T. Peter Ramsey. Social Networking Services: Library Collaboration 2.0?. A Master's Paper for the M.S. in L.S degree. July, 2008. 64 pages. Advisor: Jeffrey Pomerantz

This paper describes an exploratory study to examine academic librarians' perspectives on using social networking services for inter-library collaboration. The study used semi-structured interviews to provide rich data for investigating where academic librarians are currently cooperating using social networking technologies and how they feel about using virtual social and professional tools to build and maintain collaborative networks. Before reporting on findings, the paper briefly examines the history of academic library collaboration, the current application of social networking services in business and professional settings, and some of the contextual, social, and technological factors affecting collaboration online. The proposed study illuminates many of the current networking and knowledge sharing practices in the academic library community, with an eye toward improving those services using social networking technology to track and leverage connections between librarians.

Headings:

Online social networks.

Library cooperation -- United States.

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SOCIAL NETWORKING SERVICES: LIBRARY COLLABORATION 2.0?
A qualitative study examining academic librarians' perception of virtual social and professional networks as vehicles for collaboration

by
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Introduction: the virtual information environment

Between January 23 and February 8, 2008, five high-speed Internet cables off the coasts of Egypt and the United Arab Emirates were severed. Speculation abounds as to the cause of the damage, but according to reports the number of users affected surpassed 60 million in India, 12 million in Pakistan, 6 million in Egypt, and almost 5 million in Saudi Arabia (Zain). The massive disruption of Internet services to India and the Middle East brought many business transactions in the region to a halt and slowed—or stopped—computer-mediated interactions with the rest of the world (including the massively international customer service operations in India). The disruption of workflows at the loss of Internet connectivity and the rapid spread of the speculative buzz demonstrate how modern society has become reliant on the availability of computing technology and virtual connection. This "virtualization" is now a fact of life in both professional and social settings.

Virtual communication has always been about human connection and collaboration. People are fundamentally social beings, both in our private lives and in our professional interactions. Work and play have always benefited from social interaction, and especially from long-term cooperation. While not every personality or profession is able or willing to connect to the same degree, the tendency to partner with others is strongly evident in librarianship. Jack Maness posits, "Much of libraries' role throughout history has been as a communal gathering place, one of shared identity, communication, and action" (2006). Indeed, academic librarians have a long history of cooperating with others to accomplish tasks.

In a 2005 paper, Sarah E. Thomas emphasizes several challenges faced by academic libraries as society moves into the virtual information environment (4-5). She argues that researchers increasingly prefer online information sources that are accessible in convenient locations and formats, and at minimal (or no) cost. Thomas indicates that research faculty seldom begin projects by looking at the library catalog, even when the catalog is conveniently available online. Instead, students and researchers want easier databases, online and full-text journal access, and digitally delivered multimedia materials (from primary source material to geospatial data). For librarians seeking to respond to these challenges the situation is aggravated by economic pressures confronting academia—pressures that continually force libraries to not only justify expenditures, but also compete for funding with other units within their institutions. Given the societal and economic challenges facing librarianship, Thomas contends that libraries must expand their collaborative efforts to successfully navigate the transition.

Given the societal and economic challenges facing librarianship… libraries must expand their collaborative efforts to successfully navigate the transition.

The major purpose of this research paper is to examine the application of social networking services (SNSs) to collaboration in and between academic librarians. Before the applicability of the SNS-based suite of tools can be tested it must be determined how librarians are approaching collaboration using available technology. This study will explore the problem from two angles. First, it will investigate where academic librarians are currently cooperating and what tools they are using. Second, it will seek to uncover how academic librarians are using and feel about using SNS tools to accomplish

collaborative tasks. More precisely, the purpose of this research is to answer the following research questions:

- On what specific tasks are academic librarians already collaborating?
- What particular tools are they using to perform these tasks and keep track of collaboration partners?
- How do library practitioners generally feel about SNS-style collaboration? Of the major factors that influence adoption of particular tools, which are most relevant to librarians?

Libraries: a history of collaboration

Axelsson, Sonnenwald, and Spante provide a basic definition of collaboration as "human behavior among two or more individuals that facilitates the sharing of meaning and completion of tasks with respect to a mutually-shared super ordinate goal" (2). This definition neatly divides the concept three ways: individuals, collaborative tasks, and shared goals. Julie Todaro more thoroughly discusses the formal and informal words used by librarians to conceptualize work-sharing practices. Beside careful definitions of outreach, cooperation, liaison, and facilitation, Todaro draws from Merriam-Webster's definition to identify collaboration as "a formal process that includes working jointly with others 'especially in an intellectual endeavor'" (140-141). These definitions

Collaboration:

"Human behavior among two or more individuals that facilitates the sharing of meaning and completion of tasks with respect to a mutually-shared super ordinate goal"

"A formal process that includes working jointly with others 'especially in an intellectual endeavor'"

highlight core reasons why collaboration plays such a vital role for academic librarians and—more generally—educators. Deliberate collaboration in academic libraries focuses its participants on shared intellectual end goals and makes those goals more attainable, all while appeasing the natural human inclination for social connection.

An examination of the history of and literature about academic library collaboration reveals considerations and criteria for appraisal of collaborative partnerships, the partners in library collaboration, and the types of work on which librarians have traditionally collaborated. By examining where and how librarians already collaborate, this analysis will provide a foundation for evaluating tools used in academic library collaboration.

Appraising academic library collaboration

In order to examine library collaborative efforts, several key questions should be asked. What factors motivate library partnerships? What situations make these partnerships succeed or fail? And who else has a stake in library partnerships?

Julie Todaro tackles the issue of library partnerships in her article on library community collaborations. She describes the scenarios in which collaborative partnerships provide the most benefit (see side bar at right). She then argues that the best collaborations occur when partners emphasize the importance of structure and organization, vision and mission, flexibility over time, multi-medium communication (face-to-face but also using "emerging and existing technologies"), sustained high levels of activity and learning, overt planning, results-producing, and effective communication and dialog (138). In the article, Todaro points out several reasons for collaborating, among them: maximizing resources, providing new or improved services, image

management through outreach and marketing, and problem solving (143). In describing some of the potential benefits of collaboration she contends, "Collaborations *must* provide benefits to all collaborators and partners either sooner or later." Some of the benefits she lists include increased support for the library (from grassroots and civic groups to library volunteers to trustees), an energized library staff with new skills and sometimes more jobs, increased funding, and an expanded communication system (144-145).

Collaborations are created when…

…There appears to be no one person or group responsible for the issue;

…it doesn't seem possible to solve the problem or address the situation by just one group due to magnitude, lack of knowledge, or amorphic nature of the issue;

…there is a high cost of solving the problem or addressing the issue;

…and/or it is important to have a large number of people involved to educate and have a good buy-in to the process.

Source: Todaro (138)

In an analysis similar to Todaro, the SILS master's thesis completed by Haley Hall in 2006 provides broad guidelines for analyzing the effectiveness of collaborative partnerships. Hall discusses some of the motivators for library collaboration (for example, rapid technology changes and decreasing funding). He introduces factors that influence the results of collaborations, including equality of collaborator roles, passive versus active participation, staff involvement, and community perception of benefits of collaboration (2). Hall also points out the significant stakeholders in library collaborations: library directors and administration, library staff, the population served by the collaboration, and the partnering organization or institution (14). These stakeholders play a variety of important

roles in library collaborative partnerships and should be kept in mind when analyzing library collaboration.

Partners in academic library collaboration

Partners in academic library collaboration include a variety of individuals and groups. Most often, these partners are other librarians, either affiliated with the same institution or representing other institutions. Other core partners include faculty and researchers, academic support services and administration, outside vendors or service providers, and donors and friends of the library.

Partners in Librarians' Collaborative Tasks

- *Other Librarians*
- *Faculty and Researchers*
- *Academic Support Services and administration*
- *Outside vendors and service providers*
- *Donors and Friends of the Library*

When working with other librarians, collaborative partnerships occur between not only individual librarians, but also organized groups of librarians such as consortia and associations. Both individual and group partnerships can be formal or informal, depending on the specific nature of the challenge or project being addressed. In a paper examining information seeking behavior in academic communities, Lars Seldén reveals that in most disciplines researchers—and especially well-established academics—prefer informal sources of information over more formal searches, seeking to leverage their built-up social capital (200). When seeking information and working with one another, librarians often forge and utilize the same sort of informal connections. In the frequent cases when informal connections prove inadequate, academic libraries and librarians use formal arrangements such as committee

work, consortia, agreements, and memoranda of understanding. Indeed, academic librarians occasionally seem obsessed with team-based approaches to problems.

As essential as inter-librarian collaboration may be in effectively approaching academic librarianship, it is typically cooperation with faculty and researchers that justifies librarians in the eyes of academia's decision-makers. Precisely capturing the importance of strong librarian-to-faculty collaboration, James Neal writes

Effective faculty relationships are essential to the success of the academic library and contribute in powerful ways to entrepreneurial opportunities. Faculty, as researchers, are among the primary consumers of library collections and services. They also produce, as editors and authors, the scholarly literature that is acquired by the library. Their teaching activities and course requirements determine the nature and intensity of library use by students. Faculty occupy positions of administration and policy leadership which influence the financial and political status of the library in the institution. The same faculty are increasingly involved as advocates and partners in the development of the digital library. (8-9)

Interestingly, the challenges inherent in connecting with faculty are often exacerbated by the aforementioned tendency of researchers to prefer informal connections over formalized ones. Talja notes that most researchers in her study used librarians only for beginning research in a new area, perceiving librarians as having less-useful general searching skills rather than specialized knowledge (8-9). This challenge echoes Axelsson's point that librarianship is inherently multi-disciplinary and thus inclined toward generalized techniques rather than the subject specialization expected of faculty researchers (2).

