An Exploration of the Working Relationship between Systems/ IT and Reference/ Information Services Staff in an Academic Library Setting

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The worlds of information technology (IT) professionals and academic librarians have been on a convergent path for the last twenty years, propelled by technological advances that unite them in their mission. These new relationships have not always worked smoothly as these professionals from very different workplace cultures try to respond to shared problems. There is clearly a need for collaboration and communication between the two groups, as well as a broader understanding of the differences and similarities that impact the work environment they share in academic libraries.

MARS USER ACCESS TO SERVICES COMMITTEE

In June 2005 the Reference & User Services Association's Machine-Assisted Reference Section (RUSA-MARS) User Access to Services Committee presented a program at the American Library Association (ALA) Annual Conference in Chicago addressing the relationship between IT staff and public services librarians. The program, titled "Do You Trust Your IT Staff? Do They Trust You? A Dialogue," featured IT and public service representatives from academic and public libraries. Based on the attendance and reactions to the program, it became clear that this "culture clash" resonated with many members of the library community. The committee concluded that additional research was warranted.

Using the transcripts and audience feedback gathered at the program, the committee developed a survey, intended to gather data from academic libraries. The survey results, data analysis, a literature review, and suggestions for further research are presented in this article.

LITERATURE REVIEW

Key issues in the literature devoted to the relationship between IT professionals and librarians include organizational structure, workplace environment, collaboration and teamwork, administrative and staff work styles, communication, organizational culture, and personality types. Although some universities have dealt successfully with these working relationships, others clearly struggle with the group interactions.

A number of articles address the principles that foster effective collaborations. Most of the authors frame collaboration around projects, as opposed to ongoing working relationships. This review, organized topically and spanning the years 1990–2004, covers a select group of articles, some positive and optimistic and others admonitory.

Kiesler's 1994 paper at the Building Partnerships conference, called "Working Together Apart," examines the organizational structure most conducive to collaborations between libraries and IT divisions.[1] Her interest focuses on how these diverse professional units accomplish a collaborative working relationship while segregated in different departments. Kiesler favors the flat organization where interdisciplinary teams carry out their work. She identifies the barriers to collaboration as social distinctions, salary differences, and subcultural differences. Kiesler's collaborative environment also requires trust and a sense of purpose, themes later developed by Flowers and Martin, Gray, and Heyman.[2]

At the same Building Partnerships conference, Creth pronounced old hierarchical structures with their "functional silos" outmoded for the types of collaboration needed in the new "virtual information organization." [3] Creth takes her lead from Michael Hammer and James Champy, suggesting that it is ultimately the processes that need renewal.[4] Librarians and computer professionals need to learn from their customers which processes to improve in order to create a combined client-focused organization. In Creth's organizational model, jobs become more multidimensional, team work becomes central, and managers take on new mentoring roles.

Lippincott addresses the nature of successful collaborations and the difficulties in sustaining them.[5] Her administrator fosters successful collaborations by ensuring that the vision is understood by staff and by deflecting power struggles. Successful collaborations are team and project based. She finds that collaborations are weakened by operational differences, cultural differences, a lack of trust among lower-level staff, differences in decision-making styles, authority structure differences, and territoriality.[6] Lippincott builds on Kanter's work on partnerships, citing the necessity of a shared mission or strategic objective.[7] Departing from other writers, Lippincott downplays the cultural and personality differences, choosing to focus on commonalities between the two groups.[8]

Dougherty and McClure discuss the challenges of restructuring an academic library in the digital age.[9] One issue is that of separate organizational cultures, noted also by Flowers and Martin, and Ross.[10] Dougherty and McClure find differences in professional values, mentioned later by Cain.[11] They find difficulty in divorcing salaries from status and academic credentials, two points also found in Cain's discussion.[12] The authors find personality to be a barrier to collaboration, observing that librarians are risk-adverse while IT professionals are risk takers. They also note the skewed gender difference between the primarily female librarian community and a male-dominated IT profession.

Heyman offers a positive, almost motivational, article about building working relationships.[13] Her approach looks at short-term projects that are team based. Emphasizing the success traits highlighted by Lippincott, she notes the importance of trust and a common purpose or sense of shared responsibility.[14] Heyman places the burden on non-IT professionals to make the effort to understand the IT world, including learning the IT vocabulary. She urges non-IT professionals to read IT trade journals, to attend their seminars, and "to speak their language in our accent." Heyman views these activities as critical to relationship building.

Cain highlights a number of significant barriers to a good working relationship.[15] In an articulate and engaging article, he draws a parallel between the humanist/scientist gap evident in C. P. Snow's *Two Cultures,* and the cultural divide between librarians and IT professionals.[16] Cain considers work style, noting how the librarians' conservative, change-resistant, bureaucratic environment differs from the flexible, innovative, and responsive environment of the technical professional. Other differences are found in the required credentials and the difference in status of the groups. He reiterates the gender issue raised by Dougherty and McClure.[17] Cain also cites problems of language differences. He suggests similarities, notably that both groups are frustrated with the speed of change and feel constant pressure to learn new things. After interviewing chief information officers, Cain suggests that the two groups do not need to merge, nor should the organizational structure matter in facilitating collaborative working environments.

