

**Interaction and Knowledge Exchange among Academic
Business Librarians in Ontario**

By

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Abstract

Academic business librarians specialize in the provision of library services to business faculty and students but often assume these roles without an educational background in Business or a familiarity with business information. This study used a two phase multi-method research design (web-based questionnaire followed by interviews) to investigate the communication, information seeking, and continuing professional education (CPE) activities of a population of academic business librarians in Ontario in order to develop a better understanding of how they acquire and share knowledge related to their professional practice and to determine if they constitute a community of practice. Less than 15% of respondents had an educational background in Business or Economics. Common CPE activities included attending conferences, workshops, internal training sessions, and database vendor presentations. Nearly half of respondents did not subscribe to the BUSLIB-L list, raising doubts as to its importance as a tool for current awareness, professional development, and advice. Direct communication with business librarians in other organizations occurs several times per year, most frequently via email or the telephone rather than face-to-face.

Information seeking occurred most frequently with new and early-career stage librarians who were new to business librarianship and working as solo business librarians. Individuals who had experienced a disjunctive socialization process (i.e., where they lacked an internal role model) experienced greater uncertainty and a lack of role clarity, and made greater use of third parties (external information sources) than individuals who had experienced a serial socialization process (i.e., where they were groomed by internal role models). Role-related information seeking occurred with respect to reference,

instruction, collections, and CPE responsibilities and varied according to organizational context - less external role-related information seeking occurred in branch business libraries, which all employed more than one business librarian, and where the librarians worked in collaboration on reference, instruction, and collections responsibilities, than with solo librarians in centralized libraries. This population more closely resembles a network of practice than a community of practice; while it is efficient at communicating explicit knowledge it lacks the face-to-face interaction required to transmit implicit and tacit knowledge. It does have the potential to develop into a distributed community of practice which could serve as a socialization agent for new academic business librarians and as a knowledge sharing forum, thus fostering closer interaction and coordination among community members.

Introduction

Subject librarians are typically found in academic libraries, where individual librarians, hired for their subject expertise, are assigned subject specialist liaison roles between academic programs and the library. Normally, subject librarians have a Master of Library and Information Science (MLIS) as well as a bachelor or master's degree in the subject at hand (e.g., Business), but often it is the case that individuals with degrees in the subject area cannot be found, so "it is normally considered sufficient for the subject librarian to develop a familiarity with the structure of the literature in the relevant discipline and the major resources associated with it in order to support users effectively" (Pinfield, 2001, p. 34). Recent surveys of the educational backgrounds of academic business librarians in the United States found that 15-20% of those working as business librarians possessed an undergraduate degree in Business (Liu & Allen, 2001; Pagell & Lusk, 2000). O'Connor and Marien's research on the recruitment of business librarians suggests that "because the overwhelming majority of business librarians neither begin their careers as business specialists nor have an educational background in business, recruiting effective librarians and information professionals internally and providing extensive professional development and training may also be a cost-effective alternative [to expensive job searches]" (2002, p. 74).

Many universities in Canada offer undergraduate and graduate degrees in Business, so business librarians can be found in virtually every Canadian university library. There are a variety of academic business library organizational models including separate branch business libraries located in the business school, separate service points

for business within the central library, and business library services and collections integrated with the central library's services and collections (Pagell, 2003). In some cases, one librarian may have sole responsibility for business, while in other cases, the subject responsibility may be shared among two or more business librarians. According to Pagell, "the needs of the business school and the demands that are made on the librarian are at a magnitude much greater than those placed on librarians serving academic departments...[and] if they are the business bibliographers in a larger reference department, separating out the unique needs of the business school from the demands of the general reference department becomes even more of a challenge" (2003, p. 23-27).

Some academic business librarians might be characterized as 'accidental business librarians' due to the fact they unexpectedly were asked to take on the role without any educational background or professional experience in the field. While there is anecdotal evidence of how librarians learn the practice of academic business librarianship (e.g. Duke, 2004), little is actually known about the information sources they turn to when faced with difficult reference questions, or when requiring advice on collection development or other issues related to their professional practice. As Duke suggests, making contact with other business librarians is one solution. Such communication may take place directly via telephone conversations, email exchanges and face-to-face interaction between individual librarians or indirectly via communication channels such as the Business Librarians' (BUSLIB-L) email discussion list. BUSLIB-L is a forum addressing issues related to the collection, storage, and dissemination of business information within a library setting and has a wide distribution whose audience is primarily North American college and university librarians (Klein, 2000).