Neal's argument in favor of deliberate collaboration with faculty leads to the third set of partners in library collaboration: administrators and academic support services. In this category appear such entities as institution-level administration, campus information technology, legal counsel, alumni relations, development offices, fiscal services, human resources, public relations, not to mention student-focused organizations such as student unions and writing centers. Librarians frequently collaborate with these groups on any number of important tasks and events.

Outside vendors and service providers constitute the fourth group of partners in library cooperation. Collaboration in these situations is typically formal, involving contracts and diligently prepared agreements. Collaboration with publishers, vendors, and specialized service providers has existed for many years, but has gained new urgency with technological advances and a move toward electronic delivery of scholarly publications.

The final group of partners in academic library collaborative activities consists of various types of friends of the library and donors. These partners play a central role in building library collections and supporting library activities. While much of the work by librarians concentrates on attracting financial donors, this work can still be characterized as collaboration in that it seeks to address a common vision or "mutually-shared super ordinate goal" (Axelsson, 2).

In summary, the individuals and groups involved in academic librarian collaboration include other librarians, faculty and researchers, academic support services and administration, outside vendors and service providers, and donors and friends of the library. Conspicuously missing from this selection are students. While students do

occasionally partner with librarians in collaborative ventures, this involvement typically occurs as a result of other partnerships (particularly with faculty and academic support services) and can more easily be grouped with these partners rather than separated out.

Collaborative work of academic librarians

Having identified the partners involved in library collaboration, it remains to be seen on what tasks and functions academic librarians have historically collaborated. I recently asked a librarian friend on what tasks she collaborates at work, only to hear, "most of my work is networking." Indeed, even in areas of library work where tasks are performed in isolation, librarians have collaborated in determining processes and standards of practice. However, one cannot merely state that all library work is collaborative in nature; some classification is required.

Categories of Collaborative Tasks Engaged in by Academic Librarians

- *Exchanging information*
- *Sharing resources*
- *Sharing services*
- *Performing work-related projects*
- *Establishing rules for description and standards of practice*

Todaro identifies exchange of information, resources, and services as the main categories of library collaboration efforts (141). James Kopp updates the list to include performing work-related projects and establishing rules for description and standards of practice (10). I will use all five categories as broad groupings under which to aggregate specific tasks.[i]

Information Exchange

In the area of information exchange fall small-scale collaborative activities, including informal idea exchanges about concepts and technologies, and also formal

activities like authorship of articles, blogs, and, presentations. At a larger scale, this category includes information exchanged about libraries' holdings and practices, as with union cataloging efforts and the gathering of nation-wide comparative statistics.

The increasingly comprehensive coverage of library holdings provided by the Online Computer Library Center (OCLC) echoes the collaborative project that began with the first publication of the National Union Catalog in 1901 and the Union List of Serials in 1927. This trend has culminated in OCLC's World Cat database, which incorporates lists of the holdings of over 60,000 libraries in the United States and 112 foreign countries and territories (About OCLC).

The origins of perhaps every consortia ever founded included some consideration of the value of careful statistics collection and analysis. One of the clearest examples of broad statistics collection occurs in the Association of Research Libraries (ARL), which has been collecting comparative statistics about research libraries since the early 1960s. The ARL statistics piggybacked on work started by James Gerould in the first decade of the 20th century. By collaborating to provide, collect, and analyze statistics, libraries are able to stay up-to-date on practices and changes in the broader library setting.

Resource Sharing

The resource-sharing category of collaborations includes interlibrary loan and reciprocal borrowing arrangements, cooperative collection development efforts, and cooperative resource management programs.

Interlibrary loan has its roots in the late nineteenth and early twentieth century push to make library resources more available to public patrons. In 1917, the American Library Association (ALA) established an interlibrary lending code, which was enacted

in academic libraries two years later. The lending code and the practice of interlibrary loan have shaped academic library collection decisions, allowing individual institutions to specialize in certain disciplines without fear of losing access to other resources. Similar in many ways to interlibrary loan, reciprocal borrowing generally appears as a formal arrangement between two or more sister institutions—usually geographically proximate—and deals with expedited material exchange and document delivery services. A prime example of a reciprocal borrowing arrangement exists in the Triangle Research Libraries Network (TRLN), between the libraries at Duke University, North Carolina State University, North Carolina Central University, and the University of North Carolina at Chapel Hill. These libraries allow patrons at any one institution to check books out from other institutions, and deliver requested books within 48 hours of request submission.

Along with many other consortia, the TRLN partnership emerged first (in the 1930s) as a way to facilitate cooperative collection development and cooperative resource management. Due to the close proximity of the institutions, it made sense to de-duplicate collection efforts and to share resources, particularly related to low-use materials. Other major cooperative collection development and resource management programs began in the middle of the last century, including the Farmington Plan (initiated to collect international resources), the Midwest Inter-Library Center (now the Center for Research Libraries), and the Council on Library Resources (which also supported European libraries after World War 2). More recently, consortia have addressed shared problems related to technology infrastructure and electronic resources management.

Each of the above efforts—and most others—made use of government funding and sponsorship. Indeed, government interest has been prevalent in the history of American library collaboration and the government is perhaps the key partner in academic library collection of foreign research material, special subject material (especially hard science research), and corporate and government documents. Major events in government sponsorship of library collection and resource management include the General Printing Act of 1895 (document collection), the Work Progress Administration's support of library programs between 1900 and 1943, and of course the ongoing support of the Library of Congress.

Sharing Services

The sharing services category focuses primarily on public services functions such as reference and instruction. It includes efforts between librarians within individual institutions and externally, between librarians and vendors (to smooth collection development and improve resource management potential) and with government entities.

While earlier libraries provided reference services, it was not until World War 1 that most academic libraries had actual reference departments. The creation of separate reference departments allows librarians to collaborate more widely on student and faculty research. Over the several decades following the First World War, a focus on undergraduate services grew in prominence. In 1947, Harvard University opened the first undergraduate library, to be followed by about 40 other institutions by the mid 70s (though there are less now). In parallel to reference assistance, librarians also collaborate closely with faculty on bibliographic instruction. In the 1960s, librarian and intellectual Louis Shores sought to incorporate teaching functions into librarianship, to "mate

librarianship and education to produce a hybrid that would be greater than either" (Shiflett). This emphasis on undergraduate instruction continues to be a major form of collaboration between librarians, faculty, and many other academic services. Accelerating over the last several decades have been collaborative efforts to provide stronger and faster virtual reference services and instruction.

While many librarians view vendors as necessary evils, a lot of collaboration on library services has occurred between librarians and vendors. Cooperative work between these parties improves libraries' ability to serve their patrons by smoothing collection development processes and improving resource management potential (Brooks). Not including direct purchasing arrangements, library-vendor partnerships particularly include implementation of integrated library systems and integration of external technologies into online library services. A prime example of this last area is the work of Serials Solutions (founded in 2000) to advance library technology related to management of electronic resources.

As with resource collecting efforts, government funding and legislation have played a significant partnership role in library services. A prime example of this involvement is the 1964 enactment of the Library Services and Construction Act, which sought to connect library services "permitting the user of any one type of library to draw on all types of information centers" (quoted in "Over 100 Years" article). Another government effort, while not necessarily a partnership with academic libraries, had a profound effect on libraries. The government created—in 1917—the "Library War Services Program" to provide books to soldiers serving in World War 1. After the war, returning soldiers perceived libraries as essential partners in adult education.

Work-Related Project Collaboration

In discussing the category of work-related tasks, Kopp emphasizes consortia partnerships. This includes long-term groups seeking to establish priorities and standardize practices across member institutions in a particular consortium, as well as short-term groups focused on particular shared projects or concerns for particular functional areas. Aside from consortia, work-related project collaboration also appears as participation on committees from local to international levels and as work with donors and friends of the library groups.

Alongside other tasks performed in consortia and broad associations, librarians from multiple institutions often collaborate on task groups to establish frameworks (i.e. developing cooperative collection policies outlining collection responsibilities in individual academic disciplines). These groups typically include members based on types of materials (i.e. rare books, manuscripts) and on functional responsibilities (i.e. systems librarians, interlibrary loan specialists, etc). Traditionally, these groups play an advisory role, as members meet together to work out ways to address shared concerns and then bring ideas back to their own institutions. Generally, this sort of collaboration is not highly visible, but it almost always exists where formal connections between institutions are strong. (Kopp)

Groups within individual academic libraries are similar to consortia working groups in that they typically form along functional lines. However, they differ in that they focus somewhat less on over-arching frameworks and more on performing hands-on work (i.e. a new web design) and completing one-time projects (i.e. a search committee). It should be noted that this differentiation between consortia and local committees is

somewhat artificial. Particularly in the recent past, improvements in Internet communications and an emphasis on open-access systems design (not to mention collection sharing) have brought hands-on work to consortia groups as well. Furthermore, many local committees exist entirely to address policies and over-arching frameworks.

Librarians frequently collaborate with donors and friends-of-the-library groups. In order to garner philanthropic donations, librarians often affiliate with particular donors in acquiring collections and building up library infrastructure. This work is collaborative because it emphasizes "mutually-shared super ordinate goals" and working together to meet a vision. Millions of donors have substantially contributed to academic libraries since these libraries emerged from the private collections of faculty members. One major philanthropist to highlight is Andrew Carnegie. Between 1885 and 1910, Carnegie funded the creation of over 2800 libraries in the United States, and several hundred more abroad. Carnegie's strategy was to collaborate with local governments and institutions, with Carnegie providing buildings and books and local entities providing sites, maintenance, and staffing.

Resource Description and Standards of Practice

The final category of collaborative tasks, establishing rules for description and standards of practice, encompasses creating and refining classification rules and instituting broad standards of practice.

