e.g., management of library information technology moved from a nonlibrary unit to the library systems office). Systems-related functions shifted to other departments (e.g., responsibility for the ILS moved to technical services). Institutional or departmental priorities were revised.

Respondents who identified their systems organizations as distributed were asked to describe them. The descriptions include a complex variety of schemes that seem to mirror the complicated array of services handled by the organization. Four typical structures emerge from the comments: the library systems unit is responsible for the ILS; there is a separate unit that supports digital library activities; library Web site management responsibility is shared by staff in all library units; a separate unit manages desktop computers, public workstations, and/or microcomputer labs (e.g., a workstation support staff member dedicated to individual library units). Over time, the trend seems to be that when a new service is introduced, a group of staff who has the necessary skills is organized to manage the activity. As the systems-related activity becomes more commonplace and additional staff become familiar with it, some tasks are being distributed to other people/units across the organization.

Name and Size of the Centralized Systems Unit

Respondents who identified their organizational structure as centralized were asked to complete the survey. Three respondents who described their organization as a hybrid also completed the survey for the centralized aspects of their systems activity. Most names of the centralized units contain some variation of the phrase "library systems," "information technology," or "library information systems." The units may be "departments," "services," "offices," or "divisions." A few units are "teams." Other keywords in the names include "digital," "electronic resources," "computing,"

"automation," and "media." While "library systems" and "systems department" have been the most common names since 1990, there has been a slight decrease in this designation and a dramatic increase in variations on "library information" and "information technology," perhaps reflecting the broader range of services provided today.

The number of staff members (FTE) in the centralized units ranges from a minimum of four to a maximum of thirty, with an average of eleven. The overall increase in the number of systems staff seems to be continuing from the previous survey. In that survey, 75 respondents reported a total of 504 systems staff in 1990 and 691 in 1994. In the current survey, 61 respondents report a total of 690 staff.

Titles and Reporting

Titles for the head of the centralized unit vary across the responding libraries, but in minor ways. For example, most titles do contain one of three common key words, but only a few libraries use the exact same titles as any other library, i.e., "Head, Systems Department" (3), "Assistant University Librarian for Information Technology" (2), and "Director of Information Technology" (2). Changes in the most common titles since 1990 indicate that the level of responsibility of this position has been increasing. In 1990, the top three titles included the designation Head (38%), AUL (22%), and Librarian (13%). In 1994, Librarian dropped to 1% and there was an increase in both Head (39%) and AUL (29%). Manager joined the top three with an increase from 7% to 13%. In 2002, Manager dropped to 8% and was replaced by Director, which jumped from 9% in both 1990 and 1994 to 23%. At the same time, there was a decrease in both Head (32%) and AUL (18%).

There has been a noticeable shift upward in reporting levels since 1990. At that time, 43% of the heads of systems offices reported to a dean or director of libraries, while 53% reported to an AUL. In 1994, 47% reported to a dean or director and 49% reported to an AUL. In the current survey, 60% of respondents report to a dean or director and 40% report to an AUL. This shift is another indication that the level of responsibility of the head of the systems unit has increased.

Operating Budget

Eight institutions responded that budget information was not available; another eight reported that there is not a separate systems office budget. When budget information was provided, the figures varied widely from a low of \$15,000 to a high of \$3,500,000. The majority of the budgets are in the \$300,000 to \$700,000 range. Respondents noted, however, that items covered under these budgets could also vary widely. For example, while some budgets included salaries, special one-time allocations, and/or maintenance contracts, others did not. Clearly, the budget allocations for systems operations are as varied as the organizational structures for these units.

Location

Ninety-three percent of respondents described the library building as the place where systems staff work. The seven percent who reported otherwise listed locations ranging from a "Library Processing Centre" to an "office building near the campus."

