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Santa Clara University's New ISP: Indispensible Services Provided by the Harrington Learning Commons, Sobrato Technology Center and Orradre Library

Robert Boyd
Santa Clara University, rboyd@scu.edu

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Indispensible Services Provided by the Harrington Learning Commons, Sobrato Technology Center and Orradre Library

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By
Robert Boyd

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Cover Letter

This is to acknowledge the completion of the Organizational Consulting Project, *Santa Clara University's New ISP: Indispensible Services Provided by the Harrington Learning Commons, Sobrato Technology Center and Orradre Library*.

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Ronald Danielson — Date
Vice Provost of Information Services/CIO

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Robert Boyd — Date
Consultant

_____ _____

Joe Matthews — Date
Organizational Consulting Project Coordinator

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Executive Summary

Santa Clara University is the oldest institution of higher education in the state of California. Founded as a Catholic, Jesuit university in 1851, there are currently over 8,000 students enrolled in undergraduate, graduate and professional schools of business, law, engineering, pastoral ministries, and counseling psychology and education.
The University Library, Information Technology and Media Services are grouped together in the umbrella administrative unit, Information Services, reporting to Vice Provost/CIO Ron Danielson. The nearly one hundred staff in Information Services are physically dispersed around campus in seven different locations including multiple services points. An older library was demolished in 2006 and a new $95 million dollar Learning Commons, Technology Center and Library will open in the Spring Quarter 2008. When the new building opens, all Information Services staff will be co-located, for the first time ever, under the same roof. This co-location presents many opportunities for the possible integration of services to students, faculty and staff members on campus.

An Organizational Consulting Project was proposed and approved to better understand the collaborative opportunities afforded by this new building and collocation of staff. The major components of the consulting project are a literature review, a survey to Information Services staff, an external survey which was posted on the Information Commons listserv, recommendations and an annotated bibliography.

The literature review highlights the best practices associated with successful mergers of Library, IT and Media Services staff to provide enhanced services to students and faculty. Frequently, these mergers result from the creation of an "Information

Commons" or "Learning Commons" within an academic library setting. The services provided through an Information Commons include access to both reference and computer technology support services, high-end computer workstations loaded with productivity software, assistance with multimedia software, and the availability of a full range of scholarly research materials anytime and anywhere. Staff providing these services need thorough and ongoing training in the full range of activities they will be called upon to perform. Special care must be taken to understand the cultural differences that can divide library and IT staff which might include unique or, at least, distinct jargon, professional status, certifications, education and temperament. The Myers-Briggs Type Indicator is mentioned frequently in the literature as a means to help understand and work better with others. The leadership of a merged organization is critical and a chief information officer must possess solid political and managerial skills to help bridge differences. Mergers usually don't save money. As one chief information officer observed, "How can you save money by combining the old 'bottomless pit' [the library] with the new 'black hole' [the computer center]?" The literature review also provides an examination of the success factors with distinguish established and thriving collaborations as well as the range of staffing models that are often employed.

Two web-based surveys were developed, pretested and utilized to gather information internally and externally. The internal survey was completed by roughly one third of all Information Services staff members and indicated confidence in the ability to make effective referrals to the other IS departments: Library, IT or Media Services. It was clear by responses, however, that work must be done to help staff better understand the organizational structure and work completed in departments other than their own.

Many interesting ideas for new collaborations were shared and there was a clear desire to get to know each other better through formal and informal interactions. Helpful, baseline data was gathered about the top 3 services or resources needed by students, faculty and staff. The intention is to repeat this internal survey in 12 months time to note differences after one year's experience in the new Learning Commons, Technology Center and Library.

The external survey was posted on the Information Commons listserv and over one hundred responses were gathered. Cross-training of staff serving the public was strongly recommended while cross-training of all staff less so. A majority of respondents believed that trained student help works well responding to most basic questions and agreed that a referral system to designated professional staff is most effective. Of the types of questions to be expected at the shared service point, general customer help and directional questions were deemed most common, more so than library and reference questions or hardware and software questions. The most difficult challenges that will hinder collaboration are cultural differences between library and IT staff, breakdowns in communication and ineffective leadership to help bridge the differences. On the other hand, successful mergers of IT, Media Services and Library staff can realize visible and tangible service improvement gains. In particular, the creation of a "one-stop shopping" experience where the wide range of customer needs are all addressed at one time in one location was often mentioned.

The survey data and best practices literature review provided the basis for a number of recommendations. The first and, most important, recommendation is to resume a planning process a decade after the first Information Services documents were

drafted and reviewed. It will also be necessary to continue ongoing efforts to gather input from our key customer bases, particularly as we strive to better understand how we can make best use of the new Learning Commons, Technology Center and Library. Formal and informal gatherings of IS staff must be scheduled and promoted to help build a new organizational culture. It will also be important to identify and remove any barriers to collaborative efforts and to avoid a perhaps natural tendency to remain in our traditional silos. Ongoing training is recommended along with efficient and effective communication channels to keep all staff informed on issues, project and important developments. Room for experimentation, perhaps with new professional opportunities, should be considered along with a discussion of the possible performance indicators that will verify whether we are realizing improved service and better collaboration working under one roof. Finally, Information Services must actively reach out to the campus to use our new facility to integrate with existing programs such as Disabled Student Resources, tutoring, new student and faculty orientation programs and other academic support initiatives.

Client Description

Santa Clara University

Founded in 1851, Santa Clara University is the oldest institution of higher learning in the state of California and was established on the site of Mission Santa Clara de Asis, one of the original 21 California missions. It is a Catholic, Jesuit university with over 8,000 students enrolled in undergraduate, graduate and professional schools in business, law, engineering, pastoral ministries, and counseling psychology and education. Santa Clara College became the University of Santa Clara in 1912 when the Schools of Engineering and Law were added. A business program (now the Leavey School of Business) began in 1926 and by the mid-1930s, it became one of the first business schools in the United States to receive national accreditation.

In 1961, women were admitted as undergraduate students and Santa Clara became California's first co-educational Catholic university. The Board of Trustees formally adopted the name "Santa Clara University" in 1985. Santa Clara's campus is located on 106 acres in Santa Clara, California which is roughly 50 miles south of San Francisco. There are more than 50 buildings on campus including residence halls, athletic facilities, a student center and a new library currently under construction. University library holdings include nearly 800,000 volumes and over 4500 current serial subscriptions.

Information Services

At Santa Clara University, the University Library, Information Technology and Media Services are grouped together in the administrative unit, Information Services. There are approximately one hundred staff members within Information Services and the University Librarian, IT Director and Media Services Director are the direct reports of the Vice Provost of Information Services and Chief Information Officer, Ron Danielson. The current physical location of the Information Services staff is a challenge since the three departments are located in seven different locations with multiple services points. The University Library staff have office space in Leavey Center, student study space is

available in Nobili Hall and the Circulation Desk, pilot Information Commons and reference collection are located in a temporary library portable. Information Technology has two locations: in the Information Technology building near the Engineering school and on the sixth floor of Commerce Plaza. Media Services use the Ricard Observatory as well as the Varsi Hall computer lab.

In 2006, the Michel Orradre Library was demolished to make room for a $95 million dollar Learning Commons, Technology Center & Library which is scheduled to open in the Spring Quarter 2008. When the new building is completed, all Information Services staff will be co-located, for the first time ever, under the same roof. This co-location presents many opportunities for the possible integration of services to students, faculty and staff members on campus.

Original formation of Information Services at SCU

In Fall 1995, the Vice President for Academic Affairs asked the IT director, Director of Media Services and University Librarian to review their services and consider a more integrated approach to providing information resources and services to the university community. A new organizational unit, Information Resources (now Information Services) arose out of a larger university-wide strategic planning effort in Spring 1997, bringing together Information Technology, Orradre Library and Media Services. The new organization drafted a planning document incorporating a SWOT analysis (internal strengths and weaknesses; external opportunities and threats) that presented the combined organization through the university planning format of "Taking Stock" and "Setting Course". Although the document is now over a decade old, many of the issues, challenges and opportunities discussed then remain both timely and topical today.

Taking Stock

In the "Taking Stock" section, the different and unique needs of the various constituencies served by the newly created Information Services were considered.

Students, recognized as the "ultimate customers", require help and attention on their own schedule, frequently at or near crisis when confronted with approaching deadlines for classroom or research activities. Students technical and research capabilities are varied but, uniformly, they do not want to be constrained to a particular physical library location in a 9 to 5 world. They expect resources anytime, anywhere. Although technically savvy, students might be unfamiliar with the wide variety of resources available through an academic library and the tools needed to find and utilize them. Students, it was noted, make prime use of network services and resources from PCs in the residence halls between the hours of 9:00pm and 2:00am. The needs of off-campus students were not necessarily the same as resident students, so accommodations for a basic level of technology service to be provided all students was recommended. Faculty members at Santa Clara University depend on Information Services to support their research, scholarly and teaching activities. While some faculty eagerly adopt emerging technologies, others resist or simply refuse to use technical tools that have been made available. The expense of providing access to scholarly journals and databases, along with the human resource investment of technology trainers to help develop courseware and strategies for integrating technology into the classroom were also highlighted. The staff's use of administrative systems, particularly the new PeopleSoft enterprise software for Financials, Human Resources and Student Administration represented a multi-million dollar university investment to address administrative computing demands in the face of Y2K. Other constituencies served, such as alumni, corporations, off-campus groups and the general public, also made use of information and technical resources to varying degrees but which still required the time, attention and resources of staff in the Library, Information Technology and Media Services.

The planning document noted that the challenges faced by Information Services were many. The short life span of technology, for example, demanded that IS staff remain current with baseline technologies and help students, faculty and staff keep up with the pace of change. The fact the university is located in Silicon Valley serves only to increase expectations for technical currency. A considerable percentage of the university macro budget is dedicated to technology for equipment purchases, upgrades, repair and maintenance of the necessary hardware and software to support scholarship,

teaching and administrative systems. Along with the physical resources, there must be a concomitant investment in human resources to provide the necessary technical design, implementation, training and ongoing support required by end users. In a higher education setting, technology must accommodate a wide variety of teaching styles but, at the same time, offer the university a platform to enable distance education particularly for graduate and continuing education programs. The university should also consider information literacy for both students and faculty to better identify information needs, craft appropriate search strategies and evaluate resources in the ever-increasing information glut. The planning document also discussed instructional technologies and the desire to install multimedia equipment in all university classrooms in order to help insure and preserve Santa Clara University's reputation for high academic quality. Another financial burden, stemming from increasing governmental regulation, emerged in the area of adaptive technologies in light of the requirements of the Americans with Disabilities Act (ADA). In addition to external pressures, there was a renewed effort on the university campus to provide personalized service to students - across and at all levels of the university - as a competitive advantage in prospective student and enrollment management strategies. The construction of many new buildings at this time strained the already thin staff of Information Services as networking, telecommunications, and Media Services professionals helped new construction projects come online. At the same time, it was recognized that the existing facilities for Media Services in the Ricard Observatory, the aged Orradre Library and IT building were clearly outdated, inflexible, and generally unable to meet the pressing and dynamic needs of Information Services staff and its customer base.

Setting Course

In the "Setting Course" section for the newly merged umbrella organization, planning objectives were set on a five-to-ten year horizon for Information Services and addressed key university priorities for building a community of scholars, integrating education, and continuous improvement and resources for excellence. The library, IT and Media Services, for example, partner with faculty in evaluating, selecting,

developing and supporting instructional resources. Technology helps foster interaction and collaboration among faculty across academic disciplines. The planning document called for additional library subject specialists to help make available a variety of scholarly resources, in print and in digital formats, and help design a user-friendly interface to information across multiple disciplines. Information Services needed to promote a culture of continuous improvement by regular assessment of client needs, formally and informally, and to focus on providing self-help tools to encourage self-sufficient users. The support provided would be tailored to the demands of customers according, and driven by, their locations, work habits and schedules. These information resources must be available consistently and reliably. At the same time, general standards need to be reviewed, created and/or adopted to make sure that the resources were being maximized and to reduce the operating overhead costs associated with an ever-increasing number of computing and learning platforms. The outcomes to be measured were three: learning, scholarship and service. Learning outcomes were to be based on the ability of students to locate, evaluate, and utilize information for course and research-based projects. Students were encouraged to integrate and present new forms of knowledge in multimedia presentations. Scholarship outcomes were based on the resources available to faculty for supporting the curriculum and access to research-oriented resources. Service outcomes ensured that service was personalized, consistent and courteous and that accurate referrals would be made the first time and follow-up done, as needed. The action agenda included service standards, communication vehicles and benchmarking activities against peer institutions to ensure Santa Clara University's Information Services staff were providing excellent services and resources. A plan was envisioned that would provide ongoing assessment of client needs and wants, client skill level and overall customer satisfaction. A help services collaboration was suggested that might include phone support, online help and the creation of a clearinghouse of available resources to students, faculty and staff. The long-range planning also considered future discussions, a communication strategy (internal and external), and budget initiatives to promote collaborative engagement between the library, IT and Media Services.

Internal review of new Information Services structure

The Information Services planning document was reviewed by six focus groups totally nearly 75 percent of all staff in the library, IT and Media Services. The discussions centered on the organizational structure, requested feedback as well as ideas for new partnerships and teams that could better respond to customer needs. Comments on the ideal organizational structure for Information Services included:

- develop a flexible structure in order to facilitate reassignment of staff during peak periods

- ensure communication of clear and specific goals across the three departments of the Library, IT and Media Services

- decrease tension and break down barriers to increased cooperation/collaboration

- promote aggressive examination of ways to improve service and better communicate with users

- focus on planning, forecasting, and being ready for what is coming down the road

- work together more effectively on projects and task assignments (e.g. create teams to solve problems, work on projects)

The focus groups discussed why structural changes were necessary:

- it would be impossible to have a common mission/values with three distinct and independent units

- merging the library, IT and Media Services could result in more efficient use of human resources

- the organization could be streamlined to reduce administrative layers

- Information Services, properly implemented, could provide a "one-stop shopping" service for Santa Clara University

On the other hand, the focus groups noted reasons why structural changes should NOT be made:

- a recent Information Technology reorganization between the Information Processing Center and the Academic Computing Center still had not been completed

- an integration of services was more important than an integration of units

- the three areas had distinct philosophies and should maintain their uniqueness

- the different service orientations would make a merger difficult

- forcing the units together would not necessarily fix what's broken, but rather collaboration needed to occur at a natural, grassroots level

- the existing loosely-based confederation of library, IT and Media Services was sound; but increased communication was the key to improving service

- having the three units provide distinct services was appropriate, but other functions might be better managed and coordinated across the units like management of computer labs, educational support, training, webpage management, systems and some administrative functions

The focus groups also discussed questions for future consideration:

- were there particular areas in which organizational changes might improve service delivery?

- should Information Services organize by customer or function?

- should a reorganization be along the lines of content, processing or presentation of information?

- would a merged organization help set consistent service delivery and support boundaries between IT, library and Media Services?

With the planning document revised and focus groups concluded, Santa Clara University formed Information Services in May 1997 as the umbrella unit for the Orradre Library, Information Technology and Media Services. At the same time, a Training Specialist position was transferred from IT to the Library and a new Webmaster position, on a 2-year fixed term basis was created and positioned in Media Services. Following the recommendations of the planning process, customer service training for all Information Services staff was instituted and an IS Newsletter inaugurated in Fall 1997. Through this process, a mission statement for the newly combined division was drafted and published:

Information Services supports teaching, learning, scholarship and University operations by providing access to, facilitating use of, and managing the collection, processing, storage, maintenance, and preservation of information.

Information Services is committed to providing leadership to enable the University to excel in the use of technology and information resources to enhance teaching and learning, support scholarship, and improve service and productivity. It strives to do so through the continuing development of a culture of service, a rich information environment, and leadership in technology applications.

2000 WASC Self Study

The March 2000 report of the WASC evaluation team praised the progress which had been made by Information Services since its formation a few years earlier. As directed by the original planning document, the new organization actively pursued university feedback and formed a Customer Satisfaction Project Team to design a survey to measure the perceived important of services, gauge awareness/familiarity with those services, and measure the satisfaction of services by students, faculty and staff. Students, generally, expressed dissatisfaction with the computer labs along with network reliability, the campus GroupWise email system and the availability of electronic resources from off-campus. Faculty also requested better access from off-campus and were dissatisfied with the overuse or inappropriate use of voicemail and classroom equipment reliability. Ratings for personal customer service provided by reference, IT and Media Services staff received positive ratings, fairly consistently, from students, faculty and staff.

Prior to the WASC visitation, Information Services drafted a Preliminary Program statement for the expansion and renovation of the Orradre Library. The Orradre Library opened in 1964 and almost forty years later was proving to be inflexible for accommodating new services and business operations. The present space was fast approaching capacity and, although costs were presented for renovation, a new, modern building was also presented as a possible option. It was recognized by the Information Services leadership that in order to allow flexibility for the Library, Information Technology and Media Services for future collaboration and restructuring, a new space was needed that would permit and foster integration. The program plan identified guiding

principles for a new physical space to house the merged organization, which included, for example:

- providing an educational setting that encourages learning and human development in the broadest sense

- hosting practical, flexible, and reconfigurable spaces and infrastructure

- delivering spaces and facilities that accommodate growth and stimulate shared use and networking of services

- serving ongoing client needs and support clients' different requirements and usage habits; continuing to support a people-oriented approach

- supporting collaboration

- making information available and accessible on demand by clients.

The program plan also referred to the "Information Commons" approach which had been successfully implemented at several other universities as a model to consider when planning the new space. And, finally, the new space might help generate ideas for a reorganization of back-end services specifically mentioning, for example, the possible collocation of technical processing services with other infrastructure activities such as telecommunications, networking and hardware support.

The WASC report highlighted the creation of the new umbrella unit, Information Services, and noted that significant progress had been made in supporting teaching, learning, scholarship and administrative activities at Santa Clara University since the prior visit. For example, the university had successfully implemented a web-based OPAC, Millennium by Innovative Interfaces as well as the PeopleSoft ERP suite for Human Resources, Financials and Student Administration. The harshest criticism, though, was reserved for the library which was deemed inadequate both for aesthetics and usability and flexibility of space. The visitation team based their observations upon the Information Services customer satisfaction surveys as well as their own interviews with faculty, staff and students. Since the last WASC visit, no real progress had been made either with a renovation of current space or towards a master plan for an entirely new building that could capitalize on the integration of library staff, IT and Media Services. In order to help advance SCU's larger goals for a community of scholars, integrated

education and resources for excellence, the visitation team recommended that a new library building be pursued aggressively.

Pilot Information Commons and planning for new library building

A planning team was formed in 2005 to convert space in the reference room to a temporary Information Commons space before demolition began of the existing Orradre Library in July 2006. The pilot one-year program was made possible when the university PC replacement program converted all public access computers in the library to machines running Windows XP, loaded with the latest Microsoft Office productivity software. This newly redesigned space would feature a joint Reference/Help desk to help assist student and faculty users with the more sophisticated software on high-end machines. There were also a few Apple computers available in the pilot Information Commons with the latest multimedia software packages. A separate area was designated in the pilot Information Commons, with the necessary projection and seating facilities, where students could practice their presentations before a peer audience. The pilot project was a collaborative effort involving staff from the three units and the outcomes, based on increased usage and feedback, were very positive from the user community.