The widespread adoption of standardized classification rules began with the work of Melville Dewey, Charles Cutter, and Herbert Putnam in the late 19th and early 20th centuries. Dewey developed the Dewey Decimal System in 1876, Cutter's rules for the

Expansive Classification system came in 1891-1893, and Putnam worked out the Library of Congress Classification (LCC) system from 1897 to 1898. All three systems are still widely used, though with many alterations and adaptations. The LCC system in particular has seen constant revision, with particular emphasis on the publication of the Anglo-American Cataloging Rules (AACR) in 1908 and revised editions in 1941, 1949, 1967, and onward. All of these efforts involved extensive collaborative work across libraries for their creation and later adoption. Currently, work is ongoing on a major revision of AACR (to be called "Resource Description and Access" or RDA) to incorporate newer metadata formats and better ways of managing authority control, among other changes.

Besides classification rules, librarians have collaborated with a variety of partners on creating standards for description and standards of practice. Examples of Library of Congress standards for description include Machine Readable Coding (MARC), Encoded Archival Description (EAD), and Z39.50, among other standards. Standards of practice are created by a variety of organizations to address the need for guidelines to help libraries perform to their peak abilities. One organization heavily investing in creating standards of practice for academic libraries is the Association of College and Research Libraries, which lists standards and guidelines online[ii]. Other standards have been (or are being) worked out to address approaches to online publishing and dissemination of information, as well as statistics keeping. The online site Wikipedia maintains a comprehensive list of American and international standards organizations at <http://en.wikipedia.org/wiki/Standards_organizations>. Many of these standards do not

involve the active participation of academic librarians, though perhaps many of them should.

Further Examples of Collaboration

For further reading on specific examples of library collaboration, I recommend the last several years of the journal Resource Sharing & Information Networks. These issues consist entirely of examples showing how librarians have collaborated with traditional and non-traditional partners. In particular, volume 17 (2004) covers "Cooperation Within Institutions", detailing a variety of intra-institutional collaboration efforts between librarians and faculty, administrators, and on-campus student support offices. Similarly, volume 18 (2005/2006) covers "Cooperation Outside of Institutions", outlining cooperation between librarians and other stakeholders such as library consortia and cooperatives, private institutions, school students and teachers, community patrons, and government offices.

The variety and pervasiveness of the types of work on which librarians collaborate demonstrate the intrinsically collaborative nature of academic library work. At every turn, academic librarians are already sharing, partnering, cooperating, and—in short—collaborating with one another. Earlier research has examined core considerations in evaluating library partnerships, the partners in library collaboration, and the types of work on which librarians collaborate.

Social Networking Services

In accomplishing their collaborative tasks, academic librarians have traditionally used a limited but generally effective toolbox of communication apparatus. The introduction of Internet communication and the recent tendency toward virtual connection have introduced new tools and transformed (or negated) some of the old ones. At first glance, it seems that many librarians struggle to use the new tools and some may even reject them entirely (for good and bad reasons). UNC library science professor Jeffrey Pomerantz argues that librarians must "continue to experiment with new technologies for collaboration" (52) in order to provide the best possible services.

One of the most prevalent of the new technologies seeks to examine, record, and exploit social and professional networks. This set of technologies is often identified as "social networking services" (SNSs)[iii]. In an interview for NextSpace: The OCLC Newsletter, Professor Paul Jones identifies a social network as a map of groups or individuals ("nodes") that are connected by one or more relations ("ties"). Similarly, most definitions of "social networking service" concentrate on groups of people who have—or are interested in exploring—shared interests or activities. For the purposes of this study, a social network is a group of people connected by socially or professionally meaningful relationships.

In the NextSpace interview, Stuart Weibel adds to the definition: "The new part [of social networking], of course, is the technology that brings us in closer conscious proximity, even when at great physical distance." This statement identifies the parts of a SNS as—first—social or interpersonal networks and—second—web technologies. On the Forrester Blog, Charlene Li defines social networking services as "technology and

services that create unique personal profiles, map out relationships, and leverage those connections to accomplish a task" (cited in Cohen and Clemens, 252). SNSs incorporate any number of tools to accomplish tasks. Some integrate tools that allow for social tagging, streaming media, editing of shared documents, and synchronous communication in text, audio, and audio/visual formats (Maness). In the seven multinational companies examined in a paper by Qureshi and Zigers, collaborative tools included calendaring systems, chat rooms, desktop videoconferencing, email, e-meeting systems, information and knowledge repositories, newsgroups, personal information managers, project management systems, telephone conferencing, video whiteboards, and workflow systems (86). Part of the difficulty in studying SNSs comes from their very versatility as platforms for applications: each SNS has a different configuration and thus different potential as a professional tool. However, the core technological components of a SNS are those tools that enable networked individuals to [a] create and store personal profiles, [b] maintain directories of contacts, [c] discover new potential contacts, and [d] communicate virtually with either groups of contacts (using wiki- and blog-like tools and wall posts) or individuals (using e-mail-like tools). In short, SNSs are tools for tracking relevant relationships and hosting technological components that allow users to communicate and share objects.

The number of social networking websites has grown rapidly over the past several years. As of July 12, 2008, the Wikipedia entry "list of social networking websites" mentioned 112 "major social networking websites"[iv]. Other sources put the total number of social networking sites much higher, one at about 350[v] and another at an astounding

3700[vi]. Regardless of the actual number, SNS sites are here to stay and deserve the attention of alert librarians.[vii]

General applications of SNSs

While SNS sites track relationships between users, the nature of those users and relationships varies between sites. SNS generally exist for one of two purposes: socializing around digital objects and/or topics of shared interest or developing and utilizing business and/or professional networks.

In the United States, several SNS sites primarily dedicated to socializing and social contact maintenance have at least 25 million members each. These sites include: Friendster, hi5, Tagged, Facebook, Xanga, Windows Live Spaces, Reunion, Flixter, Broadcaster and MySpace. According to Dwyer, major activities engaged in on these social contact-oriented SNSs include

> Communication and maintaining relationships… updating others on activities and whereabouts, sharing photos and archiving events, getting updates on activities by friends, displaying a large social network, presenting an idealized persona, sending messages privately, and posting public testimonials. (Trust, 1)

Despite marketers and many users focusing primarily on the social relationship capability of SNS, the major focus of the current study remains on work-place implementations. According to Cohen and Clements, "[social networks] are…ideally suited to knowledge management, collaboration, and innovation within businesses" (252, italics added). General business and professional networks enable users to maintain directories of professional contacts, communicate with contacts regarding projects and work objects, and market skills and abilities to potential employers. Some of these more general sites include: LinkedIn, Ning, Ryze, and XING. Often, particular businesses and

even some industries create their won SNS sites to facilitate internal collaboration. In detailing the SNS used at Avenue A/Razorfish, Cohen and Clemens state:

> A social networking application is better suited to fulfilling the goals of Intranets, Knowledge Management systems and other corporate tools than anything else available to companies trying to strengthen collaboration and knowledge sharing between its employees. (255)

Cohen and Clemens argue for the utility of SNSs within businesses. Distinct from such internal uses, Lea, Yu, and Maguluru cite eBay as an example of how SNSs allow "users to share information about…products offered, costs or prices, and quality of the services to increase the popularity of the business site and the services they offer" (125). This wider entrepreneurial utility of SNSs allows them to be useful across disparate communities of businesses and users.

Even further afield from internal business uses appears the Social Psychology Network (SPN), an international network of social psychologists maintained by Scott Plous. According to its statistics page, the SPN contains self-maintained profiles for 1,463 known social psychologists. With respect to communication tools, the SPN only incorporates a link to a psychologists email address (if provided). Despite the lack of tools, the network provides a comprehensive user-base on which to build relevant applications and tools (for example the GeoSearch function to search profiles within a map). Furthermore, it represents a social networking tool centered on a discipline rather than a particular business, providing a potential example to copy should librarians attempt to create a SNS for their discipline.

These examples demonstrate the applicability of SNS tools for professional collaboration outside of libraries. Qureshi and Zigurs argue that: "increasing

virtualization of the work environment is requiring people to manage relationships, share knowledge and expertise, and coordinate joint activities in entirely new ways" (85). Just as in other businesses, virtualization in libraries will likely require academic librarians to cooperate using SNS tools. However, it remains to be seen what factors most influence an individual librarian's perception of—and thus their approach to—online collaboration.

Factors affecting online collaboration

This area of prior research delves into the factors that affect online library collaboration. These factors will be subdivided into contextual, individual social, and technological factors. Contextual factors involve broader dynamics that influence collaboration (such as scientific or economic aspects). Individual social factors include such things as privacy, trust, and personal motivators for use (or non-use) of online tools. Technological factors involve facets of online collaboration systems that affect performance, examining the effects of how SNSs are programmed.

Contextual factors

Axelsson, Sonnenwald, and Spante identifying the key factors influencing collaboration as scientific factors, political factors, socio-economic factors, resource accessibility factors, and social networks and personal factors (2006). Each of these factors is examined in closer detail in the article, outlining the salient issues that define the factor. Later in their analysis, the authors use this framework to outline their results, excluding political factors (all of the study participants considered political factors less relevant than other factors). The major reasons for collaboration as expressed by the study participants include: facilitating individual and institutional problem solving, sharing resources in an economically beneficial manner, and gaining access to otherwise

unavailable resources (not only tools and documents, but also knowledgeable people). In addition, the participants articulated several concerns, among them the cost (in time and funding) to establish and maintain a collaboratory, proper balance between scope and width (not too general but not so small as to provide negligible benefit), and a minimal interruption of existing workflows.

In a 2001 article, Barry Wellman notes that users have become somewhat divorced from their geographic context when engaging with SNSs. He posits that networking has transformed from a primarily door-to-door (geographically situated) model to a more person-to-person model, wherein the individual replaces the location (or institution) as the node in a social network. The significance of this model for library collaboration is that it moves the onus (and bonus) of adopting SNS tools from the institution to the individual librarian.

Individual social factors

In approaching online collaboration, a number of social factors influence individual behavior. Sonnenwald notes, "While computer-based information retrieval systems are continually improving, there is little evidence to suggest that these systems will replace individual preferences for interaction with other individuals when seeking information" (3). This preference for human interaction brings interesting social elements to the discussion of adoption of SNSs for professional collaboration.