Staff Education and Training

Most, although not all, of the responding libraries have at least one staff member with an M.L.S. in the systems unit. Many have multiple staff members with an M.L.S. degree, with one library reporting six. Five libraries report having no staff with the M.L.S. degree in their systems unit. Numerous respondents mentioned staff with master's degrees in technology-related subjects. At least eight systems organizations have one or more staff members with a Ph.D. As expected, several libraries employ staff with degrees in computer science, ranging from technical certification to bachelor's degrees to master's degrees. A small number of respondents employ staff with only a diploma or associate's degree. In addition, one M.B.A. and one J.D. were reported.

Respondents indicated that on-the-job training and software or hardware vendor-sponsored certification/training were the most used and most effective ways for staff to gain their technical expertise. Other methods were relied upon as well—such as undergraduate and graduate degree

programs, and workshops sponsored by the parent institution, library, or professional association—but were found to be somewhat less effective in gaining the technical expertise in question. The survey results seem to provide support, however, for the remarks of one respondent, who noted that appropriate academic education and professional training are valued components in gaining an overall foundation of knowledge in most professional assignments.

Results show that only 25% of the respondents expect librarians to have the same level of technical expertise as other professionals in the systems office; a clear majority (75%) indicated that they do not have such expectations. In explaining why, most respondents described distinctions for work assignments allowing for specialization between librarians and programmers/technologists. For example, some respondents noted that higher-level or day-to-day technological functions, such as server administration, programming, and network management, were assigned to technologists, whereas librarians were expected to have more library management or administrative skills, applications expertise, and a strong foundation of general technical knowledge. A few respondents indicated that librarians were the technical overseers, collaborators, generalists, or coordinators on the teams. The emphasis on specialization in some of the comments, however, seems to indicate that in a number of the libraries, *all* professional staff are expected to contribute differing levels and types of technical expertise. The expertise depends more on the requirements of a particular job assignment or project than necessarily the degree held by the staff member.

Changes in Unit Size and Systems Office Staff

Survey respondents were asked whether 10 systems office factors had increased, decreased, or remained the same since 1994. Overwhelming increases are seen in the number of computers and equipment maintained, networked library services offered, software products supported, and budget. Moderate increase has occurred in the number of both male and female staff employed. The continued

proliferation of computer applications, emerging technologies, and massive growth of the Internet and World Wide Web are perceived by many of the respondents as the catalysts behind these changes. Increased user expectations and easier access to the new technologies, according to most respondents, has resulted in a new, broader vision of service with a focus on Internet delivery of Web-based services.

Staff turnover rates are perceived to have stayed relatively stable since 1994, in the majority of cases, with librarian retention slightly higher (72%) than other systems professionals (61%) and nonprofessionals (64%). The stability is attributed, in most remarks, to the downturn in the broader technology job marketplace (e.g., the “dot-com bust” was mentioned by more than one library) and/or strong staff commitment to libraries. Some sites that had higher turnover rates attributed it to better pay and competitive opportunities in the nonlibrary job market.

Systems Office Responsibilities

Between 1994 and 2002, every major category of systems-related activity increased. Significant increases are reported in the number of systems offices handling Web-based interlibrary loan requests (2 vs. 35), wireless networks (2 vs. 25), electronic reference systems (2 vs. 23), electronic reserves (5 vs. 37), digitization and/or imaging (6 vs. 35), intranets (11 vs. 47), and library Web site interfaces (22 vs. 51). Some of these increases are attributed to the fact that the technologies were newly developed since 1994. The next highest increases are in library Web site management, computer lab maintenance, electronic resource licensing, and cooperative ventures. A relatively consistent number of libraries continue to be responsible for the ILS, hardware/software purchasing, microcomputer repair, and applications implementation.

While many libraries are taking on responsibilities for digitization/imaging, e-reserves, wireless networks, and e-reference, a significant number of respondents noted that other library units or departments share these responsibilities. The same is true for electronic resource licensing

and electronic reference. The parent institution’s computer center is most often responsible for e-mail administration, WANs, wireless networks, and other network backbone support. There is a modest amount of outsourcing, mainly for microcomputer repair and training.