At the same time, plans were well underway for the construction of a new Learning Commons, Technology Center and Library for SCU. An automated retrieval system (ARS) was constructed so that print materials could be moved out of the existing Orradre Library and still be available for circulation to the campus during the construction of the new library space. Joan Lippincott of the Coalition for Networked Information was retained as a consultant by SCU to help frame the objectives of the permanent Learning Commons in the new library building. Lippincott facilitated two meetings with Information Services staff and presented some of the characteristics and services made available in Information Commons at the University of Arizona, Emory University, the University of Southern California, and others. At the University of Arizona's Integrated Learning Center, for example, the new space included an instructional area, tutoring and advising, and Information Commons space that included classrooms, discussion rooms, and a media resources center. At Indiana University,

besides traditional library reference services, their Information Commons provided IT support and consulting, check out services for laptops and video equipment, a multimedia production lab, training and education classrooms, an Adaptive Technology Center, writing tutorial services and a career reference center. Ohio University planned a cyber-café. The University of Chicago sported collaborative booths and an Apple Multimedia Wall. Lippincott challenged her SCU Information Services audience to question whether the new space would be:

- a glorified computing lab	Or	- a collaborative learning space
- a reference area with rows of computers		- a place to access, use and create information
- Fiefdoms of service points		- A set of transparent services for users

(Lippincott, 2005)

Through these discussions, it became clear that an Information Commons at SCU must be designed to support student learning, for individual research and group collaboration, must offer user-centered one-stop shopping and must facilitate information retrieval, use, manipulation and creation.

In 2007, a Public Services task force was created to help plan and deliver the services to be made available through a central Commons Service desk in the new library. To help inform the services, training and staffing for this combined service point, a survey was developed and shared with the university community and over 400 undergraduate and 150 graduate students provided feedback. An additional 124 staff and 68 faculty members responded to the survey and helped identify the "essential" services and "helpful" services most desired by library patrons. Including all populations, the essential services desired were basic library help, research assistance, directional questions and referrals, assistance with online resources, network access support and equipment help and troubleshooting. The services identified by all populations that were considered "helpful" included digital/multimedia assistance, student computing help desk support, basic assistance with Novell networking and GroupWise email accounts, laptop repair, and classroom equipment reservations. Based on this feedback, the Public

Services Task Force prepared a staffing plan for the central Commons Service desk and implemented a staff training program including four 2-hour sessions:

- Module 1: Customer Service
- Module 2: Basic Library Skills
- Module 3: Basic Computer & Technology training
- Module 4: Basic Equipment training

On March 31, 2008, Santa Clara University's new Learning Commons, Technology Center and Library is scheduled to open. After ten years of planning, the new facility promises to fulfill many of the goals identified through the Information Services strategic planning efforts. The new building will be on four levels, 194,000 square feet, and have over 1100 reader seats in a variety of formats such as carrels, small tables, movable lounge furniture, and outdoor seating in the café and terraces. The new building will have over 200 public computers, 25 collaborative workspaces and three videotaping and viewing rooms. There will be approximately 250,000 print volumes on open shelves and over half a million other volumes available through the automated retrieval system (ARS). The new Information Commons space, alone, will feature 68 high-end computer workstations, eleven media stations, two adaptive technology stations as well as the centralized help desk and nearby reference materials. When the doors open, this will be the first opportunity for Information Services to begin a new process of evaluation to measure how effective Information Services, as an umbrella organization finally collocated under one roof, collaborates and integrates functions to provide new and improved service to our students, faculty and staff.

Literature Review

IT/Library merger

A recent lead story in the *Chronicle of Higher Education* tackled the problems associated with merging the library and computing center at a small college. Foster (2008) examines Xavier University in Cincinnati, Ohio and the many problems plaguing their library and IT departments, including the fact that the university had hired four CIOs in a five-year period. The current Chief Information Officer (CIO) described the needs of their primary patrons, undergraduate students and faculty, succinctly: "provide the services I'm looking for, in the manner I want, and get out of my way." Metrics were analyzed and decisions on the physical demands of "Organization 3.0" designed around the information gleaned. For example, nearly 40 percent of the library collection had not circulated in ten years. This material was relocated to an annex and the freed up space has been reshaped as a pilot information commons which will inform architectural plans for the new library and Knowledge Commons scheduled to open in 2010. Of the three dozen mergers known in the United States, the most successful are found at smaller liberal-arts colleges. The success or failure of the effort to merge library and IT units often depends on the ability to break down "silos" and create a new organizational culture. In the best examples, the IT staff adopt the librarians service philosophy and the librarians are influenced by the technical staff's ability to learn and implement emerging technologies.

Molholt (1985) offered an early argument for the benefits of merging library and computing center staff. The characteristics of the computing center included 24-hour access, unlimited and cost-effective storage, direct access to both local and off-site data, and a high degree of technical expertise. Libraries, in turn, complemented those characteristics by offering a user-friendly service orientation, a highly structured collection of information resources and a high degree of subject expertise. The missing pieces, according to the author, which demanded a considerable amount of development activity included coordinated indexing, conversion of print material, improved access to information resources, security of files and reduced costs associated with acquisitions. Molholt asserted that a new role could and should be played by librarians to break out of

traditional roles and actively seek opportunities to collaborate with IT staff to better address the needs of the university community.

Sayers (2001) describes the state of affairs in Australia where, by Y2K, at least a dozen Australian universities had integrated library, computing and information technology services. The challenge he found, however, was finding common meaning in convergence of services because some Australian universities had deeply merged the organizational charts and services provided to patrons, unlike others where the "merger" would better be described as mere collaboration between existing library and IT silos. For some institutions, the integration was superficial with existing reporting lines up to a chief information officer. Others have attempted, successfully and not, a full-scale convergence of services in a "one-stop shopping" experience for their students, faculty and staff. Sayers provides numerous examples of implementations throughout Australia and recommends strategies and best practices to help increase the chances of a successful merger. Australian universities, since the late 1990's, have been influenced by the American model of "information commons" which is understood as both a physical and virtual manifestation of a new organizational structure where the information resources are moving rapidly from a print to digital environment. The author concludes with a number of very helpful key performance indicators. Integrated library/IT units should measure their progress in implementing new and additional services and their success in using referral models and tiered technical/reference help. Best practices include a commitment to inclusive planning from the beginning, ongoing training for all staff as a "fundamental goal" and a broad and honest communication strategy throughout the converged organization. The development of a list of core competencies, by the staff of the library and computing centers (rather than supervisors and leadership) can help shape and mold a shared vision for the new merged organization and help empower the staff - both from the library and computing center - to help assure its viability and ultimate success.

Cain (2003) explores the different cultures of the library and information technology/computing centers which can hamper attempts to bring staff together in a combined service unit. Cain's own background is important since his formal academic training is from library school but his professional experience for nearly a decade is

serving as chief information officer for the institution. From his perspective, he helps us understand both sides and he begins with the many points of departure: separate vocabularies for library and IT staff (including the use of jargon and acronyms which, often, hamper communication. Academic librarians often hold faculty rank and earn tenure unlike technologists who may seek industrial certifications such as MCP, MCSE, MCSD, Cisco, and so forth. Librarians have, at minimum, at least one graduate degree from an ALA-accredited school but frequently have another or a Ph.D. and serve as a subject specialist. Cain also points out the gender imbalance in the library/IT worlds: the library is clearly female-dominated and Information Technology, predominately male. While librarianship might be depicted as stable, conservative and hierarchical, the technologists see themselves as creative, flexible and innovative. Turning to how these differences can play out in attempted mergers, the results are fairly predictable: some attempts are successful, others downright failures and many intended reorganizations simply abandoned. For example, Connecticut College attempted a deep merger of services where entirely new teams were formed (e.g. a rare book librarian, web developer and switchboard operator) which required time and buy-in to accomplish. The CIO at Connecticut believed the deeper the merger, the more potential benefit to the college. There was recognition that more ambitious efforts to integrate at a smaller college however, such heterogeneous teams demand more subtle and sophisticated managerial oversight than teams formed along traditional boundaries. Gettysburg College, on the other hand, was an absolute disaster due to bad planning, weak leadership, and an overzealous plan that lacked the benefit of any real organizational support and ownership. The key, according to the author, is to acknowledge cultural differences and channel them in a positive direction. It is also important to look for common ground including a shared understanding that both library and IT staff are perceived, and see themselves to be, "digital advocates" for their campus. The article ends with a suggestion of using the Myers-Briggs Type Indicator to help understand the personalities of librarians and technologists to better communicate and work together towards common goals.

The experience of three chief information officers engaged in the CLIR-CIOs project (Council on Library and Information Resources) provides reasons for integration and a better understanding of the pivotal role played by the CIO (Ferguson 2004). CLIR

organized an informal working group of chief information officers on the topic of IT/library integration and found that colleges and universities, large and small, were implementing or investigating deeper and/or more formal collaboration for a variety of reasons. For example, institutions hoped to benefit from a reduction or combination of service entry points and help desks, remain current with the design and delivery of new services for emerging technology, and creating a new organizational structure more creative and responsive to new forms of teaching, research and scholarship. While senior administration might expect financial efficiencies with a merger, the CIOs were cautious, even skeptical, about any real financial gains to be realized, particularly in the early stages of integration. An effective leader of the merged organization, the authors believe, can help the formerly independent units become more than sum of their parts. The CIO of the new organization must have outstanding communication skills, a desire and aptitude for helping others grow professionally, the ability to transcend the differences arising from traditional views of computing and library services, and have the energy and drive to bring about meaningful change. The CIO may need to secure additional funding during design and implementation for a consultant expert in organization development or business process redesign. Also, members of the new organization might benefit from visiting other campuses to learn more about successful mergers or newly created spaces, like a jointly-managed Information Commons. Finally, the staff may also benefit from additional professional development in such areas as change management, organizational culture, customer service and leadership training.

At Dickinson College of Carlisle, Pennsylvania, a well-considered planning process help ease the implementation of a merged library and computing services environment. Renaud (2006) describes his experience as chief information officer at Dickinson and the lessons learned from his experience as Associate Dean at Connecticut College and applying them successfully at Dickinson. The reasons for merger at both institutions were similar: new demands for improved personal computing support and Internet access to materials for teaching, scholarship and research were straining the capacities of the library and IT departments. As the technologies begin to converge, the organizational structures remained siloed and fragmented. Taking a broader, national perspective, Renaud notes that mergers of library and IT departments remain relatively

rare with about 30 colleges and universities integrating services in the United States. The depth of the mergers is not consistent but, generally the role of chief information officer is now commonplace as leader of the new organizational structure. Whether the CIO should have an IT or library background is a point of controversy, but there seems to be agreement that most of the most pressing issues faced by the CIO will involve budgetary, technical and IT-related issues. The most desired qualities of the successful CIO candidate demand highly developed political and managerial skills because the merged organization needs to be effectively understood and communicated both internally and externally. One of the most sensitive issues, for example, is the variance in salary ranges for IT and library staff. External forces come into play since academic library staff are largely limited to higher education while IT staff can, and often do, transfer their particular technical skill sets to work environments beyond campus. The success at Dickinson stems from a generalist model which casts the staff member, whether IT or librarian, as an information professional able to respond effectively to a wide range of services needed by the students and faculty.

McKinstry & McCracken (2002) take opposing positions about whether or not the collocation of reference librarians and materials in the computer center at the University of Washington's Odegaard Library was a brilliant innovation or a serious mistake. Odegaard is one of the largest academic libraries in the United States and, in 2000, the reference desk and 6000 reference volumes were relocated to the computing center on the building's second floor. The library director, McKinstry, views this collocation of services as a critical next step in providing new and needed services to the university community. McCracken, the coordinator reference services, views the relocation of reference help to the second floor as a step backwards since it takes away from previous services available as students entered the library and increases the chance that students will need to be referred to another location to satisfy their service request. An impetus for relocating reference services to the second floor computing center sprang from the realization that materials, such as dictionaries, encyclopedias and style guides, were being removed from first floor reference and used on the second floor by students at Computer Center workstations. Once the combined service point was implemented, there was a general agreement that reference staff on the second floor had more time to spend with

students, were in close proximity to the students at PC workstations, and were no longer distracted by the numerous directional questions fielded at the former library entrance location. Librarians also noticed that students appreciated having a librarian nearby during research and could ask questions about search strategies, online databases, and citation tools. The new location on the second floor also benefitted the community since fourteen computer workstations were reserved for the general public and reference help was close at hand to answer questions. On the other hand, many of the machines in the reference area did not have productivity software installed, so students were expected to conduct research on the second floor but then move to another computer in a different to begin their scholarship. Also, now that reference had been relocated to the second floor, many of the initial reference questions asked of the front desk staff could no longer be answered on first contact, but required a referral to a reference librarian in a different location. Both authors did agree, however, that certain activities were critical for better cooperation and effectiveness of the combined staff including training, communication, service quality and ongoing assessment.

Wagner (2000) provides details, from a painful first-person perspective, of the abortive effort to merge library and computing resources at Gettysburg College between 1994 and 1997. The idea was borne of university strategic planning and the announcement of the library/computer center merger, as an accomplished fact, was made in email by the Provost to the campus. Immediately, the computer center staff were relocated to the library, a space already too small to properly accommodate the library staff. Hired consultants and a small core team were responsible for the reorganization and, upon reflection, it seemed clear there was little or no effort to build bridges and common ownership for the new merged organization, "Information Resources". The reorganization replaced the traditional departments such as Reference, Circulation, etc. with six new teams that cut across previous organizational lines. The new teams created were Planning, Response, Delivery, Selection, Training and New Initiatives. Some of the teams fared better than others, but generally all of the teams failed to coalesce due to salary inequities between library and computer staff, inadequate cross training, and lack of understanding of previous and newly-created roles and responsibilities. These stumbles were visible to the public and faculty, students and staff began to complain

about the decline in service quality. The author ends by sharing observations that might have helped prevent, or at least minimize, such a public failure: including the entire organization in the reorganization process for a shared sense of ownership, building a common vocabulary and purposively addressing issues of culture between the library and computing, and allowing more time for natural associations and collaboration to grow organically, rather than artificially, within the merged organization.

In "The Impact of Merging Academic Libraries and Computer Centers on User Services", Herro (1998) publishes his graduate thesis and the findings from a survey of chief information officers. Herro surveyed 44 CIOs and fourteen responded (a 32 percent response rate) and found that the greatest difficulty in a merger was the difference in cultures between library and computing staffs. The academic library is well established with a long tradition of professional standards, ethics, procedures and associations with the publishing industry. College computing is roughly forty years old and its environment is best characterized as one of constant change in the face of emerging technologies. Where academic librarians view themselves, first and foremost, as providing a service freely and professionally, computer staff tend to be entrepreneurial in interest and disposition. The CIOs indicated that improved user services was not typically the motivation for a merger of IT and library services. Rather, the new organizational structure sprung from vacancies, management failures or simply the desire to create the new role of chief information officer on campus. The merged organization, led by the CIO, was then expected to achieve economies of scale by cutting costs, improving communication between the formerly distinct units and consolidate budgets and staffing for a more efficient organizational structure. The efficacy of the merged units might be judged by interchangeable use of staff for new and different purposes, a combined help desk, joint training sessions, new information consulting teams, improved integration of technology and curriculum development. The CIOs also noted that the converged organization helped envision and shape the services provided in "one stop information access" space for students, faculty and staff. The author concludes that no specific organizational structure for a merged organization will be universal. Rather, the new structure must be informed by and reflect the particular history, traditions and institutional personality it serves.

Hardesty (1998), supported by a grant from the Council on Library and Information Resources (CLIR), interviewed 40 computer center administrators and 49 library directors to discuss IT/Library mergers. Hardesty, adapting an analogy "men are from Mars, women are from Venus" notes that the cultural differences between library and computing center staff are real and must be acknowledged and addressed. A very real fear, mentioned by at least one CIO is that, without proper consideration and implementation, one or the other will lose out during the convergence. The examples of mismanaged mergers were replete with resignations, early retirements, personnel stress and other characteristics of a dysfunctional organizational culture. Hardesty's conclusion is that the key to an effective organization is not the structure but the staff involved in the convergence and their willingness, engagement and shared vision for the new organization. The pace of change is important too. Rather than move quickly, and artificially, into a new structure, the author suggests allowing time for a gradual cohesion to develop between IT and library staff, while actively seeking opportunities for new and natural partnerships to form, and experiencing shared victories. The leadership needs to grow as well with library directors recognizing the need to develop more technical knowledge and computer center administration building their management and communication skills. Ultimately, the leadership possesses solid leadership qualities, promotes an educational vision and develops effective interpersonal skills to help partner the merged organization with other units around campus. The campus leaders interviewed made special mention of the increasing and unending demands of students and faculty for greater ease and access to information resources. The merged organization is faced with these challenges while balancing the increased costs of technology, rapid digital change (and obsolescence) and, often, decreased institutional financial resources. Mergers don't necessarily save money. One CIO cleverly observed that you cannot possibly save money when combining the old, bottomless pit (the library) with the new one (the computer center).

Johnson (1997) provides a list of over 50 resources, most annotated, which help provide background and planning information for institutions who are considering a reorganization of library and computer centers into a new, merged structure. The introduction notes the drivers for convergence including technology change, automation

workflow, and the institutional desire for a chief information officer position to help address common issues and problems from key service stakeholders (most notably students, faculty and staff) and help guide institutional decision-making on technology issues. The titles may vary for the CIO and include Associate Provost for Information Technologies or Vice President for Information Resources and Technology, and the particular units reporting to this executive also varies from campus to campus. The organizational changes, however, all respond to the changing roles of libraries and computer centers in higher education.

Hwang (2006) focuses on her native Taiwan in her Ph.D. dissertation "Merging Libraries and Computer Centers in Taiwan: Factors Affecting Decision-making". In addition to her primary question about the factors involved in the decision to create a merged library and computer center environment, Hwang also explores where the idea originated, why the decision is necessary and how the decision-making process is conducted. The study found that, for the five Taiwanese universities in the sample, a change of mission often precipitated the change and that most decisions were made top-down in an authoritative fashion.

The August 2007 issue of *Reference Services Review* was devoted to the topic of library and computer center convergence. McKinzie (2007) introduces the topic asking the key question: "how successful are they?". His answer, in brief, is "sometimes". The longer version answer depends on a number of factors that can determine whether the convergence is actually serving their service populations more effectively, whether competent leadership is helping set a course and make corrections as necessary, and whether the new organizations' people and services work well together.

Stemmer (2007) conducted a survey of CIO of institutions with MISOs (merged information services organizations) found four areas that benefited from the MISO model: academic, administrative, institutional and organizational. The academic benefit was manifested by improved technology utilization and information support on campus. The administrative advantage for the MISO was greater organizational flexibility, particularly in the areas of budget and staff planning. For the institution, a merged IS organization could help raise visibility in the community and bolster fundraising and recruitment efforts. The organization benefitted with the emergence of a new

"information professional", a generalist who was able to effectively respond to a variety of client needs.

Ludwig and Bullington (2007) review the impact and effectiveness of the University of Kansas library and IT merger by reviewing the literature, analyzing historical and current user surveys and presenting the results of personal interviews with faculty members and leaders in the merged Information Services organization. The faculty interviewed began with the ongoing research need for access to data through "big pipes" (the campus network) and using "big iron" (high-end computing platforms). The organizational structure was minimized by faculty and their goal was simply put as "its all about the information". It is essential in a learning environment to do everything possible to make access to academic resources as simple and intuitive as possible to help foster the academic and research goals of students and faculty.