Ericson speaks to the successful library-IT collaboration. He describes Hamilton College's policy of "aggressive collaboration" between these two departments that report to different administrative areas.[18] Again, the shared vision and sense of purpose directs the collaboration. He points out that, ultimately, students do not care which employees report to which administrative heads; their only concern is for high-performing information systems. Ericson acknowledges that working under the same roof facilitates collaboration, and that Hamilton's small size may be a factor contributing to the collaboration as well.

Flowers and Martin are two of the first authors to address the issues related to work cultures.[19] They describe Rice University's combined library/IT operation and admit to both successes and setbacks in developing a cooperative environment. They identify library culture and different tool sets as the main barriers to collaboration, and characterize library culture as "passive-aggressive" and IT culture as "aggressive-abrasive."[20] Meetings are populated with very quiet librarians and overly vocal IT staff. Successful projects require efforts from both groups, who finally develop a trusting work relationship.

Following the reasoning that cultural differences explain the problematic working relationships, Ross also suggests a cultural split.[21] First-hand experience informs his observations that cultural and status issues plague effective working relationships. Ross emphasizes the difference in focus between the two groups, identifying librarians as customer-focused while asserting that technical support staff often lose sight of the customer.

Proctor also alludes to Snow's *Two Cultures*. Proctor has experience on both sides of the divide and identifies differences in the temperament, mentality, and psychology of the two groups.[22] He suggests the groups live in a state of

codependency.[23] Proctor determines that librarians are the overly challenged ones who must mediate between perplexed patrons and poorly designed information systems. Proctor's practical prescription involves shared time at the reference desk, weekly workshops for librarians on the latest technology, and a dose of "user reality" for the systems staff. Proctor, like Heyman, urges librarians to keep abreast of technological developments, and admonishes that without these efforts, they will lose all sense of a common culture.[24]

Several other writers have pointed to cultural gaps between the two groups, examining specific aspects of culture such as communication. Ross notes the difficult technical vocabulary used by technical support staff.[25] Likewise, Cain comments that librarians and technical professionals maintain separate vocabularies.[26] Heyman urges librarians to learn the technical vocabulary.[27] Lippincott discusses how difficult it can be for librarians to keep current on technological developments, and therefore the vocabulary.[28] Scanlon discusses a common language.[29] His perspective is at odds with Heyman's, maintaining that IT staff must learn the language of both the librarian and the user in order to solve problems.

In contrast to Scanlon, Intner is a voice from the IT side, pointing to the problem of the technical staffs' unique language.[30] Intner addresses the differences between IT staff and the broader group of academics. He recommends they adopt e-mail as the communication medium when communicating with IT staff. Kiesler and Intner suggest e-mail is a common ground that can help remove egos from the communication process.

Coffey and Lawson also target language as a communication barrier.[31] They cite Schrage, who cautions that "when the same word means different things to different people, you're going to spend more time managing meaning than managing the problem."[32] Their incisive survey of administrators of technical services, public services, and IT at fifty Association of Research Libraries libraries attempts to judge whether administrators are disadvantaged by the lack of technical vocabulary. Generally speaking, many administrators experience frustration in communicating with IT administrators and staff, while IT administrators report no problem.

Ross is another library insider who addresses technical vocabulary.[33] While some downplay physical separation, Ross believes communication cannot thrive when those who need to communicate are physically separated.

In Kiesler's study of communication, she notes that tech staff prefer e-mail while administrators prefer the phone.[34] Citing the research of others, she expands on the significance of network communication that offers social equalization for the worker, and therefore, enhances collaboration. As opposed to face-to-face interaction, network communication eliminates social-context cues and thus eliminates social boundaries.

Jankowska and Marshall observe the broader working relationships between public service and technical service librarians.[35] Their perspective is transferable to the divide between librarians and IT workers. Interaction between working groups can be accomplished through formal structures such as combined meetings and training sessions as well as through organization-wide e-mail. The authors conclude that the nonhierarchical organization facilitates interaction and understanding.

Other authors stress the problem of technical-skill level. Gray observes that the last ten years have seen a change in the technical-skill level needed by the average librarian. These differently skilled staff may enter the organization through "recruitment, training, transfers, or collaboration with systems staff."[36] Despite the need for technical skill, Gray asserts, librarians need to stay people-centered.

Gray and other authors discuss cognitive-skill differences between librarians and IT staff. Gray observes that librarians use more perceptual thinking skills to solve problems while IT staff rely on their "conceptual thinking skills."[37] Flowers identifies personality differences between the two groups as problematic.[38] Scanlon takes a hard look at the personality differences between librarians and IT staff as evidenced by the Myers-Briggs Type Inventory.[39] His objective is to learn how the groups might work together better based on these personality differences. Lippincott touches on personality conflicts as well.[40] Cain cites four different studies of librarians and IT support staff tested with Myers-Briggs.[41] The results of these studies indicate a similarity in personality type, prompting Cain to urge more work in analyzing personality.

Raymond tackles communication at its most basic level, reminding readers that communication is essential to organizational activity, but is mostly taken for granted.[42] He suggests that leaders perform a communication audit and, like Lippincott, he lays responsibility for good communication channels squarely on the administrator.