In a chapter published in the Handbook of Internet Psychology, UNC social psychology professor Melanie Green examines trust and online social interaction. She stresses the difficulty of establishing trust in people encountered on the Internet as compared to offline encounters. Because many people operate under pseudonyms online,

an early step in trusting someone is to verify their identity (via a mutual friend, reliable online source like an employee directory, or some other source). A major form of trust online involves sharing information: "individuals may trust others to provide honest and accurate information, or to keep private information confidential" (44). Interestingly, Dwyer notes the odd fact that many consumers consider information privacy valuable but still freely provide personal information via SNSs and other voluntary revelation mechanisms.

Green brings to light an interesting correlation when she ties together experience with online technology and general trust in Internet-mediated interactions. Apparently, spending more time online makes people more likely to trust other Internet users (47). Green's chapter concludes with, "Systems based on existing social networks (such as Friendster) or word-of-mouth (reputation systems), may become increasingly useful aids to establishing trust online" (50).

According to Green, online trust develops through stages much like any relationship, from acquaintance to friendship to partnership (48-49). One significant difference from offline relationship formation is that personal appearance and identity details become known later in the relationship (45). SNS technologies may alter this progression by including more developed profiles with pictures and detailed biographical information.

Green draws attention to the relationship stage in which users move to different modes of communication such as cell phones or instant messaging. One should note that—though users may move toward other mediums of communication—they do not necessarily stop using earlier tools. Dwyer observes that social interactions occur via

multiple technological channels, rather than simply abandoning an old channel when a new one enters the interaction. This has an interesting positive implication for academic librarians, in that they need not fear losing their traditional, familiar media. However, with any technological adoption librarians need to note whether the new tool will simply be added to existing tools resulting in extra maintenance (lost time and energy).

In her qualitative study examining participants' use of instant messaging services and SNSs in interpersonal relationships, Dwyer discussed the concept of impression management in SNSs. According to Dwyer, impression management is "the goal-directed conscious or unconscious attempt to influence other's perceptions about a person, object or event by controlling or managing the exchange of information in social interactions" (2). According to Dwyer, SNS users seek to control how others perceive them.

These researchers demonstrate the importance of considering such social factors as trust, privacy, and impression management when reflecting on collaboration online.

Technological factors

Many SNS sites include search functions and built-in recommender systems that match users with other users based on pre-established search algorithms. In their recent article identifying a research agenda for social matching, Terveen and McDonald discuss such recommender systems. Because social matching systems recommend people rather than information objects, it is important to consider where profile information comes from and a user presents it. Good matching systems should have well-developed mechanisms for computing matches, introducing matched people, and facilitating interaction.

Terveen and McDonald make eight claims about how social matching systems function and where potential for further research exists. Of these claims, the most relevant to the discussion on SNS-based library collaboration is the first, which asserts that users should be willing to provide relatively personal information for the system to work. This assertion ties back to Green's discussion of identity verification, but examining the issue from the technological perspective of system performance (without revelation of personal information the system cannot operate properly).

In an interesting twist on the issue of identity verification, many SNSs allow users to view other profiles while remaining anonymous. While convenient for a casual browser, according to Lea, Yu, and Magaluru "the problems with free riding are it causes degradation of the network performance…and it creates vulnerabilities (loss of privacy, denial of service) for a system where there is risk to individuals" (123). Per the authors, these risks are important when considering technological factors of online collaboration because "user's satisfaction with usage and network self-efficacy are…important to…retain users in a virtual communities" (124).

By drawing out the contextual, individual social, and technological factors affecting online collaboration these researchers reveal the influences on an individual librarian's perception of—and approach to—online collaboration. In doing so, they provide a conceptual foundation for examining how librarians feel concerning the use of SNS tools to enhance cooperative partnerships with other librarians.

The literature outlines the broad context for SNS-based collaboration in academic libraries. It discusses the situation and evaluation of library collaboration practices, outlining how librarians are already collaborating—thus demonstrating where they might

use SNS tools. It describes the uses of SNSs outside of libraries, informing the analysis of particular implementations for librarians. Finally, it presents some of the factors affecting library collaboration online, revealing important aspects to consider when discussing personal and corporate implementation of SNS tools.

Methods

Description of methods used

The aim of this study is to uncover how academic librarians are approaching emergent SNS-based technologies. The particular aspects of this approach to be examined include the adoption (whether intentional or incidental) of existing SNS tools in collaborative practices and the perspectives of academic librarians on using these tools for real work tasks.

To uncover rich qualitative data, I conducted eleven semi-structured interviews with academic librarians employed at UNC Chapel Hill. I identified potential interviewees using a snowball sampling method. This method involved selecting a preliminary interviewee at random from the library directory[viii] and—at the end of the interview—asking that subject to identify other potential interviewees. I then contacted recommended interviewees via email to solicit their participation in the study.

On receipt of consent to take part in the research, an interview time and location were arranged. Interviews were conducted either in the offices of the interviewees or in a suitable neutral location, lasting between 30 and 80 minutes. I recorded all the interviews on audiocassette for later transcription.

An interview guide was developed for this project and is included in the appendix. The guide presented a standard description of social networking services and then divided interview questions into four main areas of inquiry. The first area dealt with current areas and tools of collaboration to establish a framework for each participant's comments. The second area uncovered if and how the participant tracks past professional relationships, providing clues about the participant's approach to offline and online social networking. The third area of inquiry addressed the participant's use of—and perspectives on using—SNSs for library collaboration. The fourth and final area of inquiry consisted of an open-ended discussion about what elements or characteristics each participant would like to see in hypothetical SNS tools. Throughout the interviews, participants were given leeway to "wander" in their answers to reveal relevant perspectives not considered when preparing the interview guide.

In addition to these main areas of inquiry, basic demographic data was requested from participants. This data included age, gender, type of library role, number of years' service in the current library, and number of years in academic librarianship.

I used qualitative data analysis methods to "unpack" the data. I employed open coding to examine a subset of the interviews to identify themes or coding categories relevant to my research questions. The remaining interviews were read and analyzed using these categories, with an eye open for new categories. Finally, I used axial coding (Robson, 2002) by re-reading and analyzing the interviews using the complete set of coding categories.

In order to maintain reliability, I kept memos throughout the analysis period. This enabled me to operationalize (define and describe) concepts, to reflect on dimensions of

concepts, to offer initial theoretical formulations about relationships between objects, and to reflect on methodological issues for potential future studies on this topic.

The relatively small sample size provided only a preliminary examination of academic librarians' perceptions on the use of social technologies for professional collaboration. As this exploratory study has no formal research hypothesis, it was impossible to perform a true power calculation. Rather, I made every effort to ensure the precision of estimates derived from the data.

Advantages, disadvantages, and limitations

The interview model is advantageous given the exploratory nature of this study, inasmuch as a more closed approach (e.g. surveying) could not identify the complexities of librarians' feelings about SNSs to the same degree as interviews. Future studies on this topic could certainly use a mix of qualitative and quantitative methods to yield more generalizable data. Indeed, because of the small size of the sample my results are not generalizable. However, I conducted interviews until saturation (when responses became increasingly redundant) in order to mitigate the effects of the small sample size and arrive at useful findings. Furthermore, according to Creswell, generalizability is not as important in qualitative research as quantitative research (195).

A general disadvantage/limitation in the pilot study is that UNC Chapel Hill's libraries are not necessarily representative of the overall academic library population. Future studies could use a form of quota sampling to select interviewees from the various functional groups from multiple university libraries (for example: several each from reference, acquisitions, collection development, cataloging, and administration). Alternatively (or additionally), multi-stage cluster sampling could be used by divide the

national academic librarian population by work group (as in the previous paragraph) and by geographic region, and then randomly select a sample from each cluster. This format should negate problems caused by having an incomplete list of the population.

Due to my history of employment at UNC, most of the study participants were acquaintances or colleagues. Despite every effort to select a random sample, this fact probably introduced some sampling bias. Furthermore, participants may have been aware of my opinions regarding the use of web technologies, creating demand effects (attempts to appear "tech-savvy" or to express "techno-shame" seemed to occur frequently during the interviews). To mitigate these disadvantages, I made every effort to construct questions and conduct the interviews in a neutral manner, emphasizing the need for opinions regarding both SNS use and non-use.

A major advantage for this study lies in the humanistic approach being taken, which has (hopefully) kept things more approachable for participants, readers, and—last but not least—the researcher. Another advantage for this applied research study is that it offers an opportunity for improving local, real-world practices—even if only in providing a foundation for more detailed examinations of best practices for librarians' SNS-based collaborative efforts.

Profile of participants

Of the eleven librarians interviewed for this study, nine were female (81.82%) and two were male (18.18%). Interviewees' ages ranged from 25 to 58 years old, with a median age of 37 years and an average age of approximately 39 years. This average lies significantly below the national average age of 45 found by ACRL in 2002[ix]. Examining the average number of years experience as professional librarians revealed that the

sample group deviated even more dramatically from local and national norms than with age. Interviewees averaged 10.77 years of experience as professional librarians, with a range from 2 to 28 years. According to the 2006-2007 ARL Salary Survey, the average experience at UNC was 19.3 years, and in the nation was 17.1 years.

Age and number of years experience among interviewees may have been low as a result of having a high number of public services librarians in the sample set. Stanley Wilder found that "in 1994, 35 percent of ARL catalogers and only 27 percent of reference librarians were age 50 and above." Furthermore, none of the librarians interviewed worked in the central administration of the library, which necessarily excludes younger, less experienced librarians. However, the 2006-2007 ARL Salary Survey lists the average years experience for "public services" as 12.8 years, which is still higher than the sample set.