A case study of Earlham College in Richmond, Indiana by Baker and Kirk (2007) shares the outcomes of the merger of library and IT staff. New services delivered by the merged organization include mandatory IT orientation sessions for all new students that include instruction on personal file management on the campus network, use of the university course management system (Moodle), and instruction in the campus email system. New faculty at Earlham also receive an orientation that is provided guidance in advanced topics such as intellectual property issues, student plagiarism and a discussion of fair use. The IS group has played a role in the development of an updated copyright policy, overhauled its collection policy regarding digital media, collocated the student computing help and reference desks and deployed a proxy server, through a joint IT/library initiative that facilitates remote access to campus information resources.

A Memo of Understanding (MOU) can help delineate the specific roles and responsibilities of IT and Library staff. Walters and Van Gordon (2007) contend that the well conceived MOU at Indiana University, between the university libraries and the University Information Technology Services (UITS) helped frame the partnership needed to implement a successful Information Commons. While the library and IT departments are not merged, they jointed supported the new Information Commons, so the MOU was needed to address the initial design, evolution, day-to-day joint operations, business practice and future enhancement of the shared Information Commons space. The authors

describe the need to clearly articulate vision and guiding principles, provide definitions for common understanding, ensure services and resources, and provide for governance and management, funding and a review process which included an annual report.

Heid (2007) surveys the IT/library landscape and offers perspectives on the elements of a successful merger and how they can provide immediate and unique benefit to the college campus. First, the author addresses the different service orientations: for IT staff it starts with keeping servers and services up and running while librarians are doing their best to stay current with new, emerging information formats to better service students and faculty. According to the author, library no longer is limited to merely physical place and "IT" involves much more than computer support and when the two, library and IT are married, magic can happen. Granted, this "magic" is best illustrated on smaller campuses but the potential benefits of employing the wide-ranging knowledge and talents of Information Services staff has an immediate and lasting impact on teaching, research and scholarship. At the Gabriele Library of Immaculata University in Pennsylvania, for example, offers a variety of new services are available to students including the loan of wireless notebook computers, flash drives and access to numerous online scholarly databases. The students make use of reference, instructional and technological resources, along with assistance available from library and IT staff, to research, review, manipulate and create sophisticated multimedia projects within the redesigned library space.

MacWhinnie (2003) provides a glimpse into the academic library of the future by focusing on several Information Commons that have been implemented in the United States and Canada. The author begins by declaring that the academic library has not been doomed by technology and that its physical space is still critical for the success of the scholarly and research efforts of students and faculty. Moreover, the demand only increases as trends clearly indicate an ongoing need for additional collaboration and group study space along with individual workspace designed specifically for "knowledge creation." While in the past, IT departments may have supported traditional academic computing needs and library staff focused on addressing reference and scholarly requests, technological advances in course management systems, full text scholarly databases, electronic reserves, and mobile technologies are requiring higher education to reconsider

traditional boundaries and contemplate adaptive space and reorganized organizational structures to keep pace with the change. Information Commons, where IT and library staff collocate to provide merged services, has emerged as a popular response as both short and longer-term solutions. In the short-term, library space has been secured, converted or redesigned to provide the necessary individual and collaborative group space able to support more sophisticated use of electronic and web-based technologies on higher-end computing platforms. Institutions taking a longer view, are considering additions or altogether new academic spaces that meld traditional IT and library functions that recognize and respond to the demands of new technologies and digital scholarship. The most common challenge, however, is not reserving or creating the new space but adequately staffing the Information Commons with a new breed of generalists who can respond to both academic, research and computing needs. The necessary cross-training can be expense particularly when trying to keep pace with technology changes and system upgrades. The author acknowledges that staff and training are crucial issues and suggests various staffing models that include different mixes of professional and paraprofessional staff as well as student help. Two interesting models to consider, at the University of Michigan and the University of Iowa trained graduate students to help address initial client contact and then made referrals to the appropriate second-level support, as needed. The drawback was turnover and new training needed as graduate students completed their studies.

What happens when the library becomes the largest computer lab on campus? This question is answered by Graham (2003) based on her role as Electronic Services Coordinator and reference librarian at Central Michigan University. A building expansion and renovation project at Central Michigan resulted in new library space that included 300 public workstations and another 300 network connections for laptop use. An early decision was made to install productivity software, including the full Microsoft Office suite, as well as CD burners and DVD players on all of the machines. Previously, much of the hardware in the library had been limited to dumb terminals providing access to the library online catalog (OPAC). Now, with little time left for planning and training, the new library space would open and the library and IT staff feared an onslaught of questions about the software which existing staff were not prepared to answer. The

support plan included three tiers. Primary, Tier 1, support was provided by a core group of software support student assistants. These students were required to pass a computer-based test to demonstrate proficiency in MS Word, Excel and Powerpoint at an intermediate level. Tier 2 support was provided by librarians and library paraprofessional staff who could address basic computing questions but were focused on response to reference and library-resource questions. The IT help desk was responsible for Tier 3 issues that could not be resolved at the first two levels. Typically, these were the most sophisticated and difficult computer/networking issues from students, faculty and staff. Fortunately, the IT service center was already located within the library and questions could be quickly and efficiently referred. Over the course of the first semester, staff were surprised by the types of questions presented. Only twenty percent of the questions involved Microsoft Office products, but more than half of the issues reported were linked to new accounts and networking problems involving send and printing documents. Another 15 percent of the questions involved hardware problems and, based on this experience, the training materials and sessions were adjusted. The author ends the article with helpful implementation tips. First, it is critical to hire students who possess a solid technology background but who also have excellent people skills. Second, the software support service should be located in a high-traffic, highly visible location. Finally, plan to review the actual experience of customers, listen to the feedback from staff and be prepared to adapt services and training in the future.

Beagle (1999), with his article, "Conceptualizing an Information Commons", triggered a rash of opinion and commentary on what, precisely, constitutes an Information Commons. Beagle set out the particular identifiers of the conceptual and physical space within a library space and described normative patterns of service that might uniquely characterize an Information Commons. In the merging of services at the University of North Carolina, Charlotte (UNCC), Beagle described a realignment of the formerly distinct services provided by the reference library staff, media services and research data services department. The new model envisioned a "continuum of service" which not only helped to locate and retrieve information for users, but also provided the infrastructure to process, manipulate and repackage this information for presentation in teaching, scholarship, or research. The dedicated physical space in the Information

Commons began with two primary elements: a general information/referral desk and workspace for both individual and collaborative group study. The integrated staff of the Information Commons at UNCC experimented with new and innovative service models moving from a traditional library reference to a referral consultancy. The referral consultancy provided targeted, individualized support which paired the library user with the appropriate staff or librarian resource via a formal referral process. An innovative case manager model was also proposed to ensure the user's needs were met, thoughtfully and completely. The new models of service responded to the specialized needs of library customers and recognized that something new and different was happening in the Information Commons: users were not just retrieving material, but actively engaged in the process of creating new or repackaging older forms of knowledge.

Halbert (1999) presented a case study of the Center for Library and Information Resources (CLAIR), which is a dedicated space at Emory University for library and information technology staff to collaborate in order to better serve the needs of students, faculty and staff. Halbert, responding to Beagle, noted that student use of CLAIR had increased measurably after the introduction of the Information Commons with students visiting more often and spending longer hours at the workstations. Where, previously, students borrowed library material and used it off-site, a new trend in the Information Commons emerged: students began to utilize the robust PCs in order to retrieve and manipulate information, create webpages, and tabulate data, all within the library space. Emory had anticipated needs and was careful to ensure the necessary technical and reference support were at hand and, in the process, created a one-stop experience resulting in noticeable gains in usage of the CLAIR resources.

Tramdack (1999) of the College of New Jersey, also writing in response to Beagle, proposed a broader, institutional agenda for the library and Information Commons. Rather than be confined by physical or historical constraints, Tramdack advocated for a reconsideration of the library with the Information Commons at the forefront. New programs and initiatives led by the Information Commons model had the potential to reposition the library as a hub of intellectual and cultural activity. Taking an expansive view of Information Commons, he suggested that beyond helping users evaluate and select information, the staff and space could also be used to advance student

culture and engage the life of the mind, promote information literacy and lifelong learning, provide a venue for cultural events and facilitate other activities which create learning opportunities in an intimate environment.

An entire issue of Library Hi Tech presented the innovative concepts incorporated in the Lied Library of the University of Nevada, Las Vegas. Church (2005) described the evolution of the Information Commons at UNLV as a work in progress. The staff of the Information Commons keeps abreast of campus-wide initiatives and pursues collaborations with other campus services including the writing centers and student administrative operations such as the Registrar's Office. Space has been reserved in the Information Commons during peak times (midterms and final exams) to provide writing assistance for students. The pilot program proved very successful such that every open hour for student consultation appointments had been filled. The partnership with the Registrar's Office made a bank of personal computers available in the Information Commons during enrollment periods and advertised as "registration express" workstations. These machines were particularly helpful for newly admitted students who did not yet have university security privileges to access other online services. A special authentication was created for the new students to allow them to signon to the workstations and register for classes but, at the same time, provided an introduction to Lied Library and the services available in the Information Commons. The Information Commons in Lied Library also supports the course management software system used at UNLV (WebCT), access to remote library databases, distance education programs and electronic reserves.

Vaughn (2005), also of the Lied Library at UNLV, identifies some of the challenges presented by new and emerging technologies and the role the Information Commons plays in addressing these issues and concerns. First, the professionals who staff the Information Commons are open to change, enjoy learning and helping to produce new information, and have, above all, share a customer service focus. At Lied Library, a recurring theme is the need to continually evolve and adapt to a changing environment. The Information Commons staff are involved in ongoing training to remain current the latest database searching to the basic steps involved in updating the latest anti-virus on the networked computers.

At the Leavey Library at the University of Southern California, the Information Commons implemented successive service models based on customer and staff feedback. Crockett, McDaniel & Remy (2002) note, first, that much of the literature on Information Commons, and the rationale for their implementation, stems from a desire to provide a holistic computing environment for users. They argue, instead, that the goal must be holistic service through an Information Commons which are both transparent and intuitive to the library patron. The service plan was driven by the belief that users have no interest, or patience, with "old-fashioned demarcations" and traditional boundaries between computer support and reference help services. Researching possible physical structures for a new, integrated service model, USC staff conducted a survey of 161 doctoral institutions regarding experiences and opinions about Information Commons. Three possible options emerged: (1) a library that contained a separate computer lab operated independently be the IT department, (2) an Information Commons jointly staff by IT and library staff with limited computing services and separate desks for computing and library questions, and (3) an integrated Information Commons where all staff, library and computing center, work together to provide a shared help desk and support structure. The most notable models, and those most attractive to the planners at USC, were Information Commons at Emory University, Wayne State University and the University of Arizona. A service organization, built around a core group of student computer consultants foundered when feedback from customers indicated that the student helpers had little interest in helping in library matters. USC adopted a new Information Services structure, bringing together the library, academic computing and telecommunications, and agreed that first-level support should be provided by professional staff. To accomplish this, a training plan was crafted for all staff that included productivity tools, web-based applications, and desktop and Internet publishing sessions. Assessing the need, the staff found that, on average each month, there were 2000 computer questions, 1500 informational transactions and roughly 1000 reference queries.

Carla Stoffle, Dean of Libraries, at the University of Arizona has designed an organizational structure that meets the needs of patrons, but is poised to respond to future needs as well. Berry (2002) offers an enthusiastic review of Arizona's new model by first describing the new Information Commons space, a sophisticated Integrated Learning

Center, as well as a complete reorganization of library staff to complement this new facility. The University of Arizona campus recognized a serious campus problem: a high failure rate of the incoming undergraduate class. The library took a lead role in addressing the issue when the new Integrated Learning Center opened with 14 state-of-the-art wired classrooms, a Freshman Year Center staff with tutoring support, advisors and information services. The Information Commons, like the rest of campus, focused on student success. Also, the new building included a "Meeting Place" that hosted collaborative work to work with other students, faculty, peer tutors, and graduate assistants. Most revolutionary, however, was Dean Stoffle's radical reorganization of the library staff. A long-standing hierarchy, with the library dean atop, was scuttled in favor of a model placing library customers (undergraduate students, graduate students, faculty and community) on top with ten self-managed work teams providing core services instead. The flat organizational structure is credited for reducing the number of "turf" battles and leaves the library and management more free to adapt and change as need arises.

In *The Information Commons Handbook*, Beagle (2006) presents three conceptual models to consider: Physical Commons, Virtual Commons and Cultural Commons. The Physical Commons refers to the physical space or that portion of the library which provides digital resources and the attendant technological support to help students, faculty and staff retrieve data, organize and repackage information, and publish scholarship in a self-contained environment. The broader term, Virtual Commons, is used to describe the networked environment that includes fundamental tools such as the online public access catalog (OPAC), indices, electronic databases and the Web. This virtual space is expanding rapidly and now includes Web 2.0 technologies including blogs, wikis, mashups as well as resources such as learning management systems and other collaborative, community-based software applications. The Cultural Commons is broader still and represents the larger context of social and cultural concerns such as free speech, intellectual property, and scholarly publishing.

Breivik and Gee (2006) note that the Information Commons is emerging as a popular organizational response to the change required of academic libraries by their

most demanding users, students and faculty. Short-term planning at some academic libraries has resulted in the conversion of existing space to provide high-end workstations and technical support. Longer-term planning takes the form of entirely new libraries designed to meet current and future needs with easily convertible space, comfortable and movable furniture and broadband, wireless network access throughout. This framework is useful for academic libraries as they adjust to, and struggle to meet, the unrelenting demands of students for 24/7 access to library resources, handheld capabilities, and secure, wireless networks. This puts intensive pressure on a traditionally paper-dependent organization to move quickly into the digital age and, as commentators are quick to point out, it is not whether libraries will change, but how they will change. In addition to providing all current services, academic libraries must also be transitioning to a highly digitized future.

Summary of best practices

Institution	Success factors
Central Michigan University http://www.lib.cmich.edu/	+ A new tiered support model was initiated in the new library building Tier 1: student assistants Tier 2: librarians and paraprofessionals Tier 3: IT Service Desk + Use patterns were studied and services provided accordingly (for example, student help was needed more often in the evenings than in the morning) + Planning and services need to be flexible. Experimentation is critical and be prepared to adapt (with training topics, hours of service, and so forth)
Connecticut College http://www.conncoll.edu/Libraries/	+ A very ambitious integration of services and functions through a merged organization; the guiding principal is "the deeper the merger, the higher the benefits to the college" +A librarian serves as Vice President and Chief Information Officer (CIO) + New teams formed with unusual combinations of staff members such as a rare book librarian, web developer, and switchboard operator
Dickinson College http://lis.dickinson.edu/Library/	+ The formation of a merged organization saw the appearance in higher education of a Chief Information Officer, a position know more commonly in industry. + In order to bridge the cultural divide between library and IT, the CIO's skill set must include highly developed political and managerial skills - The vision promoted at Dickinson was the creation of a new professional, serving as an information generalist, who perhaps had a specialty from previous experience in the library or

	computer center, but who had been well trained and was able to respond to a wide variety of questions and requests for help. + From the information generalist model, assessment was conducted to confirm whether better help was being provided at first contact
Earlham College http://www.earlham.edu/library/	+ New services offered such as orientation sessions for new students and faculty + Improved services regarding intellectual property, plagiarism; updated the copyright policy; created new shared student help/reference desk + New information commons includes: café, writing center, adaptive ADA services, group study spaces
Emory University http://web.library.emory.edu/	+ An Information Commons is the centerpiece of their Center for Library and Information Resources (CLAIR). + Patterns of use are studied and given extensive access to technology; students and faculty tend to use the library more frequently and for longer periods of time.
Gettysburg College http://www.gettysburg.edu/library/	+ Example of an attempted merger gone awry due to bad planning, weak leadership and an over-ambitious and unrealistic reorganization + It is vital to understand and address the cultural differences between library and computing center staff + The groundwork for cooperative library/IT collaboration must include effective communication, inclusive planning, achievable goals and measures for improved services
Immaculata University http://library.immaculata.edu/	+ The library tries to anticipate needs of patrons and has implemented a program where students leave a driver's license or dorm key and may borrow a wireless notebook computer + When saving their work, students may check out a flash drive at the circulation desk just as if they were checking out a book
University of Arizona, Tucson http://www.library.arizona.edu/	+ Complete library organization aiming to provide for more flexible and collegial management system; Radical, flat organization with 10 self-managed work teams + Participated in university focus on addressing high failure rate of incoming undergraduate students + New Information Commons included Freshman Year Center with tutors. + New planning efforts promoted entrepreneurial efforts, and aimed to articulate how the library services and resources adds value
University of Calgary http://library.ucalgary.ca/	+ The planning process matched the goals and mission of their facility with user goals, service goals and a list of implementation recommendations + The planning document for their Information Commons painstaking described a comprehensive list of stakeholders and client groups, along with marketing points to be conveyed to each + The library website makes all user statistics readily available including types of questions asked, number of documents delivered, hours of library instruction. + Future needs identified at Calgary include better integration of technology and expert help, and more trained reference staff
University of Kansas http://www.lib.ku.edu/	+ The library engages in systematic and longitudinal analysis by participating in LibQUAL+ + The merged organizational structure has offered new career opportunities for both librarians and IT staff, particularly in the

	areas of increased user access and the preservation of digital materials.
University of Nevada, Las Vegas http://www.library.unlv.edu/	+ Campus-wide collaboration with Writing Centers, Registrar's Office and other student-centered services + "Registration Express" workstations were configured to not require individual login at the request of the Registrar's Office. Students received expedited service and were introduced to library services at the same time + Library space made available for Writing Center tutoring as students are researching and writing papers
University of North Carolina, Charlotte http://library.uncc.edu/infocommons/	+ Important role of general information and referral desk; which help make use of reference help, circulation desk activities, and computer/technology support + Use of flexible library study and work space from traditional individual study to collaborative conference areas + Resources for distance learning and non-traditional programs; space and services made available to support interdisciplinary studies and faculty development
University of Southern California http://www.usc.edu/libraries/	+ Consider the appropriate role of student computer consultants. Librarians, rather than students, now provide first-tier software support in addition to reference support + Student "navigation assistants" help with general and directional responsibilities and their support training now includes computer assistance geared specifically for undergraduate students + Training for both student help and professional library staff includes productivity tools, internet capabilities, and web publishing services
University of Washington http://www.lib.washington.edu/	+ During renovations of the library building, the library and computer lab service points were combined to create a single help desk + The staff intend to conduct patron surveys to learn, beyond anecdotal information, how students are using the new Information Commons and what additional services are desired + The 356 computers in the Info Commons makes it the largest computer lab at U of W. But the staff are considering "expanded service" which will deploy library and IT resources, together, to the other computer labs located throughout the campus
Xavier University http://www.xavier.edu/library/	+ Mergers of Library and IT are more successful in smaller organizations. Large, research universities tend to rely more on specialists. The generalist model permits deeper integration of services. + Gather metrics to determine whether reallocation of funds is necessary. For example, redirecting money from print holdings to online journals and e-books + The key performance indicators for a successful reorganization include additional services, implementing referral models, and developing core competencies for merged services

SCU Information Services surveys

Development of survey instruments

Originally, two survey instruments were planned: an internal survey for all Information Services staff and a second survey for the patrons. Early in the development of the survey instruments, however, a Public Services Task Force was created and charged with examining the needs of Santa Clara University and making recommendations for a new service point: the Learning Commons service desk in the library under construction. A patron survey was therefore abandoned and, at the suggestion of the San Jose State University faculty advisor, a new instrument was designed to gather input from other universities on increased collaboration between the Library, IT and Media Services. The two surveys, internal and external, went through multiple revisions, were pretested with controlled audiences and took their final form only after review by the project's executive sponsor.