This literature review has examined articles that concentrate on the differences between public services librarians and IT professionals and some of the efforts to create successful collaborations. There is, however, another approach presented to the problem of the working relationship—a systems librarian—who represents a blend of professional librarian and systems professional. The systems librarian plays a critical role in today's libraries, Baker argues, because, as a blend of the two professionals, they potentially have a more rounded understanding of library functions.[43]

METHOD

To further investigate the relationship in question, the committee constructed a survey intended for a selected group of systems/IT staff and an equal number of reference/information services staff in academic libraries of varying sizes. The recipients were selected using the 2000 edition of the Carnegie Classification, including institutions that offer a baccalaureate degree or higher, producing a listing of 1,414 colleges and universities. Using the randomizing function in Excel, the committee selected a master list of three hundred schools. The committee then researched the names and e-mail addresses of the heads of IT and Reference in the libraries of each of the three hundred campuses, thus providing six hundred potential respondents.

The URL for the Web-based survey, administered using SurveyMonkey, was sent to the six hundred respondents via e-mail in early April 2006. One hundred and fifty-one surveys were returned, for an overall response rate of 25 percent.

The survey consists of thirty-six questions (see appendix). The first seven questions concern organizational structure and the physical computing environment in the library. These are to be answered by all respondents. Questions eight through eighteen are reserved for those identifying themselves primarily as systems/IT staff, and questions nineteen through twenty-eight are directed only to respondents identifying as reference/information services staff. All respondents are asked to answer the remaining questions, twenty-nine through thirty-six.

Questions eight through eighteen and nineteen through twenty-eight are essentially "mirrors" of one another, addressing the same question to each audience. Where problems are perceived, the respondents are asked for suggestions, in comment form, for improving the relationship. Comment responses are somewhat more challenging to analyze, but every attempt was made to accurately reflect the content of the remarks.

To meet institutional review board requirements, all responses are kept confidential and no connection between the mailing list and the individual survey responses can be detected, except where the respondent voluntarily discloses this information. All questions are designated as optional—no "required" questions are presented.

FINDINGS AND DISCUSSION

Numerical response data for each question are recorded in the copy of the survey (see appendix).

Responses are grouped and analyzed based on the number of full-time students and faculty on each campus. In the survey itself, the larger schools are separated into two categories: 15,000–20,000 and more than 20,000. *However, for simplicity of discussion these two categories are collapsed together, except where otherwise noted.* Table 1 indicates the breakdown of respondents by size of institution.

Table 1. Survey Respondents

Size of Institution	IT/Systems (%)	Ref/Info Services (%)	Total (a) (%)
Less than 5,000	30.2 (16)	53.8 (50)	44.9 (66)
5,000–15,000	28.3 (15)	26.9 (25)	27.9 (40)
15,000–20,000	11.3 (6)	7.5 (7)	8.8 (13)
More than 20,000	28.3 (15)	11.9 (11)	17.7 (26)
Other (b)	1.9 (1)	–	.7 (1)
Total	100 (53)	100 (93)	100 (146)

Notes: (a) five of the 151 total survey respondents skipped question #2; (b) respondent did not know the size of the institution

Control and Reporting Structures

Campus size does appear to be a significant factor in how control of computing is structured.

Overall, the largest percentage of respondents report that a library systems/IT department controls computing in the library. Among the small libraries, there is a fairly even split among systems/IT department, college or university level control, or other control patterns involving both library and campus computing/IT staff. Both medium-sized and large libraries largely report that the university systems/IT department is ultimately in charge.

Size of campus also defines the patterns of control/reporting structures. Among many small, and most medium, campuses the largest percentage of system/IT heads report to the library director or dean. On larger campuses, the systems/IT departments report to assistant or associate deans. Libraries on small campuses overwhelmingly indicate that the head of reference reports to the library dean/director. On medium-sized campuses the heads of reference report most often to the library dean/director and somewhat less often to an assistant or associate dean/director. On large campuses reference heads report most often to an assistant/associate director/dean.

Number of Computers Involved

Nearly half of larger campus libraries count more than four hundred machines. More than half of the medium-sized campus libraries report one hundred to three hundred machines. There is more variation reported on smaller campuses. These findings would be strengthened somewhat by a follow-up question asking the total number of systems/IT staff responsible for the machines.

Who Responded to the Survey

Many more responses were received from reference/info services than from systems/IT. Why?

As corroborated later on in the findings, far more heads of reference think there are tensions in the relationship between the two library functions than do systems/IT heads. Thus one possible explanation might be that reference feels more strongly about the state of the relationship in general and thus more motivated to engage in the survey.

Another possibility might be traced to the answer to question #3, which asks who largely controls computing in the library. Computing (especially on smaller campuses) is often controlled by entities *outside of* the library. There would be no significant counterpart to this situation for reference services—the reference

function would be far more likely controlled from *within* the library. It may be that systems/IT staff in libraries that have less direct day-to-day control over the computing environment in their libraries might simply have less contact with reference staff and thus be less inclined to engage in a library-oriented survey on this topic.

Years of Experience and Educational Background

A substantial amount of systems experience is evident in the vast majority of schools. Not all of this is necessarily in a library setting, especially in smaller and medium-sized schools. In the large schools, the highest percentage of IT staff with more than ten years experience reports that its experience is in a library setting.