Formal networks of academic business librarians also provide opportunities for communication and professional development. Such networks exist in the United States both at the national level as subgroups of the American Library Association (ALA) and the Special Libraries Association (SLA) and at the regional level (e.g., the California Academic Business Librarians Exchange). SLA's Business and Finance Division hosts the College and University Business Libraries (CUBL) roundtable at its annual meetings. ALA's Reference and User Services Association's Business Reference and Services Section (BRASS) includes the Business Reference in Academic Libraries Committee. In Canada, the Canadian Library Association (CLA) has a Business Information Interest Group that is populated by government, public, corporate, and academic librarians.

Another formal network is the Academic Business Library Directors (ABLD) group, which is a forum for directors of academic business libraries to discuss mutual concerns and share information. While membership in the business interest groups in ALA or SLA is open to all, membership in ABLD is restricted to directors of separate North American business libraries serving accredited graduate business programs or librarians with chief responsibility for business collections and service to a top tier graduate MBA program (Academic Business Library Directors, 1998).

Literature Review

Professional Communication

Little research exists on librarians' professional communication networks, and none specifically on the professional communication networks of academic business librarians. Whitehall, Durbidge, and Meadows (1989) surveyed a sample of British academic, public, and special librarians to explore the similarities and differences

between these categories of librarians with respect to internal and external contacts with other librarians including the frequency of communication and the method of contact. During the early days of the Internet, several studies focused on the impact of the Internet and electronic mail on professional communication among special librarians (Ladner & Tillman, 1993) and among reference librarians (Cromer & Johnson, 1994; see also a more recent study by Stover, 2000). Kovacs, Robinson, and Dixon (1995) examined the impact of electronic mail discussion lists on the information seeking and sharing behaviour of library and information science scholars. They found that librarians were using the lists as a source of professional and research information for personal use as well as an information source to assist library patrons and that the email lists enhanced but did not replace other sources of professional information. More recently, Julien and Given investigated the use of instructional listservs such as the Bibliographic Instruction / Information Literacy Instruction Listserv (BI-L/ILI-L) as a forum for discourse about relationships with teaching faculty (Julien & Given, 2002) and pedagogical expertise (Given & Julien, 2004).

Flynn (2005) examined how academic reference librarians in the United States used email to seek assistance from latent ties (unacquainted peers) or weak ties (loosely acquainted peers) in other libraries to answer reference questions and compared findings across academic disciplines. Flynn found differences in the frequency of communication by academic discipline, with librarians serving business and area studies reporting the highest percentage of contact with weak ties as well as more frequent postings to email discussion lists than reference librarians in the humanities, natural sciences, or social sciences. Other studies have examined professional communication among specific

groups of librarians including government documents librarians, science librarians, and archivists. Roselle (1999, 2001) studied the effects of electronic communication on US academic document librarians' relationships and found that such communication generated both efficiency effects, such as enhanced communication, and social effects, such as strengthened relationships. Cummins and Grothkopf (2002) described current trends in communication and networking among astronomy librarians while Brown and Ortega (2005) examined the information seeking behaviour of physical sciences librarians including the extent of their reliance on personal communication, online discussion groups and scholarly journals to enlighten their professional practices. Finally, Ataman (2004) explored the role of the Internet and email discussion lists as means of international collaboration and communication among archivists and records managers. However, with the exception of Flynn's findings regarding email usage, the literature does not specifically examine the nature or frequency of communication or information seeking behavior among networks or communities of practice of academic business librarians.

Communities of Practice

Communities of interest, communities of practice, and networks of practice are all examples of social structures that facilitate information and knowledge sharing. The concept of a community of practice was first conceived by Jean Lave and Etienne Wenger in the context of developing a theory of learning that acknowledges its social character and situated or contextual nature (Duguid, 2003). Wenger (1999) identified four components necessary to characterize social participation as a learning process: meaning

(learning as experience), practice (learning as doing), community (learning as belonging), and identity (learning as becoming). Quite simply, communities of practice are described as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger, McDermott & Snyder, 2002, p. 4). According to Wenger (1998), membership in a community of practice is not simply a matter of belonging to a particular social category (e.g., organizational or occupational affiliation), but requires the mutual engagement of participants, the negotiation of a joint enterprise which creates mutual accountability, and the development of a shared repertoire (i.e., routines, stories, genres). Lave and Wenger developed the term legitimate peripheral participation to characterize the process by which newcomers become included in a community of practice (Wenger, 1998).