Internal survey development

A survey was designed specifically for the 95 staff members in Information Services who work in the Library, Information Technology and Media Services at Santa Clara University. With the grand opening of the new library building just weeks away and knowing staff time was therefore limited, the first iteration of the survey was a very short, open-ended instrument with such questions as "Describe some of the best services Information Services is currently providing" and "What services need to be improved". After the formation of the Public Services Task Force, however, the survey instrument moved away from customer services to concentrate on perceptions and ideas for enhanced collaboration between the Library, IT and Media Services. For example, the revised survey asked "What new collaborations within Information Services should be explored" and "How do we measure our improved collaboration in the new building". The survey was next discussed with a preliminary focus group in Information Technology and further changes included the addition of questions which did not require

written feedback and also to gather basic data about survey respondents including department (Library, IT or Media Services) and length of service. A web-based instrument was constructed and pretested with the Information Services directors (CIO, University Librarian, IT and Media Services directors) along with the members of the Public Services Task Force.

The feedback from the IS directors and task force was substantial and resulted in a number of revisions in language and format to the survey instrument and the executive sponsor also requested that three additional questions be inserted to collect feedback on the top three services needed by our target populations. Four questions about organizational knowledge using a Likert scale were also added. In total, three sections were designed. The first section gathered perception and experience information using the Likert values Always, Often, Sometimes, Rarely, Never and N/A. The second section provided free-form text fields to yield the Top 3 services or resources needed by Students, Faculty and Staff. IS staff were also asked to suggest new collaborations, how the effectiveness might be measured, and for any other suggestions to improve the organization. Finally, a third section used radio buttons to identify the respondent by department and length of service. At the end of February 2008, the original survey request was emailed to Information Services staff and a follow-up reminder sent in March 2008. The survey request explained that all responses would be kept private and aggregated responses and anonymous suggestions would be shared at a future Information Services Brown Bag session. The public presentation of the survey data was requested by the executive sponsor.

External survey development

A second survey had been developed at the suggestion of the SJSU faculty advisor to gather information and ideas from other institutions on better collaboration between Library, IT and Media Services. The original external survey instrument contained simply four open-ended, free-form questions:

1. From your experience or in your opinion, what are the most difficult challenges faced when merging computing/IT staff with library staff?

2. What are the greatest opportunities made possible by an IT/Library consolidation?

3. What new services should be provided to students, faculty and staff due to this merger?

4. What are some possible measures of progress of an IT/Library merger?

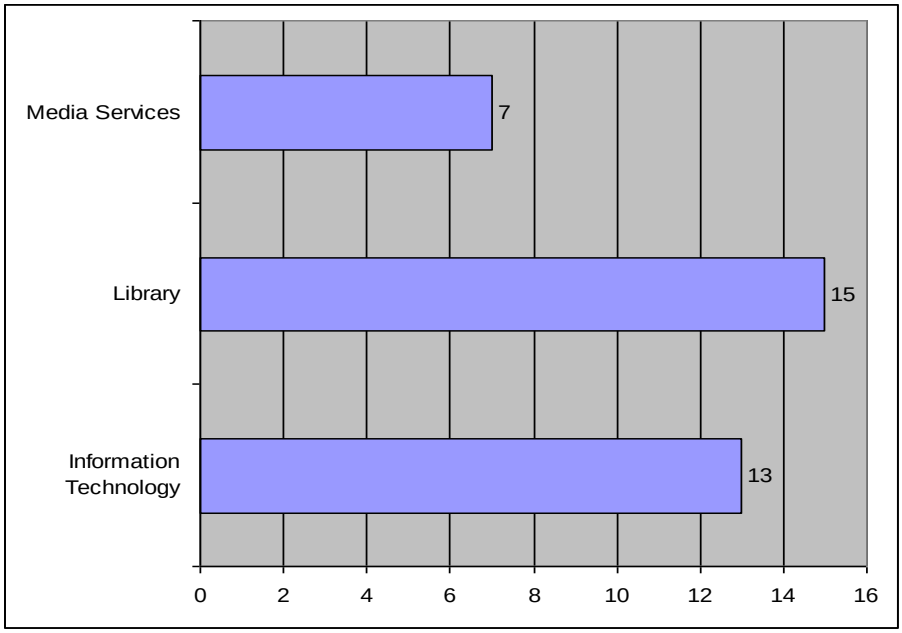
After a meeting with the executive sponsor, a fifth question was added for those colleges and universities that have actually merged operations: "what services provided by the merged organization have proved to be most successful". The external survey instrument was pretested following a regional meeting of CARL (California Academic & Research Libraries) at Santa Clara University in February 2008. At the regional meeting, the survey was briefly introduced and a follow-up email sent to the 20+ workshop participants asking them to complete the draft survey and offer feedback. Roughly ten surveys were received, but many helpful comments helped clarify the purpose and scope of the instrument. Notably, all references to "merging" library and IT services were eliminated in favor of "collaboration" between IT, Library and Media Services. Furthermore, the pretesting feedback indicated a need for more introductory text to better frame the questions pertaining to training and staffing of a shared service point. The final version of the external survey included three sections. The first section asked survey respondents to indicate the level to which they agreed or disagreed with statements on training, appropriate services and the types of questions/issues which are most common at a shared service point. The Likert values provided were Strongly agree, Somewhat agree, Neutral, Somewhat disagree, Strongly disagree and NA. Free-form text boxes were provided in the second section to collect data and gather information on the challenges and opportunities made possible through Library, Information Technology and Media Services collaboration. The third section gathered respondent information including professional background (IT, Library, Media Services), years of experience and a Yes/No question indicating whether the respondent had any prior collaborative experience. At the request of the executive sponsor, an optional field was added to enter email address in case the respondent wanted a copy of survey results. In March 2008, the

external survey was posted to the Information Commons listserv and within 48 hours, over fifty surveys had been completed.

Internal survey results

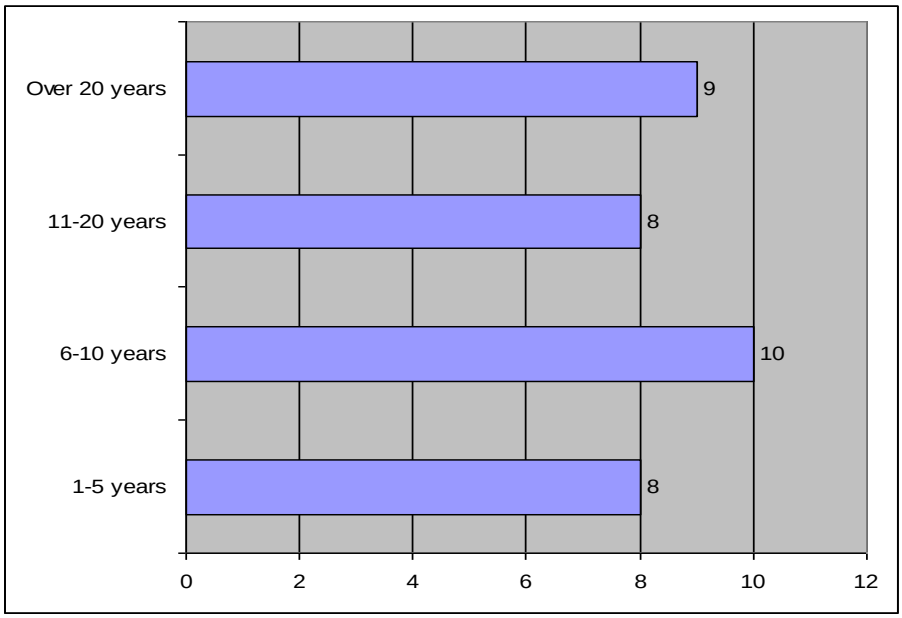
Of the 95 members of Information Services who received the request, 35 staff members completed and submitted the survey. The 36 percent response rate fell short of the target 50 percent goal, but is understandable given the timing of the grand opening of Learning Commons, Technology Center and Library just a few weeks later. The executive sponsor has asked that the survey be repeated a year after the opening to note changes in perceptions, services and collaboration. Chart 1 provides a breakdown of the survey respondents based upon department. Given that more than 50 percent of Information Services staff work in the Information Technology department, the results indicate that the Library and Media Services staff are over-represented in terms of survey responses.

Chart 1: Your Department (of 35 total submissions)



The internal survey also requested years of university service (see Chart 2). The results were fairly balanced for length of service from the newest members of Information Services to the most experienced.

Chart 2: Length of Service at SCU (of 35 total submissions)



The internal survey asked Information Services staff to identify the Top 3 services or resources they believed to be needed by students, faculty and staff. These questions had been added late in the revision process of the survey instrument by the executive sponsor. The comments for STUDENTS were diverse, but certain themes did emerge particularly in the areas of research and library assistance, access to networked systems, and support help for emerging technologies. Nearly every respondent included some form of reference, research or scholarly database help in their free-text answers. The answers included comments such as:

- *Assistance in doing their course-related research (what has traditionally been called reference work)*

- *Information Literacy instruction (how to locate, evaluate, use and create information; how to use the library databases and research guides)*

- Finding scholarly articles on a topic, how to use a database, access to documents in any format, e.g., printed on paper, electronic, held locally or through inter-library loan/document delivery

- Assistance in the finding and evaluating of resources

Students, according to the responses, also depend upon reliable and consistent access to networked systems such as the Novell GroupWise email system and "ecampus", which are the PeopleSoft self-service student functions (e.g. online registration, accept/decline Financial Aid, tuition and fee payments, online transcripts). Given a tendency to forget passwords, students also require help gaining access to the administrative systems, without delay, making self-service password reset functions a very important online service. Survey respondents mentioned student help with Angel, SCU's course management system and also ERes, for electronic reserves. Students, although generally very proficient with handheld technologies and social computing, may require assistance with emerging technologies like multimedia software, digital storytelling, podcasting, and mashups. Wireless support is increasingly needed and mentioned by a number of respondents. Other student needs include physical space for individual and group study/research, laptop and other hardware assistance, and computer support in the residence halls.

The Top 3 services needed by FACULTY focused on supporting their scholarly and teaching activities, use of critical administrative systems and ongoing training in new technologies for use in the classroom. Information literacy and technology support were mentioned often:

- Assistance in integrating information literacy into the curriculum

- Library assistance with information literacy instruction, reference help with their own research, and building a library collection that supports their teaching

- Instructional technology training (workshops and one-on-one instruction) that teach faculty how to teach pedagogically soundly with technology to the digital native. Help putting text-based and analog resources into a digital format for online distribution (including ANGEL training for faculty members); and help and guidance with copyright/author's rights issues

- Help with their online materials/using Angel, passwords, uploading files, etc.; Help with their research from a librarian; Help with technology such as iMovie, Garage Band, etc.

- Bibliographic instruction components for their classes and assistance from reference staff with their research

Survey responses noted faculty reliance on audio-visual and technical support for their classroom teaching on campus, but also remote 24/7 system access, specifically to online full-text journal articles. Anytime, anywhere access to administrative systems like Angel, ecampus and GroupWise were vital to remain in touch with their students and to facilitate academic advising, classroom management and online grading.

The needs of STAFF were more narrowly defined by the IS staff who responded to the survey. Staff members rely on central administrative systems, which are supported by Information Services, to fulfill their jobs on campus. Nearly all responses mentioned, by name, specific systems (such as PeopleSoft and Novell GroupWise) along with more general needs for hardware and software technical support. The feedback included:

- Email and internet access - email communication and the internet to communicate with colleagues and help stay current with their job; University provided computers and software - most jobs probably benefit from computers with a basic software suite these days; Tech support and computer maintenance - staff members may know how to use MS Word or Excel, but they probably don't know about hardware issues, virus protection, etc. things that can stop your job dead in its tracks

- Systems resources and technical support for GroupWise, PeopleSoft Financials, HR and Student Administration; Field support for hardware and software issues at their own workstation; Online or phone technical support

- Reliable easy to use hardware/software, "just in time" technical assistance and technology training for new products and systems; IS staff assistance in locating and using resources

- How to troubleshoot/fix their computers; How to install software; How to find training class opportunities

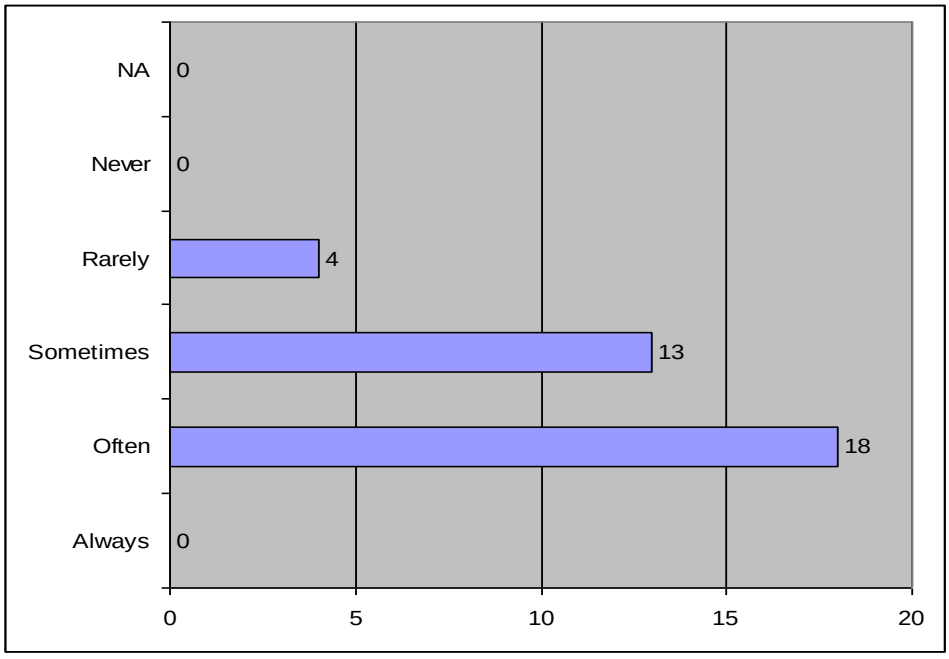
As high-speed connections and virtual private networks (VPNs) guarantee both speed and security from home, telecommuting becomes a growing practice. IS staff noted an increase in technical support for home systems used for business along with assistance for web and teleconferences. Technology training for staff was frequently

mentioned in survey responses and needs to be delivered in a variety of formats: in person, in class and online.

Information Services experience and perceptions

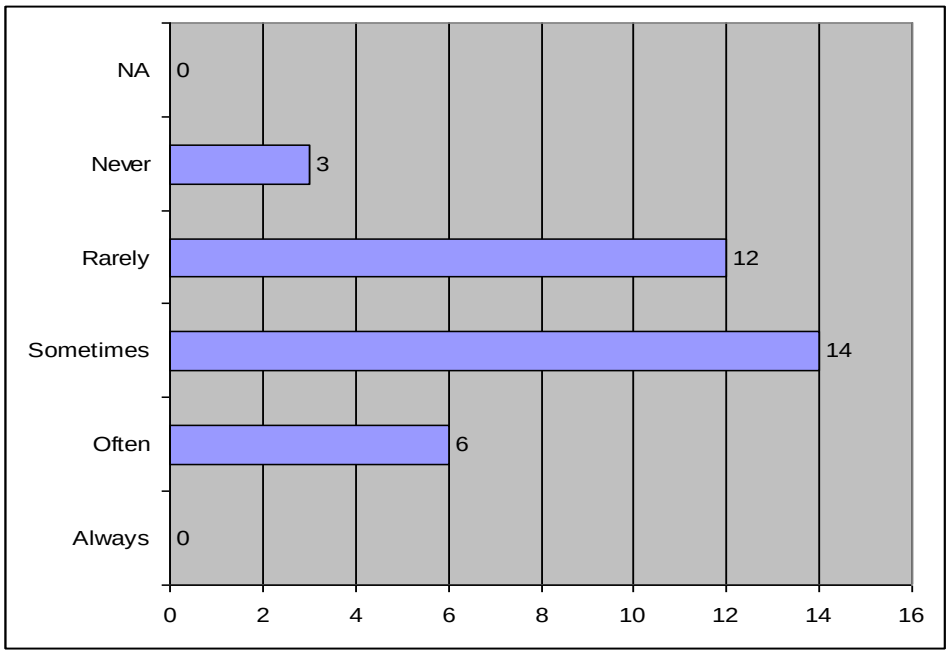
The survey included four questions using the Likert values of Always, Often, Sometimes, Rarely, Never, and NA to best describe the IS staff member's experience and perception. Chart 3 displays whether or not staff could make an effective referral to another staff member or department within Information Services. Of the 35 respondents, over 50 percent (n=18) answered they could make a referral "Often" to the correct person and department. Thirteen believed they could make the effective referral "Sometimes" and four responded "Rarely". These responses indicate a healthy confidence in the individual understanding and awareness of the IS organizational and staffing.

Chart 3: Could you make an effective referral, by name, to the correct person and department within Information Services? (of 35 total submissions)



Staff were then asked how often they were called upon to make referrals to other departments within Information Services. Chart 4 presents the survey responses and a majority of responses indicate they made referrals only Sometimes (n=14) or Rarely (n=12). At the extremes, six answered Often and three responded Never.

Chart 4: How often do you make referrals to staff in other IS departments? (of 35 total submissions)



Believing collaboration is impossible without a familiarity of the work accomplished in the other departments, IS staff were asked whether they were knowledgeable about work in other areas. Of all responses provided in the internal survey, the responses to this question were most evenly divided. The majority of respondents indicated Sometimes (n=13), another ten answered either Rarely or Never and a total of 11 responded Often or Always.