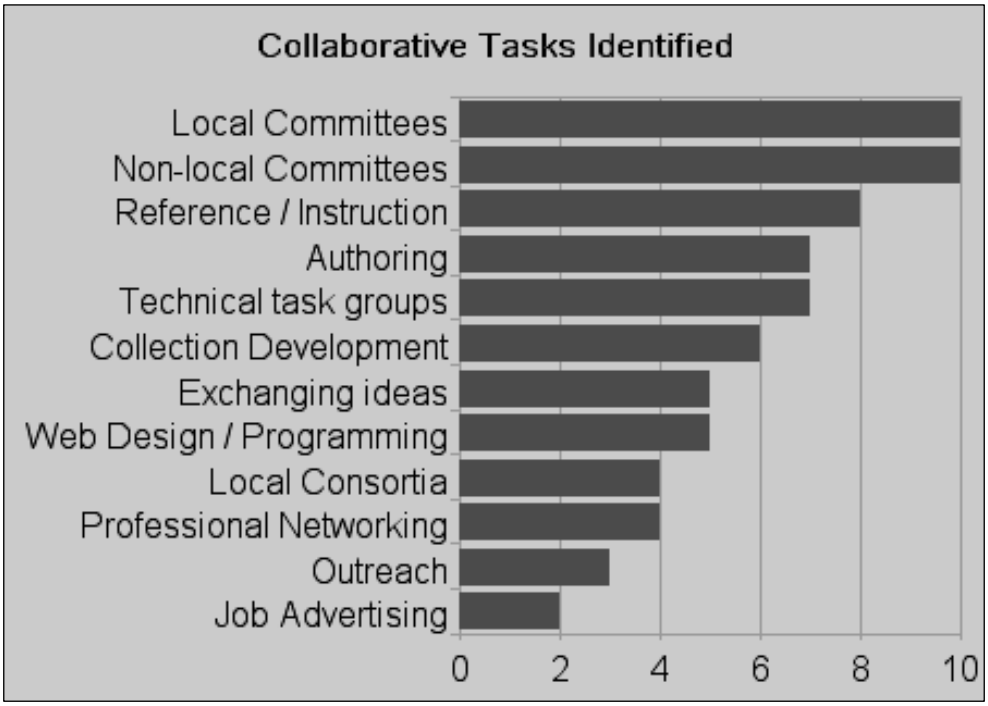
Of the eleven librarians, seven (63.64%) represented UNC's central Academic Affairs Libraries (Davis Library, Wilson Library, and the Undergraduate Library) and four (36.36%) represented departmental libraries. Seven (63.64%) of the librarians performed primarily public service functions, two (18.18%) performed primarily technical service functions, and the remaining two (18.18%) performed functions that fell about equally in public and technical services. Three of the librarians (27.27%) held administrative positions at a departmental or sectional level.

Results

Collaborative tasks identified

In response to the first area of questioning one interviewee noted, "Most of my work is networking." With this in mind, interviewees mentioned several specific areas of work in which they collaborated.

By far the most mentioned task included participation on committees or teams at UNC (in the libraries and in the wider university), in local and regional consortia, and in state and national library associations. Ten of eleven participants (90.9%) listed local committee participation and ten listed non-local committee participation, with responsibility for developing strategic approaches to problems from the local level up to



international standards of practice. Seven participants (63.6%) also mentioned being part of "work teams" focused on task completion rather than on developing solutions to larger-scale problems.

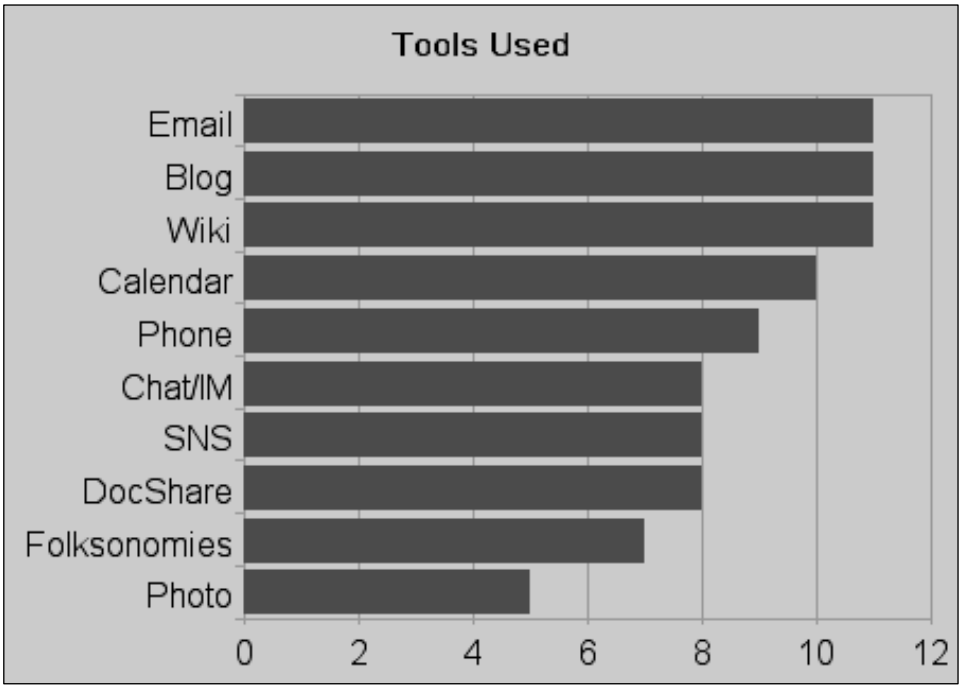
Other frequently mentioned tasks included collaboration in addressing reference queries and providing patron instruction (8 of 11, 72.7%), co-authoring papers and conference presentations (7 of 11, 63.6%), collecting materials for the libraries (6 of 11, 54.5%), exchanging ideas with present and former co-workers (5, 45.4%), developing web pages and computer programs (5, 45.4%), networking professionally (4, 36.4%), outreach to university students and faculty (3, 27.3%), and advertising openings via listservs and discussion groups (2, 18.2%).

Tools used to collaborate

The interviewees mentioned a number of tools used to accomplish their collaborative tasks. Obviously, all worked face to face with librarians from their own and other institutions.

By far, the tool most used for all communication (including collaborative work) was email. Every respondent mentioned using email on a daily basis (and at least 7 mentioned having more than one email account).

Other tools used most frequently included a networked calendar system, telephones, and instant messaging services (IM). Interestingly, only 9 of the participants mentioned regularly using telephones; one even confessed to a "phone-phobia". Similarly, only 8 of the participants felt comfortable using IM. More participants used blogs and wikis than phones or IM—though only 3 used them regularly (at least once per week). Most of the interviewees (10) used the Oracle Calendar client, though this was



not surprising given ongoing encouragement of that service from managers in various library departments.

Besides these most frequently used tools, 8 participants regularly used SNS. Another 8 used document-sharing tools (though everyone seemed to use a different one). Folksonomies (social tagging and bookmark-sharing tools) were used by 7 participants. Finally, 5 interviewees used photograph-sharing sites, though only 3 used these for professional purposes (to post photographs of events in the library).

Each interviewee was asked to discuss their feelings about the tools used, focusing on aspects of the tools they found especially useful, impractical, or simply in need of change. The tools most frequently discussed were email, IM, telephones, the Oracle Calendar client, wikis, and blogs. The chart on the following page outlines the utility, positive attributes, and drawbacks of each of these tools.

In particular, interviewees held strong opinions both for and against email. One librarian—a regular user of instant messaging services—admitted impatience with email's asynchronous nature. Despite her complaints about it, in the end she did say: "If I could still pick one form of communication with people, I would still choose email. Over the phone, over IM, anything." General reasons for liking email included access to a searchable history of messages, the widespread use of email, receiving notifications in a central location, the ability to sort messages with labels or folders, the ability to exchange documents quickly, and the ability to say more complex things than with other communication tools. One user even noted that Google's email service, Gmail, allows users to search past instant message conversations from both Google-talk and AOL instant messenger. This user concluded that, "If they took Gmail away now, I'm not sure what I would do."

If I could still pick one form of communication with people, I would still choose email: over the phone, over IM, anything.

Reasons for disliking email included a requirement to develop more complex messages than other communication tools, problems with version control of attached documents, problems with lag time, missing messages, and the massive overload caused by using email as a catch-all communication device.