Communities of practice take many forms but share a basic structure of three fundamental elements: “a *domain* of knowledge, which defines a set of issues; a *community* of people who care about this domain; and the shared *practice* that they are developing to be effective in their domain” (Wenger, McDermott & Snyder, 2002, p. 27). The distinction between a community of interest and a community of practice can be understood by examining the purpose and membership of the community. The purpose of a community of interest is to be informed while the purpose of a community of practice is “to create, expand, and exchange knowledge, and to develop individual capabilities” (Wenger, McDermott, & Snyder, p. 42). The members of a community of interest are people who share an interest in a topic (e.g., French cinema) while the members of a community of practice are practitioners who are developing a shared practice.

Brown and Duguid view communities of practice as subsections of larger networks of practice and believe that “both are critical for understanding learning, work, and the movement of knowledge” (2000, p. 141). A network of practice is a work-related network that links people together who share occupational or work-related practice and knowledge in common. Members of a network of practice have looser relations than those within a community of practice such that most members of a network of practice will never meet face-to-face, relying instead on indirect links or third parties to keep in touch and aware of one another. Networks of practice allow professional or disciplinary knowledge to flow across organizational boundaries via conferences, newsletters, electronic discussion lists, and web pages (Brown & Duguid, 2001).

Both the community of practice and network of practice frameworks are useful tools for studying information and knowledge sharing within specific populations such as academic business librarians in order to better our understanding of how individual practitioners acquire and share their professional knowledge. For example, Lee (2003) identified professional gatherings and electronic mailing lists as two mechanisms for legitimate professional participation with respect to librarianship and its allied professions. One can easily identify potential mechanisms for legitimate professional participation for academic business librarians but there is little documentation of their role in the literature.

Social Capital, Social Exchange, and Social Networks

The interaction that occurs between individuals within communities and networks can be explained by the concepts of social capital, social exchange, and social networks.

The term social capital is used by sociologists to refer to “the resources (e.g., information, ideas, support) that individuals are able to procure by virtue of their relationships with other people” (Woolcock, 2003, p. 1258). According to Nahapiet and Ghoshal, “the central proposition of social capital theory is that networks of relationships constitute a valuable resource for the conduct of social affairs” (1998, p. 243). Social capital has a structural dimension (the overall pattern of connections between actors), a relational dimension (the kinds of personal relationship that exist), and a cognitive dimension (resources that provide shared representations, interpretations, and meanings) (Nahapiet & Ghoshal). Social capital is created by the social exchanges that take place between individuals who may be friends, coworkers, or family members.

Social exchange theory attempts to explain why people engage in social exchanges such as providing social support or giving to advice to colleagues. According to Blau (1968), when benefits such as help or advice are supplied, they create diffuse future social obligations on behalf of the recipient of the benefit. Social exchange relations require a certain level of trust between parties. Initial exchanges are typically low-risk minor transactions and evolve into major transactions as the level of trust between the parties builds over time. Hall (2003) explored the applicability of social exchange theory to the study of knowledge sharing in information-intensive organizations, where she defined knowledge as a resource which is exchanged in transactions between actors within the organization. Knowledge exchange may also take the form of referrals (“who you know”) rather than an actual exchange of information (“what you know”) (Nahapiet & Ghoshal, 1998).

Social network analysis is both a theoretical perspective and a research methodology that focuses “on the causes and consequences of relations between people and among sets of people rather than on the features of individuals” (McCarty and Bernard, 2003, p. 1321). Haythornthwaite (1996) explored the application of social network analysis to the study of information exchange, and identified three attributes of relationships as they relate to information exchange: content (what information is being shared), direction (the direction the information flows), and strength (the intensity of the relationship in terms of quantity or frequency of exchange). Another key concept is that of tie strength, which refers to the number and types of relationships between pairs of actors. Strong ties are highly interconnected while weak ties tend to be loosely connected. Granovetter’s theory of the “strength of weak ties” notes that individuals are more likely to learn new ideas and information (such as job opportunities) from weak ties because information from strong ties is likely to replicate information already available in a person’s network (Granovetter as cited in Stohl, 1995, p.41).