Chart 5: Do you believe you are knowledgeable about the work done in other IS departments? (of 35 total submissions)

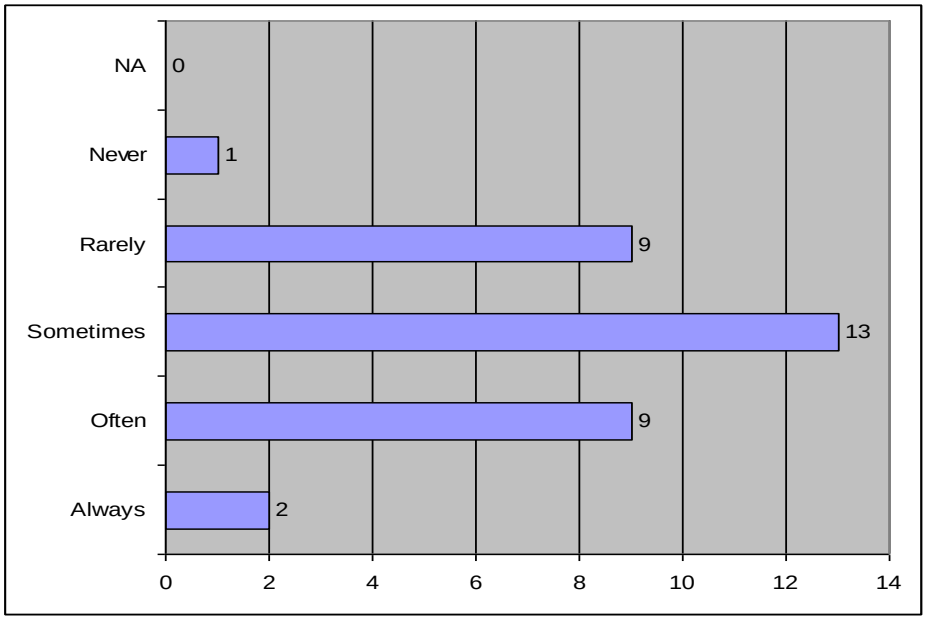
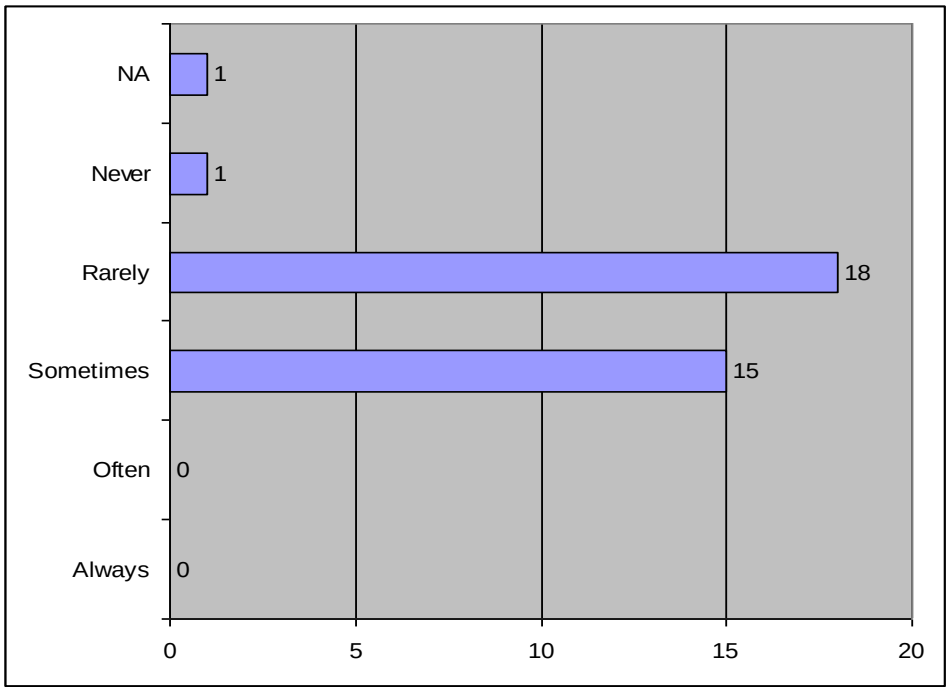


Chart 6 presents answers to the follow-up question whether staff believed that their colleagues in the other IS departments were knowledgeable about their work and that of their department. Fifteen staff responded Sometimes, but the majority answered Rarely (n=18) and Never (n=1). This was the most lopsided of all the Likert questions and indicates a lack of confidence that others in the organization understand their work.

Chart 6: Do you believe staff in the other IS departments are knowledgeable about the work you and your department do? (of 35 total submissions)



The remaining questions posed on the internal survey explored the new collaborations Information Services should consider, how improvement might be measured and, a final free form text box asked respondents to offer any other suggestions as to how Information Services could improve. The responses were mixed, sometimes contradictory, but did yield some promising ideas for better collaboration and indicated a genuine interest in working better together to better serve SCU's students, faculty and staff.

<u>What new collaborations within IS should be considered</u>

The new collaborations proposed for Information Services moved from the general (integrating existing systems) to the specific (a partnership between librarians and software specialists to create mashup guides/tutorials). Celebrations and events were encouraged to bring all staff together in friendly, informal settings while more formal

relationships and partnerships were also suggested. Respondents indicated a need to introduce the roles and responsibilities of the three departments within Information Services to all staff. At minimum, the organizational charts can be emailed to all IS staff to associate names with responsibilities in the Library, IT and Media Services. Other ideas for innovative collaboration were:

- Centralizing all help materials in one website or wiki

- Help services delivered with the minimum of multiple referrals

- Integration of PolyVision and Ad Astra

- IT and Media Services need to integrate existing systems. Library services should be linked with IT resources (ecampus or Novell). The university needs single sign-on and it should start with primary IS systems (Novell, GroupWise, ecampus, Angel, OSCAR)

- Web-based collaborations seem like a natural place to begin. The library, IT and Media Services websites are autonomous and independent but could be reconsidered with the user in mind

- Tutorials/resources centrally available

- Angel/PeopleSoft integration; Help desk integration; Web 2.0 type services for students

- IS technical staff and digital initiatives; strong ties between ITRS (Media Services) and Subject Specialists (Library); consolidation of services, e.g. web, Media Services/circulation desk

- I certainly envision closer working relations with Media Services once we are in the same building, relating to building our media collection, promoting its use in direct classroom support, and also creating new media productions. Also, better front line service regarding IT issues (like "my Novell password in ecampus doesn't work") would be a big improvement. I hate having nothing better to tell students than to go find the IT department on campus and ask them

- Offering combined library/IT/Media training for faculty applications. Offering library/IT/Media collaboration to teach information literacy. Using social networking tools and Web 2.0 to further academic learning

Additional suggestions for better awareness across departments involved the creation of reading and study groups, music and athletic events, and time reserved for staff to visit the other departments in Information Services and to hear a description of

the work done there. This will be particularly helpful once IS staff move into the new building to understand the work involved and to provide directional assistance, as needed. Cross-department teams and ad hoc groups figured prominently in the survey responses. The Public Services Task Force and the Scholarly Communication Task Force were held as examples of teams comprised of members representing all three units within Information Services. More than one respondent described a need to bridge gaps between offices and break down silos.

- Staffing all of the service desks with a contributed model, including special service like 24/7 hours during finals

- I think IS needs to become a higher-profile entity on campus (many in the SCU community not in IS don't know what it is), with each of the three divisions sacrificing its autonomy for the sake of the larger organization. An "advisory board" made up of representatives from all three branches should be consulted every time a big decision is about to be made. The advisory board should consist of non-managers. Members of the three branches should make an attempt to socialize together during and after work. A new Advisory committee should be created to plan extra-curricular events (ballgames, sports, book groups, jam sessions, etc.) There should be monthly "all hands" meetings (lunch provided), led by Ron, where the three Directors would summarize activities and issues from the preceding month, followed by a question and answer session. We need an IS newsletter, blog, or podcast that also keeps us current with events or issues.

- I believe that opportunities for collaborations among the IS groups will surface if the groups have opportunities to work together, communicate their projects, new technology challenges, and are given opportunities to interact and build community. Opportunities for collaboration include having a vehicle for sharing, similar to the IS brownbags where topics from various units can be presented and members from each unit can be invited to participate.

- Working groups have developed over time based on similar functions - these often cross departmental boundaries, and so intra-departmental priorities can be an obstacle. A higher-level project manager in IS could help to give these ad hoc groups a more formal sanction, and aid in managing priorities and resources

Moving under the same roof does not, alone, guarantee the three departments will begin to collaborate in new and innovate ways. Rather, respondents rightly noted that deliberate planning and purposeful action will spur new teams and foster partnerships which seed natural, organic opportunities for future collaboration.

How should we measure our improved collaboration in the new building

The variety of responses to possible measurements of collaboration ranged from the personal ("level of morale"), the practical ("projects that result in improved services") to the farcical ("no fist fights?"). More than a dozen respondents indicated that customer surveys would help gauge our success delivering quality service but, almost as frequently, the success of collaborative team projects was offered. The ability to communicate effectively throughout the organization was also recognized as an indication that Information Services had improved collaboration. Another interesting indicator was the level to which staff began to associate with, and view themselves as part of Information Services, rather than one of the three departments. A couple of respondents described how the informal relationships within Information Services might provide insights:

- Whether we socialize with staff from the other 2 units will be a big indicator. If we stick to our own group, and don't talk to each other in the staff room, that will be a bad sign. Also, do we share the hard-duty shifts?

- Opportunities for building relationships, (number of potlucks, brownbags, Did you know? Events); Celebrations of successful collaborations

There was some urgency to begin measuring collaboration as soon as Information Services takes occupancy of the new library building and specific recommendations to gather data through traditional channels like surveys, focus groups, and direct observation.

- A baseline of services and customer satisfaction should be planned and implemented as quickly after the grand opening as possible. And then, intentionally and methodically, we should track our progress across time and against stated goals.

- First we need to define what to expect to achieve by when. Later, I think we should use a combination of focus groups, surveys, and informal observation. Finally, we should be prepared to change things that don't appear to be working or aren't working very well. I'd like to see a cross-unit group formed to help define what we want to accomplish and the timetable for doing it.

- Goals and specific objectives for collaboration must be set by managers and staff and measuring the success of collaborations would be done as for any objective, by obtaining feedback from customers

- User feedback, not about collaboration, but about how well the building is working. Users don't care if we're collaborating or not, only how seamlessly they can get the help they need… so surveys, focus groups, suggestion boxes, and anything else that works

- Deliverables. What new services or service improvements for students, faculty and staff can we provide by working together? Evaluate based on surveys?

Information Services must plan for a periodic review of services offered and the degree to which collaboration has developed in the new Learning Commons, Technology Center and Library. One of the survey respondents observed that a culture needs to develop where innovative and creative teamwork is rewarded and respected, where information is shared freely across traditional departmental lines, and were projects are deliberately inclusive.

Any other suggestions on how Information Services can improve?

IS staff indicated that there was room for improvement in terms of enhanced communication, training, and relationship-building. Figuring prominently was the need to leverage the proximity of all staff under the same roof where staff can seek help and offer assistance to other IS staff colleagues. IS leadership will play a key role and serve as an example to model effective communication horizontally and vertically. Some ideas for better communication shared in the survey were:

- One possible tool could be to build a Twitter group where IS could communicate in real time, things like software updates, security issues, absences, etc.

- Let's talk face to face instead of emails

- I'd also like to see stronger upper management that helps us make decisions, progress forward, and stay current. For all of IS, I think we could benefit from better communication between the different departments. Right now we all operate in boxes and forget that we're a part of a larger department

- Communication to all IS departments can be improved. Internal IS department communication isn't shared - other than the periodic "all-hands" style meetings.

Frequent communication of department activities will help to bridge the abstract boundaries that may otherwise remain when we're sharing the same workspace. There's a role for a communication manager in an organization of this size.

- Continue Brown Bag lunches. More all IS meetings, or all IS events so we can get to know each other. But structure so that not all library, or all IT, or all Media Services sit/interact only with each other

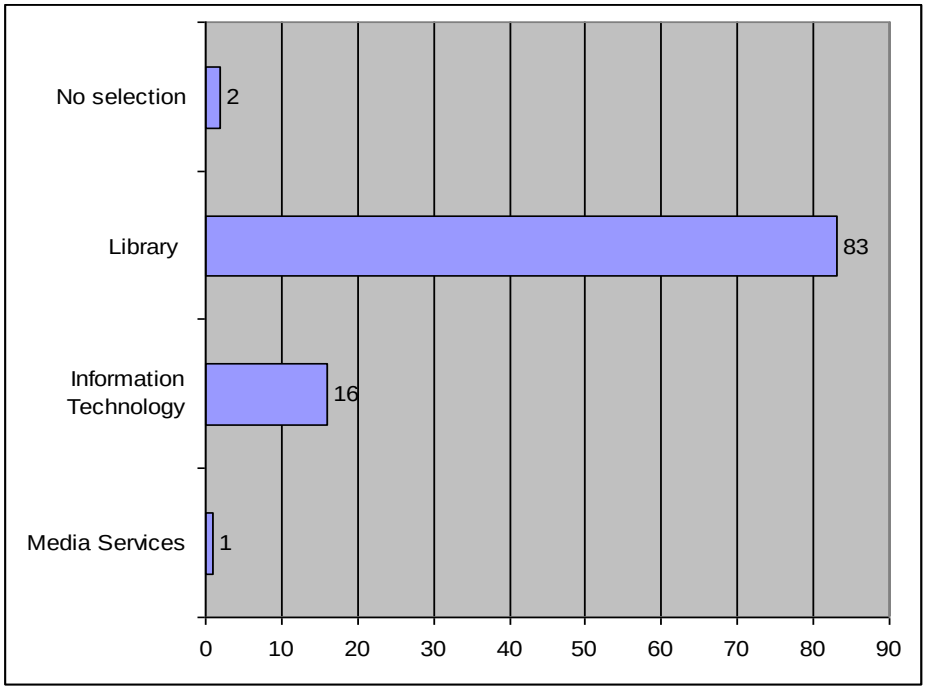
Ultimately, the needs of the end user were identified as most important for making significant progress as the staff collocate in the new library building and begin to work together. The focus, according to one respondent, should be on the most valued services of our customers and we should strive constantly to anticipate and meet their future needs.

The new building is exciting! There will be many informal connections (perhaps leading to more formal collaborations) just by virtue of rubbing shoulders under the same roof. Cross-IS teams should be considered and promoted for new and existing projects. The better we know each other, the more interesting and wide-ranging the possibilities for future shared projects and collaborations.

External survey results

The external survey instrument was posted to the INFOCOMMONS-L listserv in March 2008. INFOCOMMONS-L, is an electronic forum begun in May 2004 that facilitates discussion of the full spectrum of activities in a library Information Commons. Topics have included assessment and evaluation of services, initial funding and budgeting for an Information Commons, developing staff training materials, focus groups, power and data configurations for flexible floor plans, and examples of ICs around the world. Subscribers to INFOCOMMONS-L, generally, work in a range of libraries (academic, school, public, special) as well as a variety of capacities including public services, Information Technology, media services, access services and library directors. Of the 102 listserv members who replied to the external survey, the overwhelming majority (n=83) reported their professional background as from a library rather than IT or Media Services. Results are available in Chart 7.

Chart 7: Your Professional Background (of 102 total submissions)



The external instrument gathered information about the years of professional experience of the survey respondents and whether they had any prior exposure to IT, Media Services and Library collaboration. Chart 8 provides the results of years of experience and indicates that respondents were generally a seasoned group with almost 60 percent of all respondents having at least 11 years of professional experience.

Chart 8: Years of Experience (of 102 total submissions)

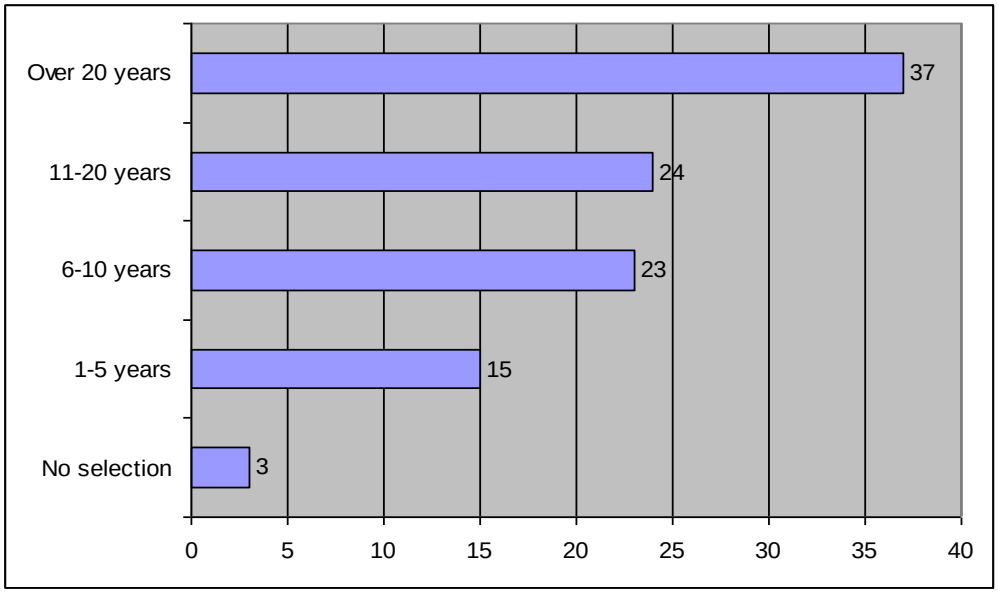
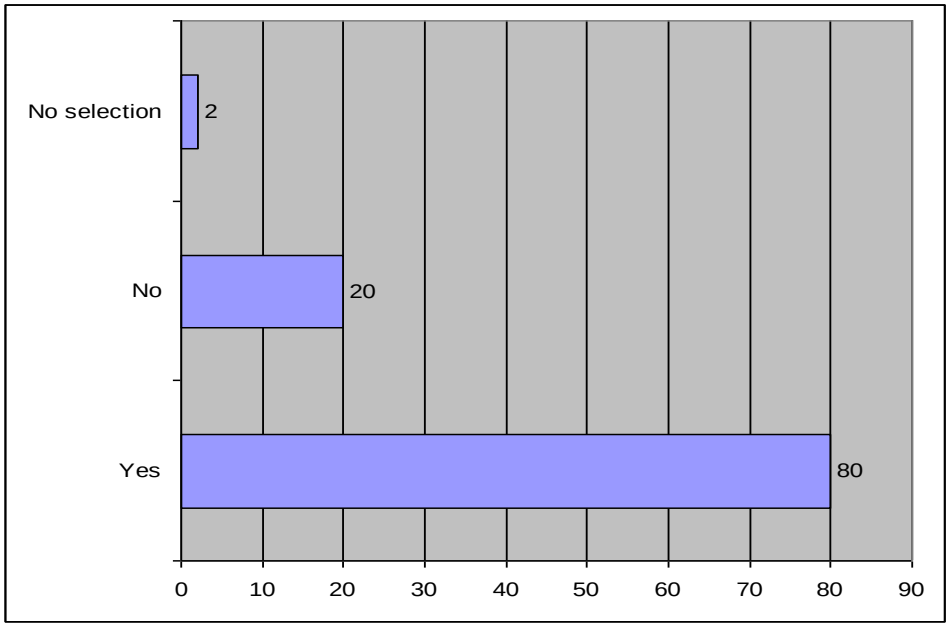


Chart 9 indicates that almost 80 percent of the survey takers had some prior collaborative experience.

Chart 9: Any Prior Experience with IT, Media Services and/or Library collaboration? (of 102 total submissions)



The external survey provided text boxes for free-form answers for the four questions posed on the challenges involved in Library, IT and Media Services collaboration, the greatest opportunities made possible through collaborative efforts, what innovative new services might emerge from working together and ideas for measures to measure the success of the collaboration. Complete results are available in Appendix 4 but below are a summary of responses from which some best practices begin to emerge.

From your experience or in your opinion, what are the most difficult challenges to be addressed with greater collaboration between IT, Media Services and Library staff?

The answers reflected a variety perspectives and experience although certain topics (such as cultural differences, communication, leadership and organization, and training) seem to trigger the most vehement responses. The greatest obstacle for greater collaboration, as indicated by responses to this survey, are cultural differences that tend to divide staff and have a negative impact on the organization's efficiency and customer service.

- We have a shared service area. Culture clash between the two groups is the biggest problem. Communications is the key.

- Cultural differences in the manner in which staff in these departments work. Library folks tend to want to answer questions. IT folks tend to see questions as a failure of their systems.

- Understanding and respecting the different cultures represented by the three groups. The greatest challenge is establishing and maintaining a relationship wherein all have equal voice and decisions regarding service are mutually agreed upon. As time goes on this becomes even more important.

- Overcoming cultural differences and the fear of losing one's turf.

- Cultural difference affecting service philosophy, attitudes, etc.; confusion of patrons re "library" vs other staff.

- Fighting the assumption that doing Reference work is something anybody at any service point can do. Providing good, informed assistance with library reference and research questions frequently does require education and training. Another problem is that IT help desks and reference desks have fundamentally different approaches to their "help". IT

help wants to solve customers' problems fast and move them on, whereas in many reference situations, the goal is to teach and show the customer HOW to do something.