The largest percent of the responding IT staff in library settings have a master's emphasizing library science. This high percentage may partially explain why the responses from systems/IT staff overall concerning problems in the relationship between the two groups were somewhat more moderate than anticipated. To some degree, the greater number of systems/IT staff holding the master's in library science (MLIS) over information science is likely a factor of age.

How Productive Is the Relationship?

A remarkably high percentage of both systems/IT and reference respondents report that the relationship is productive. Most systems/IT respondents who answered this question think reference staff in their library would agree or strongly agree with their assessment. To a somewhat greater degree, reference respondents report that their systems/IT counterparts would *not* agree that the relationship is productive. Overall, size of school was not a discernibly relevant factor.

How Cordial Is the Relationship?

A high percentage of both systems/IT and reference respondents describe the relationship as cordial, with agreement fairly evenly spread across the institutional size categories. A high percentage of reference staff said they also believed their counterparts would strongly agree or agree with their assessment. A slightly smaller percentage of systems/IT staff said they believed reference would agree with their assessment.

What Would Each Group Like Their Counterparts to Know about Their Work Situation?

The systems/IT comments center heavily around two areas—time constraints and the complexity of systems/IT work. Comments such as "we really want you to talk to us about issues!" and "I would like ref/info services staff to be more inquisitive about technology," and even "I usually need more information than they (reference) initially provide," indicate that there are concrete steps reference can take to meet their systems colleagues halfway in a quest for better understanding.

For reference, the need for speedy help is foremost on the list. Another interesting thread is that reference librarians actually do quite a bit of technology troubleshooting. Many comments also reflect appreciation for the work of their systems/IT colleagues.

Some problems fall outside the purview of either set of staff, such as "funding and staff shortages" or "fiscal constraints/procedures."

Tensions

These are "mirrored" question sets, with systems/IT answering them as numbered sixteen through eighteen and reference answering the same questions numbered twenty-six through twenty-eight.

Reference librarians are more likely than systems/IT staff to perceive tensions between the two groups. University size is a factor. Tension perceived by both systems/IT and reference staff increases with the number of students being served.

Systems/IT staff cite "different priorities" most frequently as the reason for tensions. Other factors include budget issues, security issues, status differences, and knowledge differences. More than half the systems/IT respondents cited "other," most of which actually can be placed into the answer options provided. There were not enough respondents in small and medium-sized universities to meaningfully consider the effect of campus size for this question.

Overall, reference librarians report that the biggest tension producers are different priorities and systems/IT's lack of customer-service orientation. Other important factors are systems/IT staff not understanding the nature of the reference librarian's job, systems/IT overemphasizing security, and status differences between the groups. University size was a factor. Only reference respondents from smaller schools indicate a tension point from "managers not getting along." Reference staff from small and medium-sized universities are much more likely than those from large universities to believe that systems/IT staff overemphasize security issues.

Where no tensions are present, systems/IT staff indicate that similar priorities and good managerial relations are important factors in negligible tensions. Other important factors listed are realistic expectations and technical knowledge among reference staff. University size plays a role in these responses. Systems/IT staff from medium-sized and large universities are more likely to list "managers getting along" as a factor. Only systems/IT staff at small libraries marked the "other" category. Among the "others," several describe a situation in which they (systems/IT) currently work at least several hours per week, or have past experience, as reference librarians. Systems/IT staff at large universities are more likely to cite acceptance by reference of security measures as an important factor in the lack of tensions.

Reference librarians who do not perceive tensions choose "managers getting along" as the number one reason for negligible tension. Other important factors are understanding

the nature of reference, systems/IT having a strong customer-service orientation, and having similar priorities. There were not enough respondents in large universities to meaningfully consider university size as a factor.

This literature review suggests the importance of cultural differences between systems/IT staff and others. If different priorities and lack of customer service orientation can be perceived as cultural differences, then the data support this variable as a factor in perceived tensions.

One reason why reference staff perceive more tension might be that they deal directly with the customer's interaction with an information system. When technology problems frustrate customers, it is the reference librarian who has to explain a poorly designed interface or a technical glitch. Reference librarians may feel they have no control over the system. Systems/IT staff are often more removed from customers (the larger the school, the more likely this is to be the case) and less aware of what confuses users.

Meetings

When asked how often the two groups meet formally, all size institutions report that the joint staff meet formally "as needed." When meeting on a regular basis, monthly meetings are the favored interval. Nearly sixteen percent of respondents report that such meetings "never" occur (see table 2).

Irrespective of size category, reference staff tend to call meetings when meetings are scheduled "as needed." This might relate to the responses received for questions eighteen and twenty-eight, in which reference librarians are more likely than systems/IT staff to perceive tensions between the two groups.

Reactions to these meetings, when they do occur, are generally favorable, with more than half reporting that they "agree" or "strongly agree" that meetings improve relationships. However, nearly one-third express "no opinion" about these meetings, suggesting either a widespread ambivalence or an unwillingness to negatively evaluate meetings.

Let's Do Lunch?

The responses to this question are dominated by "no opinion" and "skipped" responses from both sides. This ambivalence might be explained by the less formal nature of lunch. Eating together can engender a closer relationship than might develop in the normal course of work, but this may not be desirable in some settings. Without a follow-up question it is not possible to detect what is behind the lack of interest in this suggestion for relationship enhancement.