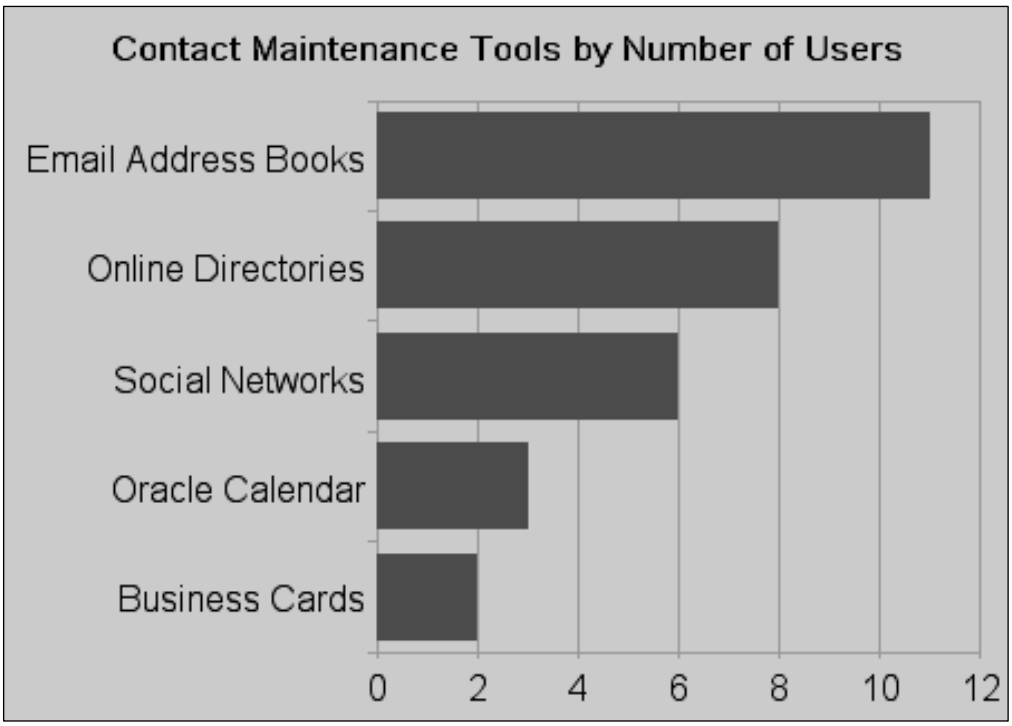
Chart: Opinions about communication tools most used for collaborative activities			
Tool	***Utility***	***Pros***	**1.1.1.1.1.1 Cons**
Email	Basic/"everything" tool; contacting unknown people; discussion groups and larger audiences; good for longer thoughts and complex needs; draft exchange; archived history of activity (task-based)	Perception of professionalism; everything there; habit; helpful folder structure; wide use by contacts; auto-saving/archive; forwarding capability; synchronizes with other tools; open to groups and listservs; file-exchange; searchable; versatile; good for longer thoughts: slow but deep; Gmail: nice to archive/label, nice threading, search, linked to IM	Overwhelming quantity; easy to lose information; slower than phone and IM; unsuited to some tasks; version control problems; occasional lag time; lack of useful features; difficult to manage / synchronize multiple accounts
IM	Talk to known contacts; internal communication; good for short, quick questions or convoluted ones that need iterative discussion but not a phone call; trouble-shooting and consulting	Quick answers; fast communication mode; boosts internal communication; faster than email; tough to ignore (both pro and con)	Not good for new contacts: requires prior relationship; intrusive; fear of the technology; requires fast typing skills
Phone	First contact; negotiation and quick information	Quick answers; etiquette established	Intrusive; awkwardness and "phone-phobia"; no archiving
Oracle	Scheduling; viewing activity history; groups and lists	Convenience;, tools for group setup; keeps meeting/activity history	Requires initial and ongoing maintenance
Wiki	Procedures and learning; share technical information; software repository for programming; collaborative tools	Version control for docs; update and revision history; interaction-centered; object-sharing	Tough to learn & use; requires regular updating to remain relevant
Blog	Discussion around ideas; share technical information; procedures; events	Good for discussion and feedback on ideas/presentations	Tough to learn; needs regular updating to remain relevant
Other	Varies by task; LibraryThing and del.icio.us to share bookmarks; Network drive for storage and file sharing; Flickr for event photo sharing		

Several librarians mentioned wikis and blogs as better than email at dealing with complex or difficult tasks. Wikis and blogs were generally used as shared workspaces or repositories for procedures. While five librarians spoke about these tools' capacity for addressing complex problems, only two discussed using them in depth. The first librarian knew the tools and techniques associated with using wikis and blogs, but did not have solid participation from other librarians involved in the project. The second librarian expressed a lack of familiarity with uploading documents to a wiki, and instead tended to discuss objects uploaded by others.

After email, IM seemed to be the tool of choice for the participants. The librarians using IM generally approached it as an alternative to email to use when the task at hand needed a quick response. The primary positive element of IM communication included quicker contact due to the synchronous format and the fact that messages were difficult for recipients to ignore (though this last aspect was also considered a disadvantage). Those librarians less likely to use IM generally opted to use a combination of email and the phone. Two librarians felt equally comfortable using IM and phones, one of them noting that IM is slightly less synchronous and thus provides extra time to think.

Contact maintenance tools

This area of questioning revealed tools the librarians used to track people with whom they had collaborated or might collaborate in the future. Tools used included email address books, existing directories maintained by the institution or outside organizations, business cards, and—surprisingly—the Oracle Calendar client. All 11 librarians used email address books for contact maintenance. Other tools mentioned



included online directories (8, 72.7%), social networks (6, 54.5%), the Oracle Calendar client (3, 27.3%), and business cards (2, 18.2%).

All the librarians mentioned using their email accounts to maintain contact information. Several described elaborate filing or labeling structures to make searching for messages easier.

The three librarians who mentioned using the Oracle Calendar client described how the tool allowed them to make lists of contacts based on projects and events. Even after completing the project, they could refer back to the list for contact information as needed.

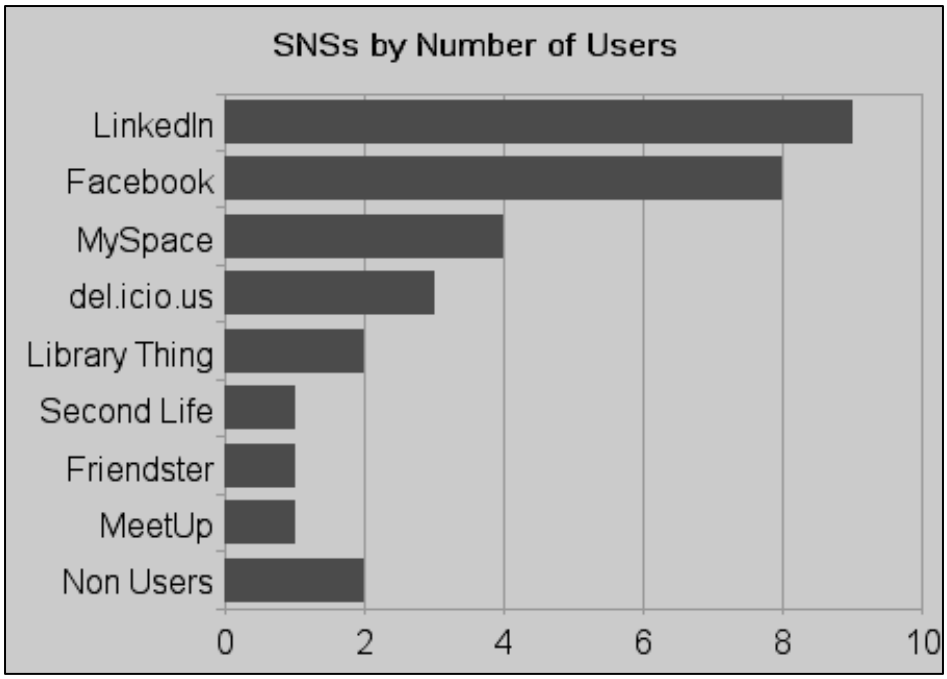
One librarian showed me a folder with business cards arranged chronologically by conferences they had attended over the past several years. The librarian described how useful the folder was for referring back to the particular context in which they met each contact. This system seemed to work particular well for the librarian.

After talking about what contact maintenance tools they used, interviewees were asked to discuss advantages and disadvantages for using their chosen tools. The chart "Analysis of Contact Maintenance Tools" shows these considerations.

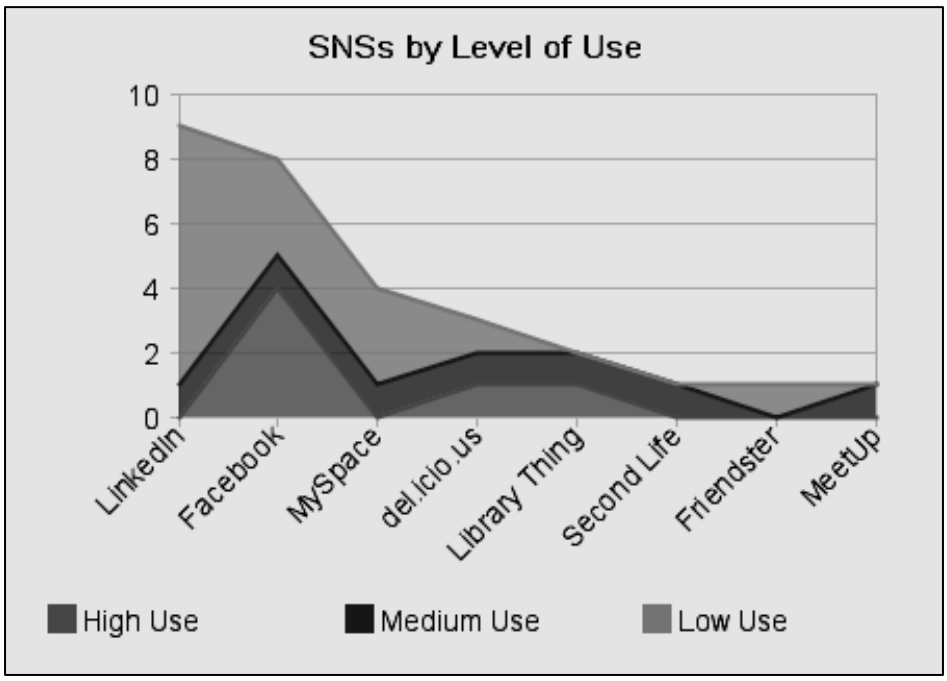
Analysis of Contact Maintenance Tools		
Tool	***Tool Benefits***	***Tool Disadvantages***
Email Address Books	Already open, both at work and home, automatic, searchable, low maintenance, large storage capacity, automatic affiliation with work, habit, attaches tasks with contacts, can be linked to campus directory, world-wide use of email	Not always efficient searching, extremely high volume, hard to sift through,
Online Directories	Easily accessible, no maintenance for users, secure, searchable	Most are closed gardens, may only have limited information
Social Networks	Broadly searchable, linked to detailed profiles, maintains links to most frequent contacts, self-updated, portable to anywhere with internet access	Time consuming to maintain presence, distracting features, don't allow control over organization/appearance, relevance rankings on people searches can be a pain, lots of people aren't users, blends social and professional too much, learning curve
Oracle Calendar Client	Historic activities linked with participants, can make distribution lists, strong local adoption	Not networked to outside institutions, hard to set up and maintain, "clunky", use not mandated by administration
Business Cards	Can be arranged as desired (e.g. folder by date/conference)	Get out of date quickly, not easily portable in quantity, require commitment to organizational scheme

Use of social networking services

The interviews revealed that most of the librarians had accounts on one or more SNS. The most frequent SNSs on which the librarians held an account was LinkedIn with 9 of 11 interviewees. Next came Facebook (8 account-holders), MySpace (4), del.icio.us (3), Library Thing (2), Second Life (1), Friendster (1), and MeetUp (1). Two of the librarians did not have any SNS accounts.