- Territorial and philosophical differences between staff, especially with the professionals.

The cultural differences are not necessarily insurmountable. One respondent suggested that, in order to be effective and encourage collaboration, a new culture must be created. Another thought it important to get over territorial issues. While a third response suggested that while it is most important to recognize differences, the key is taking the opportunity to learn from each other.

Another issue mentioned frequently in survey replies are breakdowns in communication across the traditional organizational lines as well as at different levels of the hierarchical structure. Effective communication can be hampered by the very different educational backgrounds and professional experiences.

- Finding a common language. Library staff tend to not see IT staff as professionals but rather as paraprofessionals. There is a status perceived inequity. This is not usually the case however, as IT staff also have education beyond the BS level - most have advanced IT, project management, etc. certifications which are often equal in the number of hours required for a MLIS, etc.

- Failure of department heads to communicate.

- Our organization has been "merged" for over 15 years. The greatest difficulty will always be communication, both horizontally and vertically.

- We have a shared service desk, staffed by students (technology) and librarians (reference) and IT professionals one day per week. Communication is the biggest issue - making sure everyone is aware of all operating procedures and decisions. Training student workers is another challenge. In particular, training students and IT staff to make referrals to librarians, even if they feel they can answer a reference request themselves.

- Communication is key, along with visible commitment from administration. We mix staffing of librarians and student technical assistants at our information desk -- with higher level technical support on call. This works extremely well for us.

Working together involves a clear understanding of the organization, as a whole, with skillful management and direction provide by the leadership. An effective leader

understands competing interests, overcomes differences, and steers the efforts of all staff involved in the collaborative efforts.

- I currently work in a merged library-IT-media services institution. There are a ton of challenges -- and lots of benefits, too. Often, the "library" side of things tends to get diminished b/c of politics. Much depends on the individuals at the top level of the organization's administration.

- Who is in charge and whose rules are followed. The mission of IT is not always the same as the mission of the library staff.

- Departmental turf battles, power structure (who is in overall charge), petty jealousies.

- Misunderstandings about who is responsible for what - clear expectations.

- Finding a real reason to collaborate. The fact is that there really is very little overlap between what librarians and IT folks do and forcing collaboration is silly.

- Tenure! Who gets it in these situations. IT is generally not considered to be on the "academic" side of things at our University. We are considering such a merger and the librarians are concerned we will lose tenure as a result of a merger.

- The biggest challenge: traditionally, in an IT organization, the help desk is the "lowest form of life" - while in the library, it is one of the highest. The most difficult challenge will be in levering the closeted IT professionals out of their back offices, and putting them in direct contact with end-users. Put them front-and-center, on the spot!
Even better if you can have them stationed at or near their supervisor's office... They will step up to the challenge - or not.

- Money - who pays for equipment and staff? Are costs shared? Agreements in writing?

- IT realizing that the library is a different "animal" than other campus entities and the library doesn't fit into their little box of what needs to be done.

- Finding a common ground in terms of strategic plans, goals, and overall management of the unit. In my experience in both libraries and IT units, libraries tend to be more open, professional, and forward thinking, while IT units are more rigid, closed, and resistance to change.

-Merging of cultures, equitable pay, assigning areas of responsibility, especially at highest rank, cross-training

- At our institution there are different philosophical approaches. The library job descriptions and employment postings specify public service, communication, and

instruction skills. Our IT job postings don't require those "soft" skills. Some of the IT employees don't behave in ways that indicate willingness to help the public. Our library emphasizes teaching and instructional responsibilities. That isn't apparent in our IT department.

Another challenge appearing frequently throughout the survey involved the training of staff across the traditional lines. While intentions to create better customer service by cross-training staff might be commendable, it is important to ensure that patrons are actually better served as a result of the collaborative efforts.

- An efficient and reasonable customer service model for IT is to utilize student employees to be the 1st level of support. Combining reference librarians with student employees at a combined front line service desk is difficult for some library administration and librarians to accept.

- You cannot cross train everyone past the first level of just directing people as it is a specialized world and people have chosen where they are, so they could easily be disgruntled if asked to step into a zone of discomfort. The most difficult challenges will be in knowing how far and when to train people to collaborate without asking them to change jobs completely (unless they desire to do so, of course).

One librarian, responding to the survey, thought it most important for Information Technology to "understand what librarians do". An IT staffer, on the other hand, felt it more important to begin by addressing "the insecurities of the librarians". Steering a middle course, one wit bluntly suggested that the greatest challenge to be addressed with great IT-Media Services- Library collaboration was "the resolution of conflicting egos".

<u>What are the greatest opportunities made possible through this collaboration?</u>

By far, the most visible benefit recognized was the creation of a "one-stop" shopping experience for patrons. Bringing together the talents of library, IT and Media Services staff creates a very convenient and comprehensive service point. At best, it is not just location but a discernable improvement in the quality of services that are now provided to customers because of the collaborative undertaking.

- The students are the biggest winners. With people with diverse skill sets at the information desk, they receive content and technology together in an integrated package.

- It makes life much simpler for students and other users.

- Student service is the best outcome. Students don't care who reports to whom, who is "professional" vs "student worker" -- if we keep this in mind, all are valuable and must make the same service effort.

- Less student frustration, in terms of hardware/software issues and in terms of service points visited.

- Customer service. Single point of service. Less run around for students, faculty and staff.

Students are not the sole beneficiaries. Many survey respondents pointed out that staff also stand to gain in the converged environment. Ideally, staff learn new skills, share insights with others about their own duties and responsibilities, and customers are less likely to be bounced around between departments as issues arise.

- Everyone can increase their skill levels and knowledge; service to patrons can improve; resources can be used more efficiently

- Staff also learn to appreciate the different skill sets that each brings in servicing users at the information desk.

- Because technology is such a big part of the library service, having this collaboration is a huge benefit to the students/faculty because they won't get the runaround.

- One of the greatest opportunities of collaboration is to create a new culture and to think outside the box of traditional library or technology services. In doing so better services are provided through collaboration and creation of a new culture.

- Realizing you, as employee, can have a part in creating a new and efficient concept, and continue to help users, whether in IT, Library, or presentation skills, and also exposure to other things that might beckon your involvement.

- Ideally, the whole is greater than the sum of its parts. Greater collaboration should mean more integrated, higher quality institutional support.

- Better work flow + enabling all staff to help in any area = better customer service. Also, throwing out useless tasks (such as tallies for directional, reference questions, etc.).

We merged 4 service points into one (circ, ref, reserves and help desk) so we became more efficient.

- Catching issues that overlap areas, some tasks become easier, some work arounds may no longer be needed.

- The recognition of the fact that with the advancement of technology and increasing availability of online formats, from a definition standpoint, library and media services can not ignore the information technology aspect of their job duty.

- The opportunity to do work jointly on other related or unrelated projects. E.g., last year an IT staffer was invited to participate in the review of a branch library.

- Staff will learn from each other and will be able to enhance their individual and group skills. Develop collaboration and work on joint projects. Correct errors and troubleshoot problems more quickly.

What new services can be provided to students, faculty or staff because of the collaboration?

A number of new services were proposed that emerge from efforts to work together in new environments and through collaborative teams. A few technical possibilities were suggested:

- Wireless internet access, the building of the Information Commons, reduction of noise.

- Wikis - Blogs - Flickr In other words, embrace the web 2.0 as a model for enhanced customer services.

- From our standpoint, we were able to offer better support for things like scanning and media presentations.

- I see a collaborative service where patrons will demand greater use and services for media/web/graphical production, scientific software, and a variety of printing/copying services.

- Multimedia support; password resets, BlackBoard assistance; printing assistance

- The more powerful/enabled/enlightened the IT staff that will (now) be in direct contact with the end users removes all of the old excuses for not doing things - the end-user is standing directly in front of them. You will find that things are being fixed that you didn't know were broken. In addition, each and every one of your end-users will feel as if the University hired a highly-paid professional to take care of just their issue - which, in

a sense, is exactly what just happened.

The majority of responses, however, considered how the unified efforts of the Library, IT and Media Services could make a direct and visible improvement to the quality of services provided to students, faculty and staff.

- We have found that we can now offer "one stop shopping." A student can get help with writing their paper, help with getting on the network with their laptop, find out how to use Excel formulas, etc. all in one place.

- No one has to figure out who to go to for help. We have one Information Desk, that either helps the customer, or directs them to the correct person.

- Media enhancement for projects, technology help with laptops. Resolution of network issues without having to be referred across campus.

- Integrated security and access to servers and other university systems, less red-tape with access to university wide systems that can integrate with library functions

Integration of library systems and IT systems to enable single-sign on (including online restricted databases). Also, learning styles can be accommodated by having computers in different areas of the information commons (with varied noise levels).

- For students: more services in one place is a good thing. For faculty: instructional technologists & digital library project work is one natural area of collaboration that improves options and services for faculty.

- Integration of information and computing--for example, services to help students and faculty learn to use digital media software incorporate both computing and then information as they add content to their projects that they will use in class or for a professional presentation

- Longer hours of service at the basic to intermediate engagement level. You may not have a librarian or an IT staffer on shift all the time, but with cross training the staff who are available in the evenings and weekends can really enhance the patrons' use of the facility.

There are also ancillary benefits from the collaboration which might have an impact on other important university goals and priorities. For example, an Information Commons might be very attractive to prospective students and help with the recruitment activities on campus. At the same time, Information Commons may collocate student

development and academic support functions which provide the necessary tools, services and physical space necessary to improve student retention rates.

- Biggest thing is a "safety net" -- students can work in your commons confident that help is available no matter what is needed. Next is "one-stop-shopping" - the ability to combine media, library, and technology services seamlessly to support student learning (if a Writing Center is part of this mix, even better).

- Active intensive help with the entire academic research process.

- Beginning to end (research to production) of paper/projects

- Instruction that blends content retrieval and use with data delivery and management systems

- Ideal environment to include writing center, faculty technology support unit, etc.to create a learning center/commons.

- This collaboration provides more resources in many different formats; equipment to facilitate the academic journey; improved interfaces for searching; a welcoming place to find, gather, and use information; and open culture to change and improvement.

<u>What are some possible measures of success of the collaboration?</u>

The most popular, and perhaps important, measure of success for the collaboration is improved service to students, faculty and staff. There were a number of methods proposed to determine customer satisfaction such as use of the physical space (gate counts), use of materials and resources (circulation records), and ultimately whether resources and services available in the collaborative environment had a positive effect on the quality of research and scholarship produced by students and faculty.

- To measure success, look at the numbers. How many people are in the building, how much material is being used (physical and electronic), and how many people do you help. In addition, evaluating the culture change to make sure a new culture was created and one was not discard for a traditional culture of either Library or Technology.

- Patron satisfaction is our best measure, and we measure that by the fact that the facility is packed. Students come, like to come, and are engaged with the information desk (our central point).

- Increased traffic flow; increase in questions asked; use of facility.

- User satisfaction; attendance counts; staff relations. Number of people/questions answered (increase compared to previous semesters?); student satisfaction; staff satisfaction with outcomes

- Initially, students will vote with their feet, and therefore usage statistics will be the first line of assessment. With luck you will then be able to document examples of student success with projects using your seamless support. In the end, it will be faculty who will have to help you determine if the commons contributes to learning outcomes.

- Patron satisfaction; faculty satisfaction with student papers and projects improved information/technology literacy

- Comments on user surveys, number of visits from other institutions, gate counts, login counts.

- Quick response time to student needs. Projects that are created with collaboration between both library & IT.

- Visible outcomes - improved websites, expanded services, etc.
uptime of services and servers, OS and database patch security

- Better enhanced classes within a library environment; better Instructor/Librarian collaboration in teaching lesson plans; better Instructor/Librarian collaboration

- We have seen not only increased gate counts in the library but other output measures have increased including increased resource usage (circulation of paper materials and searches on online resources).

- This is the kind of service where things should be seamless for the users between the need to get library resources and doing the media-related activities while using the available technology offered in the Learning Commons. Basically, users come to use the service, and then leave without any problem.

- Can you help people without referring them to another building on campus? Do library users seem happy with the merge? Are issues resolved more quickly because the two groups are in close proximity?

- *End-user morale, by whatever metric you choose, will go up. Total number of times that any given ticket is handled (as in "hot potato/somebody else's problem) will drop dramatically. It is also entirely possible that student retention may increase...*

- *Increased number of customers due to convenience of resources under one roof.*

In addition to gathering information about patron satisfaction, the survey respondents also regarded noted the feedback from the services providers in IT, Media Services and the Library.

- *Changes in staff professional development plans?*

- *How well staff get along. Number of questions answered (does use of consolidated service point increase), types of questions asked and answered.*

- *Reduction in staff size -decrease in budgets -increase in grants awarded to the unit - more articles and presentations by staff at major conferences*

- *More communication between departments*

- *Number of processes streamlined, duplications removed.*

- *Efficiency. Sometimes savings in staffing costs. Also, on student, staff and faculty surveys there are improved scores for service. I cannot prove it, but it might improve retention as students aren't passed back and forth between departments.*

The instruments for collecting data included traditional qualitative and quantitative instruments. A number of other suggestions were offered, some fairly standard and others rather unorthodox:

- *Surveys, focus groups. We also collect statistics at the information desk -- both reference and technology queries are tallied*

- *This is the hardest area - really the measure is based on the outcomes of the user. - learning goals should be established and measured.*

- *Surveys of patrons to see if they find this collaboration useful and if they actually understand what one service desk is about. Also to see if the staff is happy with the arrangement.*

- Evaluation done by respective directors, hopefully objective. Feedback from users.

- Satisfaction surveys, customer satisfaction surveys, document the number of (and quality of) projects that are completed as a result of faculty, students, staff using the collaborative service. Number of hours service is available.

- Student satisfaction (surveys, focus groups); measures of facility use; service point statistics (question types, who handles which questions).

- Increased library traffic; increased usage of existing services; improved services; development of new services.

- Pre and post customer service surveys.

- Increased donations to library endowment funds by happy alumni. Lib-Qual or similar survey instruments.

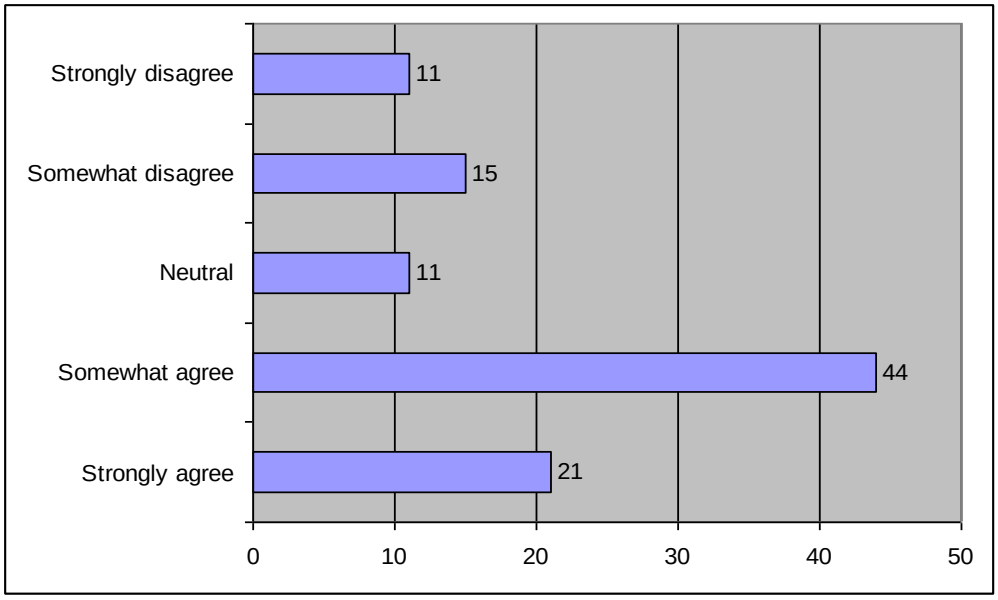
- A librarian not being choked by a cat5 cable, and an IT person not being hit with a heavy book over the head? Which could, of course be filmed by Media services, put on the web, and the collaboration of the librarians and IT to punish the Media Services department for doing so would be true passionate collaboration. Hmmmm.
Moving right along, I would say a survey of service that could be quickly entered privately (turned away from support personnel) into a terminal at the various support desks by users would be good. No more than two questions. Perhaps "is your service experience improved over what it was? Has the speed of your service been improved? And a voluntary only place for comments. Another would be an internal Dept survey of how happy employees are collaborating. With increased user satisfaction and improvement in IT/Library/Media job satisfaction, that would say it all.

The survey instrument also provided a Likert scale with the values of Strongly agree, Somewhat agree, Neutral, Somewhat disagree, Strongly disagree, and NA for seven questions related to cross-training and common questions to be anticipated at a shared service point. The introduction to this section explained that Santa Clara University's new Learning Commons, Technology Center & Library is scheduled to open on March 31, 2008 and will house all IT, Library and Media Services staff under the same roof for the first time. The questions, presented with radio button answers, sought the perspective of other institutions on staffing and training issues as well as the services most needed following the grand opening. The question read: "As a result of the collocation of staff in the new building, we anticipate a need for additional, focused

training to address new questions and issues. Please indicate how much you agree or disagree with the following statement." Charts 10 -16 present the results of the 102 survey respondents for the seven statements.

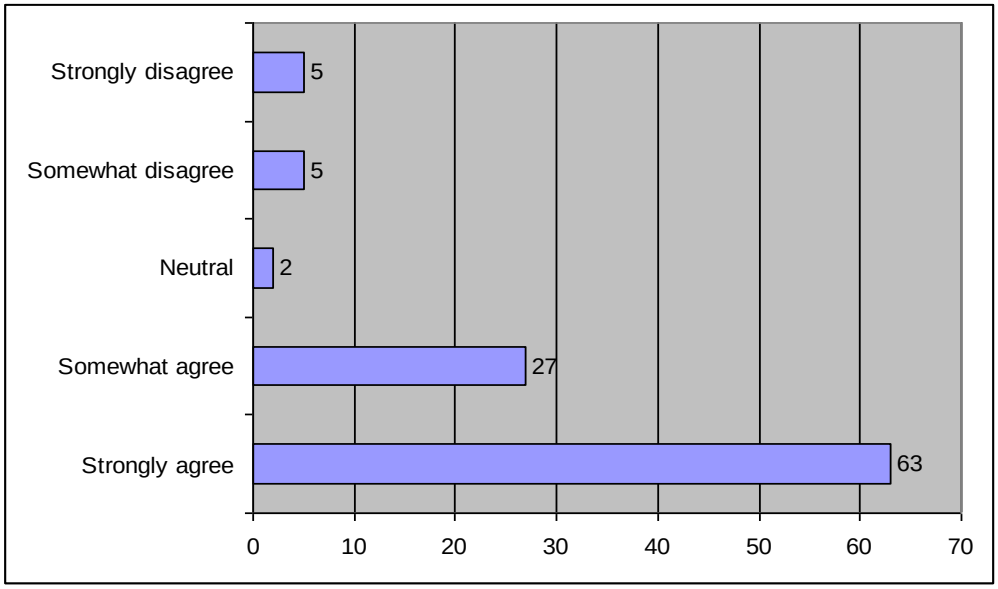
In Chart 10, the answers confirm that staff training is an important aspect of collaborative activity between Media Services, Library and Information Technology. Nearly 65% of respondents somewhat agreed (n=44) or strongly agreed (n=21) with the suggestion that cross-training is essential for all staff. A significant number somewhat disagreed (n=15) or strongly disagreed (n=11) with this statement.