Cross-training

Slightly more than half of the respondents report agreement that cross-training would be beneficial. When the responses are sorted by job duties, we find that systems/IT staff members are slightly more likely than reference staff to believe that cross-training will be beneficial.

When type of educational background is considered within systems/IT staff respondents, some significant differences begin to be seen. Close to two thirds of systems/IT respondents have MLIS degrees. Of this group only slightly more than half of the respondents favor cross-training. The number is much higher for systems/IT staff with formal technical training. While it is clear that respondents with formal technical training are more likely to favor cross-training, it is somewhat less clear exactly what any of the respondents mean by cross-training. A follow-up question exploring this would be needed to further clarify (see table 3).

Table 2. Frequency of Meetings Reported Between Systems/IT Staff and Reference/Information Services Staff

Size of Institution	Annual	2–4/Yr.	Monthly	Weekly	As Needed	Never
Less than 5,000	1	3	9	5	24	13
5,000–15,000	0	2	10	4	19	2
15,000–20,000	0	0	1	0	6	2
More than 20,000	0	2	4	0	15	3
Other (a)	0	0	0	0	1	0
Total (b)	1	7	24	9	65	20

Notes: (a) respondent did not know the size of the institution; (b) of 151 total survey participants, 126 responded to this question

Table 3. Respondents Who Felt Cross-Training Would Improve the Relationship between Systems/IT Staff and Reference/Info Services Staff

	IT/Systems	Ref/Info Services	Total
Strongly Agree	8	6	14
Agree	19	32	51
No Opinion	10	16	26
Disagree	10	21	31
Strongly Disagree	2	2	4
Total (a)	49	77	126

Note: (a) Of 151 total survey participants, 126 responded to this question

What Can Each Group Do to Improve the Relationship?

This question brought forth frequent mention of communication issues. A popular suggestion was for systems/IT to let reference staff know more clearly where they are in the process of solving a problem. Work priorities need to be explained. Reference staff express a desire for systems/IT to become more customer/student oriented. A few respondents see a need for better training (of students, of staff, or not specified). In libraries with offsite IT, reference staff would like the IT staff to visit the library (or be housed in the library). Some reference librarians point out that additional IT staff need to be hired, indicating an understanding that the "poor guys are worked to death" in some libraries. A number of respondents also say that their IT staff do a "great job" and that there is nothing that could be done to improve the relationship.

Some other suggested steps that emerge for reference are to acknowledge the expertise required to do systems/IT work, to become better trained in technology, to cultivate patience, to "be realistic" in their expectations, and to improve communication. Requests for technical assistance need to be clear, and communicating "through proper channels" for service requests is important. Topics related to technology take up the other large portion of responses. More interaction between the two groups is also seen as desirable. ("Come see us! We do not live in a cave. . . ." wrote one systems/IT respondent.) A need to plan ahead is expressed by the numerous comments about time constraints and the necessity of allowing "plenty of time for implementation."

Additional Comments from Respondents

Thirty-three additional comments come from reference; about half as many were from systems/IT. Many of these describe personal and specific circumstances, and mention the importance individual personalities play in the quality of this relationship.

"Pairs"—Both Respondents from the Same School Identify Institution

Including the institution name was optional for all respondents. In eleven instances, responses were received from both systems/IT and reference identifiably at the same institution.

Although the sample of matched pairs was obviously a small one, the size of the institution/library seems to have a direct association with the presence of tension between the associated systems/IT and reference departments. All six respondents from schools of more than 20,000 indicate that tensions exist.

Every respondent in both areas indicates that a cordial relationship exists and, in all but two instances on the systems/IT side, all the respondents feel the relationship between the departments is productive. In spite of this, 41 percent do indicate that tensions exist.

One seemingly inconsequential point that might have deeper implications is that, in almost every set of matched pairs, the answer for question six ("How many public and staff machines is your systems/IT staff responsible for?") differs. This may possibly indicate that the public service librarians are underestimating the amount of hardware/software being supported by the systems/IT staff, and thus perhaps also underestimating workload as well.

CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This study is by no means a highly scientific one, but the results of the survey support the anecdotal contention of the MARS User Access to Services Committee program at ALA Annual 2005 in Chicago that tensions exist between IT staff and reference librarians on campuses of various sizes. The results also provide evidence that the two groups do seek better communication and ways of working effectively together.

Based on feedback from attendees at the Chicago program, as well as data collected from the survey, it appears that the reference group feels more strongly about the state of the relationship generally. The immediate needs of the library user are the reference staff's priority, and librarians feel a greater urgency to resolve the user's technical problems. Systems/IT, in turn, is responsible for many aspects of library technology beyond those apparent to library users. Too often, systems/IT views reference as unrealistic in their expectations of technical support.

How can these findings be used to actually improve a sagging relationship, where it exists?

Take Advantage of Cross-training Opportunities

Issues of technological security present an obvious cross-training opportunity (see questions fifteen and twenty-five). Question thirty-three indicates that systems/IT staff favor some kind of cross-training with (or for) reference. In libraries that are experiencing tension among the departments over security issues, this would be a fruitful place to begin such an effort to develop a better understanding of the needs of both groups.