Having an account did not correlate with using an SNS with any regularity. Only about half of the librarians used an SNS on a daily basis (including for social purposes). This made it important to distinguish between "account-holders" and "active users". Interviewees' comments on their SNS use allowed me to differentiate activity into a high-use, medium-use, and low-use scale. This revealed that, while LinkedIn had the most



account-holders, only one librarian could be described as a medium-level user (the rest fit into the low-use category). The SNS with the highest activity to accounts ratio was Facebook, with 4 of 8 librarians in the high-use category and 1 in the medium-use category. The chart "SNSs by level of use" shows ratios for the remaining SNSs mentioned by participants.

Perspectives on professional use of SNSs

Despite the broad definition of social networking services provided during the interview, most of the librarians focused their comments on the use of Facebook, MySpace, and LinkedIn. Even though comments focused on these particular sites, the interviews still revealed interesting thoughts about how the librarians were already using SNSs for professional collaboration. Participants described using their SNS accounts for student and faculty outreach, to participate in intra-institutional interest groups and committees, to discuss papers and ideas with other professionals, to share conference and event photos, and to advertise job openings. One interviewee mentioned the utility of Facebook as a source for event information:

> Facebook…is great for discovery of things that are going on because of the way it…shows you what your friends are up to. I found out about a couple of really good talks that way.

In considering advantages and disadvantages of using SNSs for professional communication and collaboration, 8 (72.7%) of the participants complained of the need for greater compartmentalization in SNSs between occupational and social identities. Participants described struggling to maintain separation between professional and personal interactions, as well as between unrelated groups of social contacts. This complaint centered on the networking sites' tendency to clump contacts together without

regard for their relationship to the user or each other. In order to counter this problem, several of the participants attempted (generally unsuccessfully) to maintain separate accounts for personal and professional communication. In the most extreme case, an interviewee described having three SNS accounts, five email accounts, *and* several IM accounts: all purportedly for different purposes!

The two librarians who did not use SNSs provided two important considerations about adopting SNSs in libraries. One of the interviewees stated both in one sentence, "It's not immediately clear to me what their utility is…and it requires a certain familiarity and investment." Only four of the librarians felt that Facebook or MySpace were—in their present state—well suited for library collaboration. One user discussed Facebook as a fun "afterthought" and described MySpace as "obnoxious". The investment of time to maintain a presence online was mentioned even by librarians who actively used SNSs. Interestingly, the librarians most likely to use SNSs for collaboration were those who worked actively in library public services, particularly with undergraduate students.

Participants mentioned privacy as a major area for concern in using SNSs. Much of this concern dealt with compartmentalization issues where personal and professional contacts mixed by default on SNSs. Despite citing the importance of personal privacy, few of the librarians reported being concerned about revealing their professional information. One stated that "work identity is meant to be public" while another laughed at the thought of trying to keep her online presence private while holding an office in a national library organization. In reference to using Gmail a third interviewee stated, "If they can get some good marketing data off of me, I don't even care, because I'm not paying a cent for it and it's one of the most useful things that I'm presented with."

Shifting the responsibility for maintaining privacy from the networks to the users, one interviewee stated that "privacy education has to be improved." Most of the interviewees echoed this emphasis on user-based control of private information in describing how they maintained a professional image by carefully controlling their online activities.

The next question sparked discussion about what would need to be changed to make the interviewees more likely to use existing networking sites for inter-librarian collaboration. Several users mentioned how distracting Facebook can be, whereas IM and email instantly jump to the message. After describing the problems in Facebook, one interviewee paused and then expressed appreciation for the various key functions of the site including: the wall function, the status function, the asynchronous messaging tool, and photo sharing and commenting. The only things that seemed to be missing for this interviewee were a built-in instant messaging function (which has since been added to Facebook), a wiki format for larger work groups, and a decent document-sharing function.

A hypothetical SNS platforms

The final series of questions sought to uncover what particular functions the librarians would include in a hypothetical SNS site created specifically to meet their needs. Tools desired included an asynchronous one-to-one and one-to-many messaging tool like email (all 11), a scheduling or calendar-sharing tool (all 11), a profile primarily including a resume and contact information (10 90.9%), a synchronous communication tool like IM (8, 72.7%), a document sharing and editing function (8, 72.7%), information about an individual's projects (7, 63.6%), blog tools and discussion forums (5, 45.4%), status updates and photographs (4, 36.4%), and some form of organizing communication

and digital objects into folders or with tags (2, 18.2%). Several of the librarians also expressed the need for an improved archiving function and strong search capabilities.

In considering whether their hypothetical SNS would be better if applied locally or on a wider scale, interviewees had mixed opinions. Most felt that the network would have to incorporate both local and broad networks of contacts to be useful. Several noted that the SNS should be scoped to include non-librarians, due to the broad spectrum of librarians' interaction partners. Indeed, one argued for maintaining a larger network because "at a place like UNC … our [library school] students leave and go everywhere." Besides potential social benefits of maintaining contact, this would enable librarians to gather ideas from past students and implement them to improve services locally!

The proposed model that best seemed to summarize interviewees' opinions described concentric rings of scope so local librarians would have their own network but still be connected to regional networks, and thence to national and—perhaps—international networks. On the other hand, some interviewees felt that a tool developed

solely for use within the local institution would be both useful and more secure than a network on the open web. Regardless of the scale, the librarians expressed concern for security of delicate communications (e.g. search committee notes, communication about funding sources, selection decisions). Whether local or broad-scoped, interviewees seemed to agree that the network's administrators would have to carefully guard against information leaks.

Discussion

Participants in this study expressed a variety of feelings regarding the tools used in collaboration and the possibility of adding SNSs to that repertoire. Comments reveal significant advantages to incorporating SNSs into librarian communication practices. They reveal equally significant disadvantages and concerns, not least of which is the finding that only half of the librarians actively use the SNSs on which they have accounts. The possibility of adopting SNSs more formally would have to carefully reflect on both the advantages and disadvantages, not to mention the process of adoption itself.

In studying virtual collaboration technologies used in multi-national companies, Qureshi and Zigurs disclose several important lessons that were echoed by the interviewees in my study. Qureshi and Zigurs describe the importance of management in motivating virtual collaboration, just as several interviewees describe the need for a "management mandate" to ensure wide-spread adoption of new technologies. Similarly, Qureshi and Zigurs' argument that collaborative roles must be made more explicit provides a counterpoint to interviewees' feelings regarding SNS sites' tendency to mask the distinctions between personal and professional contacts. Importantly, Qureshi and Zigurs state that "training is important for successful virtual collaboration and successful training programs put work practices at the forefront" (87). Many interviewees expressed anxiety at learning new web technologies or mentioned the incredible investment of time required to master high-tech tools. This shows that any library seeking to embrace a new technology might save many hours of staff work and much staff stress by offering a formal program of training. Finally, Qureshi and Zigurs wrote that the new technologies served primarily as a device for collaboration rather than a driver of collaboration. This study demonstrated that librarians are already heavily invested in cooperative work at all levels. New technology

SNS Advantages
Student presence, appearance as sociable person, quick access to contacts, convenient, portable, has built-in communication tools, easier to break ice than face-to-face, some allow adding applications with professional utility, less spam than email, forced succinctness (status updates), options for email notification, good for event organization, incorporate multiple communication tools, presence of family and friends

NS Disadvantages
Not perceived as a useful professional tool, no perception of added value over existing tools, still experimental / other tools better developed, low use among colleagues, "feels college-like" and "obnoxious", highly distracting, privacy concerns with personal information, shallow level of connection, high investment to enter and maintain, contributes to computer over-use, conflict in mixing social and professional, too many types of SNSs, hard to disable accounts

should be considered for how it can boost existing partnerships rather than adopted in an attempt to spark collaboration out of nothing. The technology never acts on its own.

In addition to these considerations, Todaro warns that a lack of clarity can doom collaborative partnerships. She states the need for clarity surrounding responsibilities, roles, end goals, and estimated time commitments quite clearly when she says,

> Any process should be accompanied with written documents that explore missions, values, pert charts, decision trees, goals, outcomes, budgets, and assessment and evaluation tools. Every process should have a glossary or set of definitions for each organization, a pre-agreement, process documents, maintenance agreement, as well as maintenance of effort and then a divorce document with "custody" discussions. Write everything down! (147)

In considering the adoption of SNS tools, libraries and librarians should deliberately evaluate the existing environment for collaboration, particularly how the institutional context, collaboration partners, and established work flows would be impacted by adoption. They should be careful to address the social factors expressed in the literature and by their staff. And they should note the relevant technological issues with a particular eye toward providing appropriate levels of security.

Conclusion

In investigating library and information science practitioners' perceptions on adopting a collaboratory in their workplaces, Axelsson, Sonnenwald, and Spante identify three core challenges facing library and information science practitioners. The first challenge involves addressing the inherently multi-disciplinary nature of library science work, in that librarians often work generally in multiple academic and technical areas

rather than specializing in one. The second challenge involves dealing with pervasive change: from rapid technology growth to fluid government policies and regulations, and including dynamic publication models and changing patron expectations. A third challenge for librarians concerns funding, which tends to fall away during recessions (and sometimes even during good times). Furthermore, in dealing with these three challenges, librarians often find themselves isolated as sole practitioners at their institutions or in their area of specialization.

James Neal argues that—in dealing with the significant challenges they face—academic libraries need to "understand and capitalize on the advantages of the digital medium" including increased accessibility, availability, searchability, currency, dynamism, and interdisciplinarity (3). He argues that the characteristics of the digital medium provide an opportunity for "innovation and advancement in library functionality and capability" (3). As noted in the introduction, Sarah Thomas makes the case that libraries must expand their collaborative efforts to remain successful. It might be argued that libraries have maximized their collaborative potential given the existing tools. Perhaps the time has arrived for those tools to be enhanced or replaced by tools that make full use of the virtual environment's advantages.