Chart 10: Cross training of all staff is essential (of 102 total submissions)



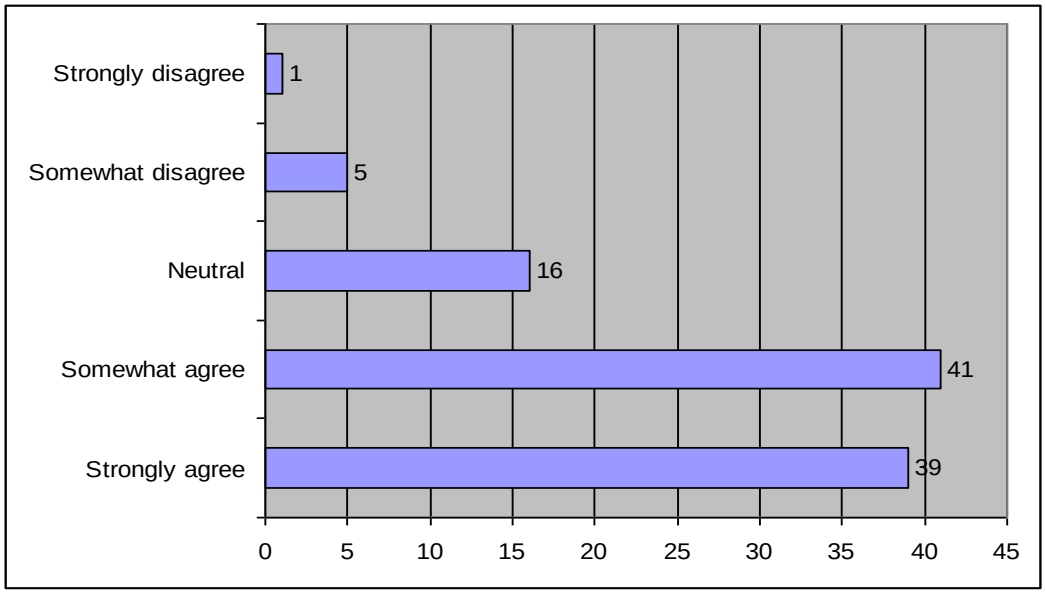
The survey instrument purposely distinguished training of all staff (Chart 10) with those who serve the public (Chart 11). For example, the technical services or acquisitions department in a library or the computer infrastructure and data center staff may have little, if any, contact with the general public. Compared to Chart 10, the results displayed in Chart 11 are dramatic since the respondents strongly agreed (n=63) or somewhat agreed (n=27) for a total of almost 90 percent.

Chart 11: Cross training of staff serving the public is essential (of 102 total submissions)



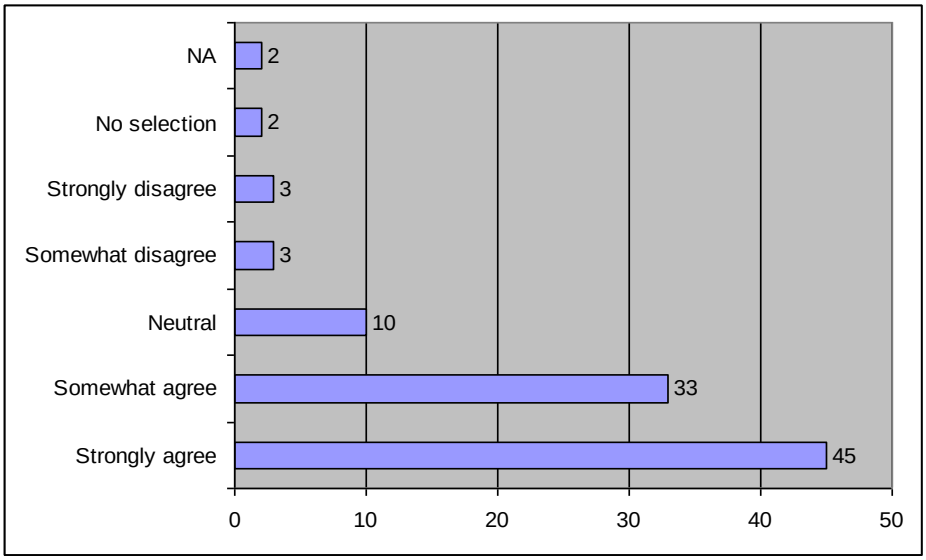
An increasingly common service model uses a referral system to do initial triage and then make an informed hand-off to the staff member best suited to address more sophisticated problems. Ideally, issues are successfully addressed at first contact. In Chart 12, the survey respondents indicated a clear acceptance of this model with nearly 80 percent either somewhat agreed (n=41) or strongly agree (n=39) that a referral system is most effective.

Chart 12: A referral system to designated professional staff is most effective (of 102 total submissions)



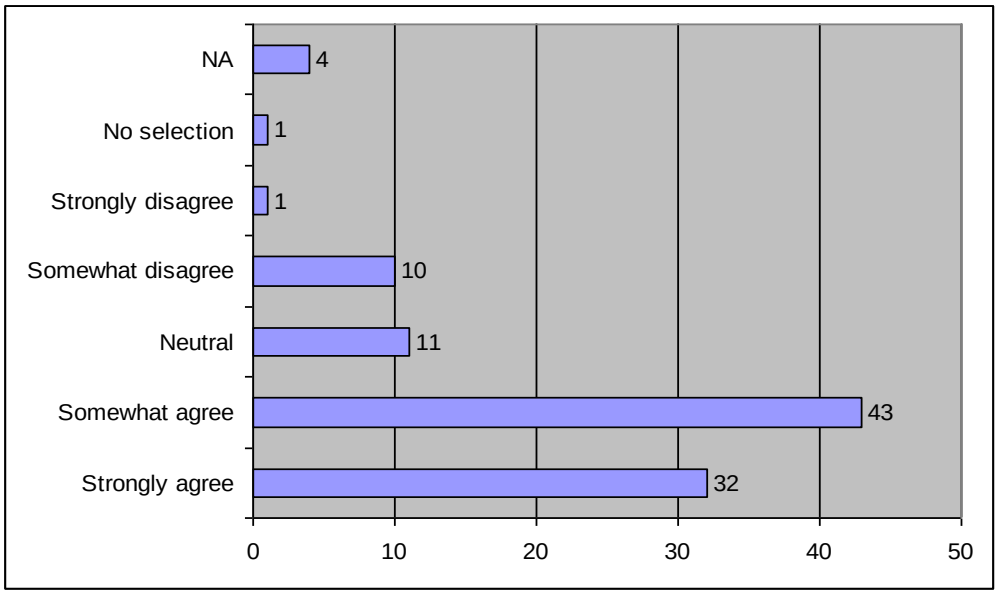
A point of controversy in the scholarly literature is whether the first point of contact with the general public should be a professional, a paraprofessional, or perhaps simply a student worker. According to Chart 13, almost half of all survey respondents strongly agreed (n=46) that trained student help respond well to most basic questions. Another 34 percent somewhat agreed (n=35) and only six percent somewhat disagreed (n=3) or strongly disagreed (n=3) with this statement.

Chart 13: Trained student help works well responding to most basic questions (of 102 total submissions)



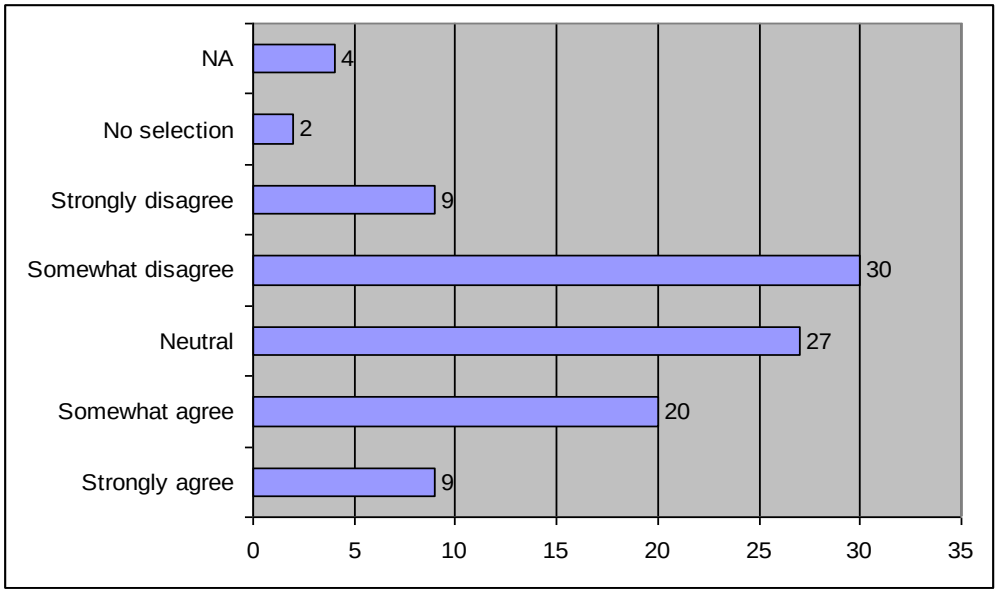
In order to better plan and prepare the training of Library, Media Services and IT professionals who will staff a new shared service point at Santa Clara University, the next three questions were included to clarify the scope of the training based on the types of questions to be anticipated. Chart 14 notes that roughly 75 percent of the survey takers somewhat agree (n=43) or strongly agree (n=32) that general help questions, such as a need for directions, will be the most frequently encountered.

Chart 14: At a shared service point, general customer help/directional questions are most common (of 102 total submissions)



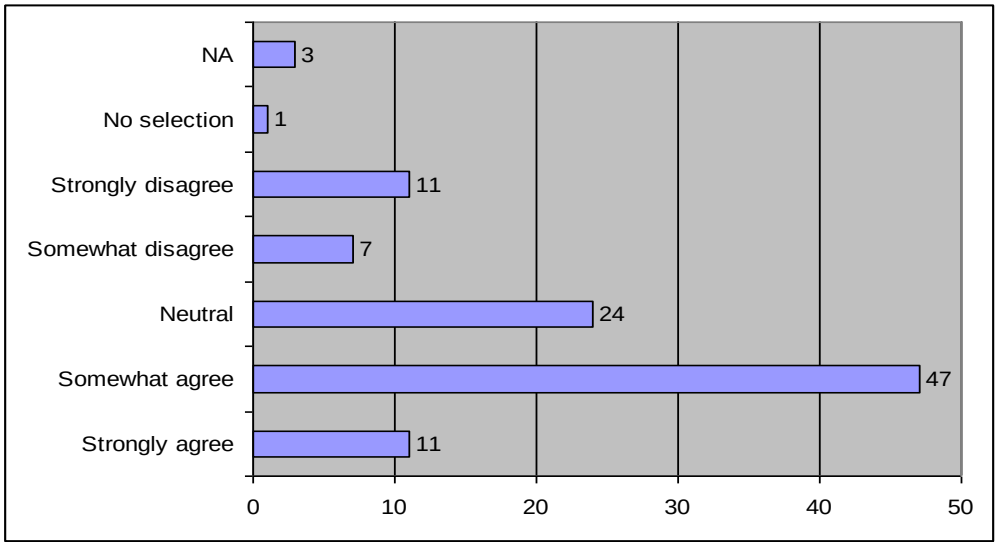
The need for help with library and traditional reference questions at the shared service point were expected less than basic service/directional questions. Almost 40 percent somewhat disagreed (n=30) or strongly disagreed (n=10) with the statement that library and reference questions/issues are most common at a shared service point. Given the strength of this response, one might infer some disappointment from the respondents that their time is occupied more in directional and less with scholarly assistance.

Chart 15: At a shared service point, library and reference questions/issues are most common (of 102 total submissions)



The final graph, Chart 16, suggests that technical support will be a critical element of the shared service point. According to the results, a total of 57 percent of responses strongly agree (n=11) or somewhat agree (n=47) that hardware and software help is frequently sought be the students, faculty and staff at similar service desks at other institutions.

Chart 16: At a shared service point, hardware and software questions/issues are most common (of 102 total submissions)



Recommendations

The recommendations that follow emerge from the best practices literature review and the feedback provided from the internal and external surveys analyzed above. Rather than suggest a comprehensive and possibly unwieldy list of needed tasks and activities, these recommendations aim to be concise, practical, and achievable within a three-to-nine month window of time. Additional recommendations for enhanced future collaboration and improved services will likely surface when implementing the action items proposed.

1. Begin a new strategic planning process.

Update the Information Services planning documents
✓ Review the original but now 10-year old Information Services planning document and update the environmental scan including the analysis of internal strengths and weaknesses and external opportunities and threats. ✓ Seek external review of the updated planning document. At least a dozen members of the faculty and administration should be asked to comment, in particular Senior Vice Provost Don Dodson, who was instrumental in the original IS planning process. ✓ Charter an Information Services Planning Team with representation from the Library, IT and Media Services.

2. Actively gather data on the perceptions, needs, and services demanded by our primary customers: students, faculty and staff. Fundamental questions must be answered: Is the collocation of services in the new building actually serving our service populations more effectively? Is Information Services setting the proper course and making corrections as necessary? Are the combined IS departments (library, IT and Media Services) staff members, and services offered, working well together?

Use a variety of data gathering tools to measure enhanced collaboration and improved service to students, faculty and staff
✓ Continue the work of the Public Services Task Force, with staggered and new representation over time, to measure the success of a new Commons Service Desk and other services provided in the Learning Commons, Technology Center and Library. ✓ Develop customer surveys and online feedback links, conduct periodic focus groups, and reserve time for direct observation of library users. ✓ Construct a repository of all customer service surveys conducted by the Library, IT and Media Services over the past decade. Produce a baseline report beginning with the Grand Opening of the LCTCL regarding services and resources and then track progress across time and against stated goals for enhanced collaboration and service improvements.

3. Organize and schedule events where staff members meet each other, learn about the work of their colleagues in Information Services and how each department uniquely contributes to the larger IS umbrella unit.

Plan formal and informal gatherings where staff interact and learn about the other departments within Information Services
✓ Continue All-Hands meetings led by the CIO where updates are provided and staff are invited to participate, ask questions and offer feedback. Promote activities such as IS Brown Bags where staff become better acquainted with the work of the Library, Media Services and Information Technology. ✓ Arrange informal events like celebration of accomplishments, recreational and sport activities, reading and study groups. These can be equally effective in learning about others within the organization, establishing relationships and working more closely in the future. ✓ Recognize and reward specific examples of enhanced collaboration and new partnerships at IS events.

4. Address barriers to collaboration.

Identify any barriers or potential roadblocks to collaboration; Propose and implement solutions to remove barriers
✓ Understand traditional "cultural" differences between staff (for example, professional jargon) and help create a common language and culture through training and experience working together at locations such as the Commons Service Desk. ✓ Consider an Information Services workshop or retreat where an instrument like the Myers-Briggs Type Indicator is facilitated and types analyzed. ✓ Be sensitive to the pace of change particularly as staff settle into the new Learning Commons, Technology Center and Library and allow time for a gradual cohesion of staff and departments to develop naturally. ✓ Recognizing a tendency to "operate in boxes", managers should be encouraged to lead by example and take opportunities to work with others outside of their own department. Over time, the goal is to break down silos and to be recognized as part of the larger IS organizational unit.

5. Provide ongoing training for Information Services staff.

Create an IS training plan; Develop measures for improved training; Propose ideas for future training and innovative services
✓ Devise and implement a training plan for Information Services which identifies the needs of our key customers (students, faculty and staff) and provides "just in time" training necessary to meet those needs. ✓ Develop a list of core competencies for the staff serving the public. ✓ Consider appropriate metrics for successful training such as improved rate of success at first contact with customers, the number of successful referrals, etc. ✓ Engage the creativity of Technology Training, ITRS, IT Field Support, and other IS staff who currently provide training. Seek new ideas and innovative methods to address service needs and provide training accordingly.

6. Ensure effective communication within Information Services through a variety of channels.

Communication channels
✓ Continue to use GroupWise email and the IS website (such as the CIO's blog) to provide timely updates. ✓ Resurrect the IS Newsletter which updated the university on news and developments within Information Services. ✓ Consider using emerging Web 2.0 forms of communication like podcasting, wikis, Flickr, etc. to enhance and extend communication. ✓ Make full use of the Angel course management system to extend communication while also serving as a repository for agendas, minutes and presentations for IS teams, All-Hands, and Brown Bag presentations.

7. Experiment with new professional responsibilities, partnerships and team collaborations.

Consider experimenting with new professional opportunities that purposely span the Library, Information Technology and Media Services
✓ Identify possible new teams and positions, formal and informal, which will cross traditional departmental lines where knowledge can be transferred, resources better utilized, and new services developed. ✓ Promote "information generalists" within IS who are effectively trained and able to respond to a wide range of questions and requests for help. ✓ Charter an IS working group to gather all Help materials and to then make these available, in various formats, through an online resource available anytime, anywhere.

8. As part of the planning process, explore what success looks like, both for students who we service in person and those making use of our help and resources virtually. For our physical space, we need to discern who is using the new facility, and how? How do our services in person compare to online help and resources? What barriers to access exist for users of our digital materials?

Brainstorm performance indicators of better collaboration and improved service
✓ Articulate how Information Services add value to scholarly, research and teaching activities and solicit input from campus on new and possibly entrepreneurial initiatives made possible by the new facilities ✓ Success in implementing new services and resources. ✓ Interchangeable use of staff for new and different purposes ✓ What are possible metrics to ensure that virtual use of our services and resources is as good, or better, than face-to-face assistance?

9. Outreach opportunities for Information Services through the new Learning Commons, Technology Center and Library.

Campus-wide use of new LCTCL; Integration with other university programs
✓ Partner with the Drahmann Center to make space available for academic support services, tutoring in math and writing, and resources for special populations. Work with Disabilities Resources to review adaptive technologies. ✓ Engage the faculty. Host the new faculty orientation, encourage use of faculty development space and promote scholarly communication and digital initiatives. Assist with curriculum development and consider what role the LCTCL plays in the New Core Curriculum at SCU. ✓ Conduct outreach efforts to the Centers of Distinction, assist with video-conferencing activities; work with Enrollment Management to showcase the LCTCL on campus tours; Invite SCU alumni to reconnect with the abundant resources in the Library and University Archives; Partner with Career Services to make resources available to graduating students.

Conclusion

The Harrington Learning Commons, Sobrato Technology Center and Orradre Library has tremendous potential to be an "indispensable service provider" at Santa Clara University. Very recently opened, the new facility is already proving to be the perfect setting for study groups led by faculty, multimedia creation and presentation, and the "one-stop" experience for research, reference and technical support which inspired the building design and planning process. More nuanced criteria, though, will be needed to gauge whether the formerly disparate staff are actually coming together to work collaboratively, think creatively and serve effectively our key service populations - students, faculty and staff. This study will be repeated at Santa Clara University in twelve month's time to help determine whether Information Services is indeed taking full advantage of the abundant resources and vibrant setting now available through our new facility. The Learning Commons, Technology Center and Library could and should be viewed, rightly, as the very successful realization of a decade's worth of hard work, planning and persistence. But, ultimately, this physical space is not a destination, but just the doorway leading to a new direction of boundless potential which will be realized through continued vision, careful planning, collaboration and the indispensable services it provides and promises.

Annotated Bibliography

Library/IT Merger

Baker, N. & Kirk, T. (2007) Merged service outcomes at Earlham College *Reference services review,* 35, 3, 379-87.