Challenges

The top systems challenge libraries report is management of expanded, new, and more complex services—such as digital resources delivery, wireless networking, and supporting distance users—along with a simultaneous lack or reduction of staff and funding to support these services. Other commonly listed challenges include hiring, training, and retaining staff with the necessary range of skills; personnel cutbacks and inadequate funding for salaries that leads to turnover and too-heavy workloads for remaining staff; management of digital initiatives; network management; technical training for staff; implementation of a new ILS; integration of technologies; and maintenance of electronic resources, links, and licenses.

Evaluation

All of the responding libraries are involved actively in the evaluation of their systems office services. Most use a variety of techniques. A majority track Web site usage (77%) and the number of service calls and hardware/software installations (74%). About half conduct user and staff surveys, including using the LibQUAL+™ instrument. Interviews and focus group sessions are used by slightly fewer than half. Other forms of evaluation include downtime tracking, turnaround time on service calls, regular review of annual goals, and periodic retreats.

Respondents were asked to indicate their impressions about the quality of their library systems office performance with respect to nine categories of service. After indicating their expectations for the minimum level and desired level of service on a scale of 1 to 9, they were asked to rate their perception of their library’s actual performance level. On average, the respondents have fairly high expectations for both the minimal and desired performance level,

though providing training and imaging services seem to be somewhat less important than the other categories. Regardless, they did not give themselves high marks when asked to assess their own library's performance on these tasks. As a group, the responding libraries rate their performance as below the minimum performance level in five of the nine categories—network installation and maintenance, hardware and software training, developing Web site interfaces, managing the Web site, and providing imaging and digitizing services. They collectively indicate that their perceived performance is above the minimum performance level for hardware and software installation and maintenance, developing and implementing new applications, supporting networked information resources, and supporting online library services, but in all areas the library's performance falls short of the desired performance levels. Although the reasons for the poor self-ratings were not disclosed, the scores clearly indicate dissatisfaction with systems offices' ability to meet their own service expectations.

Conclusion

Digital systems, services, and resources are proliferating, technology is becoming ever more accessible, and libraries are evolving to meet the resultant users expectations and demands. While the survey's results clearly show that many libraries do maintain distinct systems units to handle most of this work, the authors observed that future surveys about the "systems office" and its likely organization may become more difficult to design and analyze as libraries are transformed by new technologies. Any assumptions, for example, about systems-dedicated staff members belonging to one division, centralized or not, must be questioned. At the very least, the boundary between what a "systems office" *is* (a unit handling library information technology) versus what a "systems office" usually *does* (information technology functions) is getting more blurred. For example, is a technical services department a "systems unit" if it manages the ILS? Is an instructional services librarian who writes Web-based programs performing "systems" tasks? The assumed definition of the "systems office" is called

into question as information technology continues to permeate libraries and reshape their strategic directions, services, and resources.

Reflected more so in the respondents' comments than in the actual survey statistics, many libraries are sharing their increasingly complex and growing technological workloads in collaborative ways—in large diffused units, in distributed models throughout various departments, or within consortia. In most cases, they are doing so to adapt to institutional pressures or meet heavy user demands as they simultaneously grapple with budget cuts and rapidly shifting priorities. For example, several libraries noted that the systems unit's functions were dispersed into specialized systems teams or tiers of support, while others described the branching off of new technological projects or programs (e.g., the management of multimedia labs or digitization projects) into entirely separate units, sometimes having the same reporting lines, sometimes not.

The conclusion of the 1994 survey mentioned that, as libraries became more dependent upon information technology, there was a corresponding need for more involvement from the systems office. The 2002 survey illustrates the extent to which the dependence on electronic information systems continues to grow, this time, requiring a corresponding need for increased involvement from *many* units within the library. Eventually, there may be no library service or resource without—at some level—a major "systems" component. Systems staff members and, increasingly, many other staff members must remain flexible, knowledgeable, and open to change as they help their libraries manage the new technologies and meet users' needs successfully.