This study developed a framework for examining how academic librarians might use emerging Web technologies to cross traditional boundaries of practice, following paths created by librarians' social ties to one another. It outlined some of the strengths and weaknesses inherent in SNS systems, touching on where librarians may be excited about them or have reservations about the costs and risks associated with implementation. My hypothesis—that SNS will become a mechanism for strengthening cooperative

efforts between academic librarians by enriching discoverable personal information and by providing a useful framework for new tools—cannot be proven yet. However, this research study begins the process of seeking evidence in support of the possibility. It is my sincere hope that this study has shed some light not only on current social networking practices that are fully functional, but also on new ideas and technologies that might make finding experts and collaboration partners more efficient and more effective. Better connections among librarians would be healthy all around.

Notes

[i] In many instances, particular tasks will not fall clearly into one category or will fit into multiple categories. This is especially true of events such as the founding of associations and larger consortia, since in almost every case these entities identified across-the-board strategic objectives.

[ii] At http://www.ala.org/ala/acrl/acrlstandards/standardsguidelines.cfm

[iii] Other phrases are also used, with slight but often significant connotative variations: "virtual communities", "online social networks", "social network websites", and a number of others. I will use the phrase "social networking services" or the abbreviation SNSs throughout this paper.

[iv] See http://en.wikipedia.org/wiki/List_of_social_networking_websites.

[v] http://mashable.com/2007/10/23/social-networking-god/

[vi] http://www.digfoot.com/browse/

[vii] For a pathfinder into online discussion of SNSs and libraries see Meredith Farkas' blog entry at http://meredith.wolfwater.com/wordpress/index.php/2006/05/10/libraries-in-social-networking-software/

[viii] The directory is available at http://www.lib.unc.edu/staffdir/. I made sure to select a participant who had an MLS and was formally employed as a Librarian rather than an LA or LTA.

[ix] Due to privacy restrictions imposed by University HR, I was unable to determine whether the average age of librarians in the study paralleled the average age of librarians employed at UNC Chapel Hill.

Appendix 1: Consent Form

University of North Carolina-Chapel Hill
Consent to Participate in a Research Study
Adult Participants
Social Behavioral Form

IRB Study #: 08-0682
Consent Form Version Date: April 28, 2008

Title of Study: Social Networking Services: Library Collaboration 2.0?

Principal Investigator: T. Peter Ramsey
UNC-Chapel Hill Department: School of Information and Library Science
Faculty Advisor: Jeffrey Pomerantz, Ph.D. (919-962-8064 / jpom@ils.unc.edu)

Study Contact Information: 919-475-8152 / tpeterr@gmail.com

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?
The purpose of this research study is to examine academic librarians' perspectives on using social networking technologies for inter-library collaboration. You are being asked to be in the study because you have been identified as a librarian who is involved in collaborative partnerships.

How many people will take part in this study?
If you decide to be in this study, you will be one of 10-20 participants in this research study.

How long will your part in this study last?

Your participation will involve an interview that will most likely last between 30 minutes and one hour. The principal investigator will not ask further questions after the interview. However, if you have any additional comments after the interview, you may send them to tpeterr@gmail.com.

What will happen if you take part in the study?
You will be asked a series of questions that will focus on:

- Your collaborative tasks and activities
- Tools you use to complete collaborative tasks
- Tools you use to keep track of collaboration partners
- Your perspective on collaborating using social networking sites
- Your thoughts on future tools for collaboration

During the study, you may choose not to answer any question for any reason.

What are the possible benefits from being in this study?
It is not anticipated that subjects will personally benefit from being in this study. However, subjects will be asked about a number of technologies, some of which may be unfamiliar to them but that may spark their curiosity and eventually prove useful in their work. That sort of indirect benefit is not the aim of this study, but it is certainly an added value for those taking part.

What are the possible risks or discomforts involved from being in this study?
There are no perceived physical or psychological risks associated with this study. However, it is possible that your opinions may be traced back to you later. Please see the next section on privacy for more information. As with any research study, there may be uncommon or previously unknown risks. You should report any problems to the researcher.

How will your privacy be protected?
Participants will not be directly identified in any report or publication about this study. However, some reference to job functions will be necessary. Every effort will be made to keep identifiable research records private, though there may be times when federal or state law requires the disclosure of such records, including personal information. This is very unlikely, but if disclosure is ever required, UNC-Chapel Hill will take steps allowable by law to protect the privacy of personal information. In some cases, your information in this research study could be reviewed by representatives of the University, research sponsors, or government agencies for purposes such as quality control or safety.

Some demographic data (age, title, number of years in current position, number of years as a librarian, gender) will be collected by the principal investigator during the interview. This information will be maintained separately from the interview transcripts (which will be "de-identified"), and will be used only for statistical reporting (for example, "the average age of participants is __"). Once your demographic information has been summarized, the forms used to record it will be destroyed to protect your privacy.

This study will involve audio recording:

- After the interviews, transcripts will be made from the audio tapes.
- During the study, audio tapes and transcriptions will be in the possession of the principal investigator. The principal investigator will keep both tapes and transcripts in a secure location and will not allow anyone else to use them.
- Upon completion of the study, the audio tapes will be erased and destroyed.

Check the line that best matches your choice:
_____ OK to record me during the study
_____ Not OK to record me during the study

Will you receive anything for being in this study?
You will not receive any compensation for taking part in this study.

Will it cost you anything to be in this study?
There will be no costs for being in the study

What if you are a UNC employee?
Taking part in this research is not a part of your University duties, and refusing will not affect your job. You will not be offered or receive any special job-related consideration if you take part in this research.

What if you have questions about this study?
You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Would you like a copy of the completed paper?
No __ Yes __
If Yes, would you prefer:
__ Email notification of publication to the SILS Electronic Thesis and Dissertation (ETD) site?
__ A paper copy of the study?

- -

Title of Study: Social Networking Services: Library Collaboration 2.0?
Principal Investigator: T. Peter Ramsey

Participant’s Agreement:

I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_____ _____
Signature of Research Participant Date

_____
Printed Name of Research Participant

If consent is obtained in-person:

_____ _____
Signature of Person Obtaining Consent Date

_____
Printed Name of Person Obtaining Consent

Appendix 2: Interview Guide

Introductory Script:
Today is {date} and I'm interviewing with {interviewee}. Before we begin the interview, I'd like to briefly explain how I hope this will work. I have a basic script of questions to ask, though I want our conversation to be somewhat loose to allow you to talk as widely about the general topic as you like. The script questions center on four areas:

- Your current collaboration practices (that's how you work with other librarians and what tools you use to complete those tasks)
- What tools you use to keep track of co-workers and acquaintances, and how you feel about those tools
- How you use existing social networking sites, and how you feel about them
- What you would want in an ideal social network, designed just for you.

As I said, I hope this conversation will be an open one. In other words, feel free to talk about anything you think is relevant even if I have not asked specifically about it. I will also leave room at the end for you to comment or ask questions.

Questions about current collaboration practices
1.1 On what tasks or projects do you collaborate with librarians in other institutions and/or in your own institution?
1.2 What tools do you use to collaborate, including tools for finding collaboration partners and performing collaborative tasks?
1.3 Circle all that interviewer uses (PI will circle):

Multiple Email Systems
Phone (synchronous audio)
Text Chat/IM
Video Conferencing
Blogs
Wikis
Calendar/Scheduling Tools
Online Social Networks
Document Sharing Sites or Software
Photo-sharing sites
Folksonomies (Social Book-marking/Tagging)
Other tools:

1.4 Please describe a project or task you've addressed in collaboration with other librarians (critical incident interview method).

- What tools did you use?
- How did you feel about using these tools?
- Were there particular aspects of these tools that you found especially useful? Were there particularly impractical aspects?
- How would you change the tools to make collaborative tasks easier?

Questions about tracking online relationships
2.1 If you keep track of people with whom you've collaborated, how do you do so? Have you found any tools that are particularly useful for this task?
2.2 What characteristics made these tools useful or easy to use?
2.3 What characteristics were not useful or made them difficult to use?

Questions about perspectives on using social networking sites

Introduction to SNS series of questions: I'd like to briefly define what I mean by social network sites and services. For most people at UNC, the term "social network" usually points to Facebook or MySpace, since those are the obvious and popular examples. However, there are many other examples. When I talk about online social network sites and services, I'm focusing on services and technologies that [1] create unique personal profiles, [2] map socially or professionally significant relationships, and [3] leverage (or allow a user to leverage) those relationships to accomplish some task or communicate about an object or document. There are literally thousands of social network sites, especially when you consider existing sites that incorporate social networking features into their structures and services.

3.1 Do you currently use a social networking site for personal or professional purposes?

If already a SNS user:

- If you feel comfortable doing so, please describe how you use the site.
- What particular things about these sites do you like? Dislike?

If not a SNS user:

- What particular things about SNS keep you from using them?
- Do you feel there are outside factors that have kept you from using them?

3.2 Please discuss your feelings about using SNS to collaborate with peer librarians.

- What about SNS would need to change to make you more likely to use them for professional collaboration? (If interviewee is unsure how to answer, ask: {More peers on them? A separate SNS for librarians and information professionals? A better module for work tasks? More assurances about privacy control? Less distraction? Other factors?})

Questions about hypothetical SNS tools

4.1 Imagine a virtual networking tool created to assist you (as an academic librarian) in collaborating with other academic librarians. What elements would this network have?

4.2 How do you think a network designed for your local library system (or workplace) would be different from one designed for geographically distributed librarians?

Is there anything else you would like to discuss on this topic?

I still need a few more participants for my study:

Do you have colleague librarians here at UNC who actively collaborate in their work who might be interested in taking part (whether or not they use social networking tools)?

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