Genuinely Seek to Discover What Your Counterparts Are Experiencing

The most revealing responses received from the survey came from questions that asked, anonymously, what you would most like your counterparts to know about your work situation that you believe they do not already know? Ideally the two groups do share the same goals, but sometimes this is not as evident as it could be. The process of experiencing work life from the other's standpoint in the course of the daily fray may help refocus the commitment of both groups.

Express Appreciation and Respect Wherever Possible

Responses from question twenty-five show that a number of reference staff appreciate the skills and accomplishments of their systems/IT counterparts under challenging circumstances. This appreciation is not voiced by systems/IT staff in the responses to question fifteen to the same degree, but this is likely due to the lack of dependence on reference for important elements of their work. However, there are some promising comments from question fifteen, such as "I want to help them (reference) do their job better," "We care what our clients think," and "IT can help find new ways to do things."

Use Technology to Enhance the Effectiveness of Communication

The need for better communication was cited often by respondents as a way to improve the relationship. Frustration seems to often occur when reference staff report a problem, then don't hear back with a status report. When staff express a complaint or make a suggestion, they all want to know that they were heard and understood, even if a solution cannot be found.

It would help lessen reference anxiety if IT work queues were more visible and could be monitored. It also may serve to remind everyone that IT must respond to requests from all areas of the library. A more transparent queue also could lead to the discovery of additional cross-training opportunities.

Look for Creative Ways to Jumpstart Relationship Change

It is not enough to lament the existing situation. A specific comment made by an audience participant at the program in Chicago came from a reference librarian: "If you are not happy with the relationship as it currently stands don't wait for the 'other' side to change." Find something specific that your department can do to actively improve the lot of the other. In this case her reference department dedicated a part of their book budget to purchase O'Reilly computer manuals online, a boon for the systems/IT staff supporting the library. There is an element of surprise and delight in such an overture that can, under the right circumstances, help to energize a relationship.

Based on this study, several areas for further research are indicated.

- What role does size of the institution play? Many of the survey questions touch upon the size of campus on which the library is located, but it is not always clear what it is *about* size that affects the responses. Is it that larger institutions have more layers of bureaucracy with which to contend? In smaller institutions is it easier to understand the challenges of your counterparts because there are fewer of them or everyone works in closer proximity, or is it more difficult because at larger institutions they may not work in the same building?
- What role do administrators play? More research is warranted to discover how library directors/deans can affect the working relationships between these two sets of staff, to see what they are doing at the administrative level to facilitate good working relationships and, where necessary, to change the culture.
- What is the impact of the new breed of "cross-over" librarian who is dually trained and serves or reports to both public services and IT areas?
- How does the emerging "information commons" model affect this *relationship?* The landscape of library computing is changing. Many libraries are moving to a model in which distinctions between "traditional" reference and technology assistance are blurring. Further research is clearly needed to reflect how the working relationship between systems/IT and reference/information services fares in this emerging environment and how we can all nurture the relationship to provide the best possible service to our users.
- What part does individual personality play? The literature review alludes to studies of the ways in which personality affects working relationships. The survey results indicate that causes of tensions include having different time frames/priorities, but it does not delve into the effect of personality type. A case study might focus on a specific project involving staff from both sides, with an emphasis on how differing personality types, assumptions, and sets of procedures impact the relationship.

The relationship between systems/IT and reference appears, on the surface, to be about computers and technology. But as journalist Edward R. Murrow commented in his acceptance of the 1964 Family of Man Award, "The newest computer can merely compound, at speed, the oldest problem in the relations between human beings, and in the end the communicator will be confronted with the old problem, of what to say and how to say it."[44]

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APPENDIX

1. **The name of your college or university (optional)**

   _____

   Of 151 respondents, 138 indicated the name of their institution. Eleven "matched pairs" responded from the same institution.

2. Number of full-time students and faculty (on and off campus):
   - ☐ Under 5,000 (44.9%)
   - ☐ 5,000–15,000 (27.9%)
   - ☐ 15,000–20,000 (8.8%)
   - ☐ More than 20,000 (17.7%)
   - ☐ Other (.7%)

   Total: 147 respondents

3. Who largely controls computing (day-to-day) in your library?
   - ☐ University or college (i.e., computing center) (20%)
   - ☐ Library systems/IT department (62.1%)
   - ☐ Other (please specify) (17.9%)

   Total: 145 respondents

4. If your library has an in-house systems/IT dept., to whom does its head directly report?
   - ☐ University or college (2.4%)
   - ☐ Library director/dean (57.6%)
   - ☐ Assistant or associate library director/dean (25.6%)
   - ☐ Management team (0%)
   - ☐ Other (please specify) (14.4%)

   Total: 125 respondents

5. To whom does the head of your reference/information services department directly report?

- ☐ University or college (0%)
- ☐ Library director/dean (64.4%)
- ☐ Assistant or associate library director/dean (28.1%)
- ☐ Management team (0%)
- ☐ Other (please specify) (7.5%)

Total: 146 respondents

6. How many public and staff machines (total) is your systems/IT staff responsible for?
- ☐ Less than 50 (15.8%)
- ☐ 50–100 (26.6%)
- ☐ 100–300 (25.9%)
- ☐ 300–400 (7.2%)
- ☐ More than 400 (15.8%)
- ☐ Don't know (8.6%)

Total: 139 respondents

7. Many of us wear (or have worn) multiple hats, but of the two options below, which more closely describes your CURRENT duties/responsibilities?
- ☐ Systems/IT (36.7%)
- ☐ Reference/info services (63.3%)

Total: 150 respondents

Questions #8–#18 are to be answered only by respondents who identified themselves more closely with systems/IT in the previous question. Reference/info services staff please skip to Question #19.