This case study of Earlham College presents the tangible outcomes resulting from the merger of library and computing services. The new services include orientation sessions for incoming students and newly-hired faculty, involvement in policy discussions, and the implementation of a shared computing/reference help desk through a collaborative task force.

Beagle, D. (1999). Conceptualizing an information commons. *Journal of academic librarianship*, 25 (2), 82-89.

This is the seminal article on Information Commons. Beagle introduces the concept of Information Commons and, from this article, sprang a whole body of scholarly thought. Beagle lays out the particular characteristics of the Information Commons in both concept and as physical space located in the library. He also suggests different service models based on the experience at the University of North Carolina, Charlotte. The author helps frame the discussion by describing the external and internal domains of the new Information Commons model. Reviewing the organizational structure, the external domain includes organizational scope, distinguishing features, and collaborative choices and the internal domain focuses on administrative structure, operational processes and human resources. Turning to technology, the external domain reviews technology scope, key competencies and IT governance while the internal domain studies IT processes, system architecture and the general IT knowledge base.

Beagle, D. (2006). *The information commons handbook.* New York: Neal-Schuman Publishers, Inc.

Beagle returns to the topic of Information Commons and presents a manual for implementation within an academic library. Three conceptual models are presented: Physical Commons, Virtual Commons and Cultural Commons. A CD includes additional information, case studies, and policies to consider during the planning, design and implementation phases. The handbook explores a range of topics from a rather cursory review of the history of Information and Knowledge Commons, the convergence with information literacy, library strategic planning. There are particular insights shared for

public libraries, details for implementation and assessment, and an exploration of end user needs and services.

Berry, J. (2002). Arizona's new model. *Library journal,* 127, (18), 40-42.

This is an enthusiastic review of Dean Carla Stoffle's new organizational structure at the University of Arizona Libraries. By combining services, forming ten teams and inverting the organizational structure to put customers on top, the author believes that Arizona is responding creatively, effectively, even radically, to the current and future needs of students, faculty and staff. The new physical spaces that came out of extensive planning and building activities included a new Integrated Learning Center (ILC) that provided physical spaces for teaching, information technology, library service, counseling, collaborative work and study as well as individual study space for both students and faculty. A new Information Commons provided 24-hour access to computers, multimedia and high-speed network connections supported, at the point of service, by technology, research and reference services.

Breivik, P. & Gee, G. (2006). Higher Education in the Internet Age: Libraries Creating a Strategic Edge. Westport, CN: American Council on Education/Praeger Publishers.

The authors describe the relevance and efficacy of the Information Commons model in the modern academic library. In the short term, existing library space has been converted into pilot Information Commons but longer term space allocation and building plans should consider the many benefits available to students, faculty and staff through a well designed and conceived Information Commons. The "Google Challenge" is particularly interesting for consideration by academic libraries. This challenge takes the form of the ultimate promise of Google to:
- make an incredible array of research available to everyone, anytime, anywhere
- digitize materials at no cost to libraries or their users
- preserve resources in danger of physical harm in a digital format
- save academics and other scholars time & money by not needing to travel to other libraries or borrowing through interlibrary loan services
- generate revenue for publishers through better search and cooperation with commercial vendors to make new and used books, journals and articles available for sale

Cain, M. (2003). The Two cultures: Librarians and technologists. *The journal of academic librarianship,* 9 (3), 177-81.

This article explores the different cultures of library and computing centers including separate vocabularies, gender distinctions, salary structures, etc. It is critical for leadership to acknowledge cultural differences and channel them in a positive direction. In a digital age, the blurring of traditional IT/library roles will continue so their shared work must be understood and organized in a complementary, not

confrontational fashion. The skillful manager of a merged organization will seek common ground and, according to the author, this might take shape as a virtual library. The campus technologists are critical for the implementation of virtual services through their mastery of network solutions, internet access, servers, workstations and other administrative and learning management systems. The librarians are likewise essential and bring a clear understanding of research practice, scholarly resources and a thorough knowledge of intellectual and curricular needs of students and faculty which help specify the requirements of virtual help and resources.

Church, J. (2005). The evolving information commons. *Library hi tech*, 23 (1), 75-81.

Church describes the interesting and innovative outreach efforts made by the Information Commons staff in the Lied Library of the University of Nevada, Las Vegas. The new services have included partnerships with the writing center and Registrar's Office which provide "just-in-time" services to new and continuing UNLV students. The software and hardware requirements of library users was also considered and resulted in changes to the services offered. The "research only" workstation was eliminated in favor of public access computers which included standard desktop utilities, internet access and productivity software (e.g. Microsoft Office).

Crockett, C., McDaniel, S. & Remy, M. (2002). Integrating services in the information commons: Toward a holistic library and computing environment. *Library administration and management*, 16 (4), 181-86.

The authors describe the changes in service delivery at the Leavey Library at USC in Los Angeles, CA. Lessons learned from initial service models in the Information Commons led to changes and improvements in staffing and training. The merger of IT and Library was not without issues and problems to be resolved, but some practical steps are provided to help design and implement a successful transition plan. Ultimately, the efforts at the Leavey Library are not to be providing holistic computing but rather holistic service for their Information Commons patrons. These services must be transparent and intuitive and require substantial and ongoing training for all staff that help serve the public. Different models of Information Commons are considered: a library which contains a computing lab, an Information Commons with some, but limited services, and finally a fully integrated Information Commons which aims to address the full range of customer needs. This third model is the goal of planning efforts at USC.

Ferguson, C., Spencer, G, & Metz, T. (2004). Greater than the sum of its parts: The integrated IT/library organization. *EDUCAUSE review*, May/June 2004. Retrieved March 1, 2008 from http://www.educause.edu/ir/library/pdf/ERM0432.pdf

The authors, all chief information officers at their respective institutions, offer a rationale for the integration of services and than provide insight to the dimensions of that collaboration. These dimensions include:
- administrative responsibilities, governance structures, and merged budgets
- physical space where services and functions are combined and shared; offering room for others in the campus community
-collaborative or operational coordination of projects, financial resources and delivering services jointly
- cultural dimensions examine how separate organizational cultures can work together, develop joint values, and a shared leadership philosophy, and a unified service model. The authors conclude by describing the qualities of senior administration which can help guide the transition towards an integrated IT/library unit and how an effective CIO can ensure a successful implementation.

Foster, A. (2008). Strains and Joys Color Merger Between Libraries and Tech Units. *Chronicle of Higher Education, 54* (19), A1.

A front-page story on the challenges faced by Xavier University in Cincinnati before, during and after merging their library and technology units. These initiatives are most common at smaller colleges, where a chief information officer is appointed and often a new library/computer center is planned. The vision of the CIO is to provide services which are seamless, highly satisfactory and self-driven by library patrons. Xavier is working towards "Organization 3.0", a new model which envisions a Learning Commons to be completed in 2010 as well as a sophisticated web portal which currently provides a wide variety of web resources for the campus community. Research papers will be added to this portal and form the basis of an institutional digital repository. The new organization includes a Discovery team and a Content Management team. Discovery provides the majority of public services including technology support, research assistance, and checking out print material and computer hardware. The other team, Content Management, is responsible for collection development activities, cataloging and the creation of the institutional repository and other digital initiatives.

Fulton, T.L. (2001). Integrating academic libraries and computer centers: A phenomenological study of leader sense making about organizational restructuring. (Doctoral dissertation, Pennsylvania State University, 2001). *Dissertation Abstracts International*, 62, 12A.

Graham, K. (2003). When the library becomes the largest computer lab on campus. *College & Research Libraries News,* 64, (7), 462-468.

This is a report on the staffing and training challenges at Central Michigan University after the opening of a new library building with 300 public computer workstations in addition to another 300 network connections for notebook users. The

original training plan and the later adjustments to that plan are presented. The author shares a number of practical tips for other institutions facing similar challenges:
- hire students with a technology background AND people skills
- locate a software support service desk in a highly visible location
- be flexible and experiment.

Halbert, M. (1999). Lessons from the information commons frontier. *Journal of academic librarianship*, 25 (2), 90-91.

This is a case study of the Center for Library and Information Resources (CLAIR) at Emory University in Atlanta. This Information Commons facilitates scholarly research and the production of multimedia projects, with help available from library and technical staff, all provided in a one-stop experience.

Hardesty, L. (1997). Relationships between libraries and computer centers at liberal arts colleges. Council on Library and Information Resources Research Brief, 2. Retrieved September 16, 2007, from http://www.clir.org/pubs/research/rb2.html

Hardesty, L. (1998). Computer center-library relations at smaller institutions: A look from both sides. *CAUSE/EFFECT*, 2 (1), 35-41. Retrieved September 16, 2007, from http://www.educause.edu/ir/library/html/cem/cem98/cem9817.html

The author conducted over ninety interviews with library directors and computer center administrators to better understand the challenges and opportunities involved in a converged IT/Library organizational structure. He investigated the rationale behind the mergers, found examples of good and bad mergers, and those which after some period of time, had just reverted, quietly, to more traditional organizational structures. His research uncovered an emotion that can rise to the surface during mergers between libraries and computer centers: fear. Often, there is a fear that one of the two departments will lose out during the convergence. Also noted were the by-products of poor mergers: resignations, early retirements, personnel stress and other characteristics of a dysfunctional organizational culture. The author concludes that an effective organization is not necessarily based on one, ideal structure but rather how involved and engaged the staff is in ensuring its success. In addition, the pace of change can have much to do with the eventual success of the merger. Rather than move quickly and, perhaps, artificially into a new structure, Hardesty suggests allowing time for a gradual cohesion to develop between IT and library staff, while actively seeking opportunities for new and natural partnerships to form, and experiencing shared victories.

Heid, S. (2007). Culture morph. Campus Technology, 6/1/2007. Retrieved March 1, 2008, from http://www.campustechnology.com/article.aspx?aid=48247

Heid's article highlights the many positive outcomes made possible by an Information Technology/Library merger. Many case studies are presented including Immaculata University in Pennsylvania, where IT and library staff work together to help students use high-end hardware and software to create sophisticated multimedia presentations of their scholarship and research. The focus at Immaculata is anticipating and meeting student and faculty needs. The library has implemented a wireless notebook borrowing service, flash drives are available at the circulation desk and the old CD databases were long ago replaced by online scholarly databases that are accessible anytime, anywhere.

Herro, S. (1999). The Impact of Merging Academic Libraries and Computer Centers on User Services. CAUSE/EFFECT, 22 (3), Retrieved February 2, 2008, from http://www.educause.edu/ir/library/html/cem/cem99/cem9938.html

Herro's graduate thesis is based on a survey of 44 chief information officers and their opinions on the factors that influence a successful merger of library and IT units. The author notes that, ideally, the merged organization helps develop and deliver improved technology training, supports hardware, software, networking and telecommunication, and provides research and technical assistance. By merging units, it should become clearer to the patron where to go for service and the institution may save revenue by reducing redundant staff, time and multiple service access points.

Hwang, C. (2006) Merging libraries and computer centers in Taiwan: factors affecting decision-making. Unpublished doctoral dissertation, Emporia State University, 2006.

This Ph.D. dissertation is based on research conducted in Taiwan which explores how the decision for a merged organization tends to be made and the cultural influences that influence the process.

Johnson, D. (1997). Merging? converging? A survey of research and reports on academic library reorganization and the recent rash of marriages between academic libraries and university computer centers. *Illinois Libraries*, 79 (Spring 1997), 61-63.

This is an annotated bibliography of over 50 titles focused on the challenges involved in a library and computing center merger. The annotations are brief and generally helpful and represent the experience of colleges from across the United States. No international case studies are provided.

Lippincott, J. (2005, January 31). *Defining the Information Commons at Santa Clara University*. First_workshop_morning_with notes_0131.ppt

This Microsoft Powerpoint presentation helped facilitate a discussion of the goals of the Information Commons planned for Santa Clara University by a consultant from the Coalition for Networked Resources, Joan Lippincott. The workshop helped identify priority activities for the Information Commons such as individual and group interaction space for both faculty and students, a consolidated service point that could serve both reception and concierge functions, and provided integrated access to new technology and high-end software. The new space should be designed to foster collaboration with a video/teleconferencing center, training and tutoring facilities as well as informal socializing to promote patron acceptance and usage.

Lougee, W. (2002). *Diffuse libraries: Emergent roles for the research library in the digital age.* Washington DC: Council on library and information resources.

Ludwig, D. & Bullington, J. (2007) Libraries and IT: are we there yet? *Reference services review*, 35, (3), 360-78.

The authors study the University of Kansas library and IT merger through a brief literature review, analysis of user surveys and LibQUAL+ results and personal interviews with 17 faculty and Information Services leaders at Kansas. While concluding the jury was still out, the researchers found that the merged structure offers possible new career opportunities for both librarians and IT staff, and can help evolve traditional roles in the effort to provide better access and preservation of digital materials.

MacWhinnie, L. (2003). The information commons: The academic library of the future. *portal: Libraries and the Academy*, 3, (2), 241-257.

The author reviews the implementation of several Information Commons in libraries across the United States and Canada. Insights are provided based on the vision, mission, unique features and strengths and weaknesses of the spaces created. The author believes that the academic library is not doomed by technology but rather opens up a variety of opportunities for increase access and use of library materials and resources. In particular, there is a trend towards cooperative learning which makes the group collaborative space in the library all the more useful and valuable. This, and the fact that trained staff is present to help individuals or groups locate materials, help guide research and provide the technological infrastructure for creating very sophisticated multimedia productions secures the library's place on campus. The new demands on libraries, however, have required a serious reconsideration of staffing models, appropriate training and a reconfiguration of services to ensure that users needs and expectations are met. The author's analysis of the Information Commons model is useful

and her table of existing Information Commons implementations which includes staffing models and notable features is particularly helpful.

McKinstry, J. & McCracken, P. (2002). Combing computing and reference desks in an undergraduate library: a brilliant innovation or a serious mistake? *Portal: Libraries and the academy*, 2 (3), 391-400.

This is an interesting point/counter-point discussion by the library director of Odegaard Library at the University of Washington and the library's coordinator of reference services about a new, combined service point. The authors present their perspectives on the advantages and disadvantages of the new service point for students, patrons, and the community. Now that the shared service point has been created, though, there is acknowledgement that no real assessment has been conducted and the only feedback, to this point, has been anecdotal. The questions they wanted answered include: Was it a good idea? Do students like it more? Are we providing reference differently? Are we providing better service? How can we tell? The staff intend to pursue answers to these and other questions through a series of surveys to their key customers, undergraduate students, graduate students and faculty.

McKinzie, S. (2007). Library and IT mergers: how successful are they? *Reference services review*, 35, 3, 340-43.

This is the introductory article for an entire issue of Reference Services Review which is dedicated to the topic of library and computer center mergers. Unlike a business where profit is the chief metric, the author proposes that the ultimate goal driving a merger should be superb Library and IT collaboration that serves students and faculty effectively.

Moltholt, P. (1985). On converging paths: the computing centers and the library. *The Journal of Academic Librarianship*, 11 (5), 284-288.

This is a relatively early argument from the mid-1980s, by a librarian, for increased cooperation between library and computer staff. The focus of the article is on improving the user experience through better indexing, conversion of print material, improved access, security and reducing acquisition costs. The creation of an index or thesaurus might be just a perfect project which utilizes the professional skills of librarians and computer programmers. Likewise, both librarian and IT professionals have an interest in converting print materials into an electronic format, and both can play important roles in moving such a project forward. Finally, providing access to resources and materials is another critical area where librarians and computer professionals are natural allies. Librarians well know the needs and habits of

information seekers and IT professionals keep current on the latest technologies which provide access to a range of materials in an anytime/anywhere world.

Renaud, R. (2006). Shaping a new profession: the role of librarians when the library and computer center merge. *Library administration & management*, 20, (2), 65-74.

The author describes the successful merger of services at Dickinson College where careful planning, effective communication and a commitment to a generalist model helped better serve the students, faculty and staff of the institution. Metrics for success included responsive and comprehensive service delivery to patrons and the delivery of new, innovative services by cross-functional project teams. Two very real challenges for the merged organization are governance and leadership. The author believes that the library must be firmly situated in the academic life of campus. At the same time, the IT department might traditionally be located under Administration and to find a leader comfortable in both worlds is challenging. The CIO role, borrowed from private industry, is becoming more common in higher education and many chief information officers in higher education bring a library background. In order to ameliorate some of the cultural tensions created by IT and Library mergers, the author suggests that the CIO have highly developed political and managerial skills.

Sayers, R. (2001). Open relationships, de-facto marriages, or shotgun weddings?: the convergence and integration of libraries and computing/information technology services within Australian universities. *The Australian library journal*, 50 (1), 53-71.

This article provides a detailed analysis of converged library and Information Technology services in Australia higher education beginning in the mid-1980s. Sayers provides numerous examples of implementations throughout Australia and recommends strategies and best practices to help increase the chances of a successful merger. In particular, time and care must be taken in a merger to avoid the appearance of a "hostile takeover" by one department over the other. The author suggests that regular interactions between the converging staff are vital, both formally and informally, during the period leading up to the integration. These interactions might promote the sharing of skills, or the design of future services. Another suggestion is to work on interactions that might help better understand the language and jargon used by others to avoid confusion or misunderstandings. Ultimately, the goal is to promote a shared environment of mutual understanding, respect and trust.

Stemmer, J. (2007) The perception of effectiveness of merged information service organizations. *Reference services review*, 35, 3, 344-59.

Stemmer surveyed CIOs and found four key benefits from a MISO (merged information services organizations): academic, administrative, institutional and organizational. The most notable benefits identified in the study included improved technology and information support, greater flexibility in budgeting and staffing, and the emergence of the new "information professional" able to serve in variety of capacities.

Tramdack, P. (1999). Reaction to Beagle. *Journal of academic librarianship*, 25 (2), 92-93.

The author suggests that the Information Commons concept is too limiting. Rather than confine the activity of the Information Commons - in particular the collocation of research and technical support in a specified area of the physical library - the library as a whole should be recognized as a hub of campus intellectual and cultural activity.

Vaughn, J. (2005). Lied library @ four years: technology never stands still. *Library hi tech*, 23 (1), 34-49.

The author addresses the personal and institutional challenges of never-ending, emerging technology and how that impacts the staff development orientation of the Information Commons personnel. Staff remain current through ongoing training and, during the recruitment process, care is taken to identify candidates who are comfortable and challenged by learning new tools and information resources.

Wagner, R. (2000). The Gettysburg Experience. In Hardesty, L (Ed.), *Books, Bytes, and Bridges, Libraries and Computer Centers in Academic Institutions*. (pp. 164-177). Chicago: American Library Association.

This book chapter recounts the abortive effort to merge the library and computer center at Gettysburg College in Pennsylvania. The project seemed doomed from the beginning due to a remarkable absence of institutional planning or any attempt to build internal understanding and support. The author provides some lessons learned including the importance of building a shared sense of ownership, a common vocabulary to help insure effective communication and the need for informed and active leadership to respond to issues and help articulate a compelling vision for the new organization.

Walters, C. & Van Gordon, E. (2007) Get it in writing: MOUs and library/IT partnerships. *Reference services review*, 35, 3, 388-94.

The authors describe the implementation of an Information Commons at Indiana University, Bloomington and the benefits of executing a Memo of Understanding (MOU). Since the library and IT units are separate at Indiana University, the time and effort

needed to articulate the vision, services, administration, management, budget and review of the new undertaking in the form of an MOU was critical to help ensure success.