FOR systems/IT staff:

8. How long have you been involved in systems/IT work, both in and outside of the library setting?
- ☐ Less than 5 years (5.8%)
- ☐ 5–10 years (21.2%)
- ☐ More than 10 years (73.1%)

Total: 52 respondents

9. How long have you been involved in systems/IT work in a library setting?
- ☐ Less than 5 years (9.6%)
- ☐ 5–10 years (30.8%)
- ☐ More than 10 years (59.6%)

Total: 52 respondents

10. What is your educational background? Please check any/all that apply:
- ☐ Master's emphasizing library science (69.2%)
- ☐ Master's emphasizing information science (11.5%)
- ☐ Master's emphasizing computer science (3.8%)
- ☐ One or more subject master's (23.1%)
- ☐ Computer-related undergraduate degree (11.5%)
- ☐ Technical certification—computer related (15.4%)
- ☐ Other (please specify) (19.2%)

Total: 52 respondents

11. OVERALL, the relationship between systems/IT staff and reference/info services staff in my library is productive.
- ☐ Strongly agree (41.2 %)
- ☐ Agree (47.1 %)
- ☐ No opinion (0%)
- ☐ Disagree (11.8%)
- ☐ Strongly disagree (0%)

Total: 51 respondents

12. If they heard my answer to the previous question (concerning productivity) I think the reference/info services staff would probably:
- ☐ Strongly agree (31.4%)
- ☐ Agree (54.9%)
- ☐ No opinion (7.8%)
- ☐ Disagree (5.9%)
- ☐ Strongly disagree (0%)

Total: 51 respondents

13. OVERALL, the relationship between systems/IT staff and reference/info services staff in my library is cordial.
- ☐ Strongly agree (45.1%)
- ☐ Agree (52.9%)
- ☐ No opinion (2%)
- ☐ Disagree (0%)
- ☐ Strongly disagree (0%)

Total: 51 respondents

14. If they heard my answer to the previous question (concerning cordiality) I think the reference/info services staff would probably:
- ☐ Strongly agree (41.2%)
- ☐ Agree (49%)
- ☐ No opinion (7.8%)
- ☐ Disagree (2%)
- ☐ Strongly disagree (0%)

Total: 51 respondents

15. What are three things you would most like reference/info services to know about YOUR work situation that you believe they do not already know?

Total: 32 respondents—32 offered at least one suggestion, 24 offered at least two suggestions, 18 offered 3 suggestions.

16. There are tensions between systems/IT and reference/info services in my library.
- ☐ Strongly agree (2%)
- ☐ Agree (27.5%)
- ☐ No opinion (11.8%)
- ☐ Disagree (41.2%)
- ☐ Strongly disagree (17.6%)

Total: 51 respondents

17. If you answered in agreement to the previous question (there are tensions), what do you think most closely describes the cause(s)? Check any/all that apply:
- ☐ Different priorities (62.5%)
- ☐ Budget issues (37.5%)
- ☐ The managers of systems/IT and reference/info services do not get along (6.2%)
- ☐ Reference/info services staff have unrealistic expectations (12.5%)
- ☐ Reference/info services staff don't understand the language of IT (31.2%)
- ☐ Reference/info services staff underestimate security issues (37.5%)
- ☐ Reference/info services staff think they are professionally "above" IT staff (37.5%)
- ☐ Other (please specify) (56.2%)

Total: 16 respondents

18. If you answered that there are NO (or negligible) tensions, what do you think most closely describes why this is true? Check any/all that apply:
- ☐ Similar priorities (66.7%)
- ☐ The managers of systems/IT and reference/info services get along (66.7%)
- ☐ Reference/info services staff have realistic expectations (45.5%)
- ☐ Reference/info services staff are, for the most part, technically savvy (39.4%)
- ☐ Reference/info services staff understand IT's emphasis on security (18.2%)
- ☐ Reference/info services staff accept IT's emphasis on security (21.2%)
- ☐ Other (please specify) (24.2%)

Total: 33 respondents

Questions # 19–# 28 are to be answered only by respondents who identified themselves more closely with reference/information services in question #7 above.

FOR reference/info service staff:

19. How long have you been involved in reference/information services work?
- ☐ Less than 5 years (4.4%)
- ☐ 5–10 years (20%)
- ☐ More than 10 years (75.6%)

Total: 90 respondents

20. What is your educational background? Please check any/all that apply:
- ☐ Master's emphasizing library science (93.3%)
- ☐ Master's emphasizing information science (4.5%)
- ☐ Master's emphasizing computer science (0%)
- ☐ One or more subject master's (33.7%)
- ☐ Computer-related undergraduate degree (0%)
- ☐ Technical certification—computer related (2.2%)
- ☐ Other (please specify) (7.9%)

Total: 89 respondents

21. OVERALL, the relationship between systems/IT staff and reference/info services staff in my library is productive.
- ☐ Strongly agree (47.1%)
- ☐ Agree (37.9%)
- ☐ No opinion (1.1%)
- ☐ Disagree (11.5%)
- ☐ Strongly disagree (2.3%)

Total: 87 respondents

22. If they heard my answer to the previous question (concerning productivity) I think the systems/IT staff would probably:
- ☐ Strongly agree (39.1%)
- ☐ Agree (47.1%)
- ☐ No opinion (1.1%)
- ☐ Disagree (9.2%)
- ☐ Strongly disagree (3.4%)

Total: 87 respondents

23. OVERALL, the relationship between systems/IT staff and reference/info services staff in my library is cordial.
- ☐ Strongly agree (48.3%)
- ☐ Agree (46%)
- ☐ No opinion (1.1%)
- ☐ Disagree (4.6%)
- ☐ Strongly disagree (0%)

Total: 87 respondents

24. If they heard my answer to the previous question (concerning cordiality) I think the systems/IT staff would probably:
- ☐ Strongly agree (48.3%)
- ☐ Agree (48.3%)
- ☐ No opinion (1.1%)
- ☐ Disagree (1.1%)
- ☐ Strongly disagree (1.1%)

Total: 87 respondents

25. What are three things you would most like systems/IT staff to know about YOUR work situation that you believe they do not already know?

Total: 54 respondents—54 offered at least one suggestion, 41 offered at least two suggestions, 33 offered 3 suggestions.

26. There are tensions between systems/IT and reference/info services in my library.
- ☐ Strongly agree (5.8%)
- ☐ Agree (39.5%)
- ☐ No opinion (1.2%)
- ☐ Disagree (27.9%)
- ☐ Strongly disagree (25.6%)

Total: 86 respondents

27. If you answered in agreement to the previous question (there are tensions), what do you think most closely describes the cause(s)? Check any/all that apply:
- ☐ Different priorities (66.7%)
- ☐ Budget issues (25.6%)
- ☐ The managers of systems/IT and reference/info services do not get along (12.8%)
- ☐ Systems/IT does not have the same customer service orientation as reference/info services (66.7%)
- ☐ Systems/IT staff do not understand the nature of what reference/info services staff do (59%)
- ☐ Systems/IT staff overemphasize security issues (38.5%)
- ☐ Systems/IT staff think they are professionally "above" reference/info services staff (30.8%)
- ☐ Other (please specify) (28.2%)

Total: 39 respondents

28. If you answered that there are NO (or negligible) tensions, what do you think most closely describes why this is true? Check any/all that apply:
- ☐ Similar priorities (66%)
- ☐ The managers of systems/IT and reference/info services get along (85.1%)
- ☐ Systems/IT has a strong customer-service orientation (68.1%)
- ☐ Systems/IT staff understand the nature of what reference/info services staff do (70.2%)
- ☐ Systems/IT staff do not overemphasize security issues (10.6%)
- ☐ Other (please specify) (14.9%)

Total: 47 respondents

Questions #29–#36 are to be answered by BOTH systems/IT and reference/info services

29. Systems/IT and the reference/info services staff meet formally in some fashion:
- ☐ Annually (0.8%)
- ☐ 2–4 times a year (5.6%)
- ☐ Monthly (19%)
- ☐ Weekly (7.1%)
- ☐ As needed (51.6%)
- ☐ Never (15.9%)

Total: 126 respondents

30. If you answered "as needed" to the previous question, who most often asks for the meeting?
- ☐ Systems/IT (11.6%)
- ☐ Reference/information services (24.6%)
- ☐ It varies (63.8%)

Total: 69 respondents

31. I think regularly scheduled joint meetings improve the relationship between systems/IT and reference/info services staff.
- ☐ Strongly agree (19.8%)
- ☐ Agree (36.5%)
- ☐ No opinion (31.7%)
- ☐ Disagree (11.1%)
- ☐ Strongly disagree (0.8%)

Total: 126 respondents

32. I think that if members of systems/IT staff and reference/info services staff ate lunch together occasionally it would improve the relationship.
- ☐ Strongly agree (8.7%)
- ☐ Agree (29.9%)
- ☐ No opinion (47.2%)
- ☐ Disagree (11%)
- ☐ Strongly disagree (3.1%)

Total: 127 respondents

33. I think cross-training between systems/IT and reference/info services would improve the relationship.
- ☐ Strongly agree (11.1%)
- ☐ Agree (40.5%)
- ☐ No opinion (20.6%)
- ☐ Disagree (24.6%)
- ☐ Strongly disagree (3.2%)

Total: 126 respondents

34. In your opinion, in your setting, what three things could systems/IT staff do to improve the relationship?

_____

_____

_____

Total: 81 respondents—81 offered at least one suggestion, 59 offered at least two suggestions, 44 offered 3 suggestions.

35. In your opinion, in your setting, what three things could reference/info services staff do to improve the relationship?

_____

_____

_____

Total: 73 respondents—73 offered at least one suggestion, 45 offered at least two suggestions, 37 offered 3 suggestions.

36. Please add any additional comments or observations you have about the relationship between systems/IT and reference/info services staff.

_____

_____

_____

Total: 50 respondents

Thank you for participating in this survey.