Constant, Sproull, and Kiesler (1996) studied the exchange of technical advice via e-mail between employees in a geographically-dispersed organization and measured the strength of ties between information seekers and providers, the usefulness of the information provided, and the motivation for providing information. They found that weak ties (i.e., acquaintances or strangers) with superior resources (e.g., technical expertise or physical proximity to other experts) provided the most useful information, and that the information providers were motivated both by personal benefits (e.g., enjoyed helping others) and organizational factors (e.g., importance of being a good

company citizen). Other studies have confirmed the strength-of-weak-ties proposition as it relates to information seeking behaviour (e.g., Johnson, 2004; Pettigrew, 1999).

Wasko and Faraj (2000) found that the motivation to participate in electronic communities of practice and to share knowledge is affected by whether knowledge is seen as a public good or a private good. Individuals who view knowledge as a private good are motivated by self-interest, while individuals who view knowledge as a public good are motivated by altruistic (prosocial) behaviour such as a concern for their community. The participants in the electronic communities under study were motivated by tangible returns (e.g., access to information), intangible returns (e.g., self-actualization), and community interest (e.g., a desire to have access to a community of practice).

Boundary-spanning communication can be important for acquiring new information within groups, including occupational or professional groups. Weedman (1992) examined the formal and informal communication patterns of three related occupational groups (editors, book reviewers, and scholars of children's literature) to determine whether boundary-spanning communication occurred and by what channels. She found that a boundary-spanning structure existed that linked 82% of the respondents and that this structure comprised both formal media (via reading journal literature and attending professional association meetings), and informal media (communication via the respondents' social circles or social network). Taken together, social capital and the theories of social exchange and social networks can be powerful tools to explain interaction and knowledge exchange with networks of academic business librarians as

well as boundary-spanning communication between academic business librarians and other information sources.

Organizational Assimilation, Socialization and Information Seeking

Organizational assimilation is the process by which individuals become integrated into the culture of an organization and acquire the attitudes, behaviour, and knowledge needed to participate as an organizational member (Bauer, Morrison, & Callister, 1998; Jablin, 2001). This is a joint process consisting of “planned as well as unintentional efforts by the organization to ‘socialize’ employees, and ...attempts of organizational members to ‘individualize’ or change their roles and work environments to better satisfy their values, attitudes, and needs” (Jablin, 2001, p. 755). The organizational communication literature cites a number of communication processes associated with organizational entry and assimilation that can be grouped into two sets: the first set (orienting, socialization, training, and formal mentoring) represent primarily planned activities with the organization acting as an agent of assimilation, while the second set (informal mentoring, information seeking, information giving, relationship development, and role negotiation) are not part of any formal, planned assimilation activities and the individual acts as an assimilation agent (Jablin, 2001). Several studies (Black & Leysen, 2002; Simmons-Welburn & Welburn, 2003) have examined assimilation (often referred to as socialization) processes in academic librarians but both studies focused primarily on planned activities such as orientation, mentoring, and residency programs where the library was the agent of assimilation.

Newcomer information seeking has received significant research attention in the organizational communication literature (for reviews see Jablin, 2001; Morrison, 2002). According to models of newcomer information seeking, new employees, especially those new to their profession, experience high levels of role-related and career uncertainty when entering a new environment and proactively seek out information in order to clarify their new role and reduce their uncertainty (Miller & Jablin, 1991; Miller, 1996; Morrison, 2002). Newcomer information seeking behaviour may be affected by a number of factors such as the individual's background, their organizational context, and the manner in which the organization socializes new hires (Miller & Jablin, 1991; see also Griffin, Colella & Goparaju, 2000). Studies of newcomer information seeking show that various tactics (e.g., observation, overt questioning or indirect questioning) and channels (e.g., supervisors, peers, or third parties) are used when seeking technical information (i.e., skills and knowledge needed to execute tasks competently) or social information (i.e., knowledge of the people and norms of their work unit) (Comer, 1991; Miller & Jablin, 1991; Miller, 1996). Miller (1996) found that new hires use *overt* tactics (asking for the information directly) and *observe* tactics (paying attention to others' actions and talk) to a considerable extent; *third party* tactics (finding someone else besides a supervisor or particular coworker to provide the information) and *indirect* tactics (asking a question indirectly) moderately; and *testing* tactics (bothering a supervisor or breaking a rule and observing their reaction) infrequently. Tidwell and Sias (2005) studied the relationship between personality traits (e.g., conscientiousness, extroversion, neuroticism) and perceptions of social costs related to seeking different types of information (e.g., performance-related or task-related). They found that individuals high in

conscientiousness had lower perceptions of social costs and engaged in more frequent task-related and performance-related information seeking. Conversely, individuals high in neuroticism had higher perceptions of social costs and were less likely to overtly seek performance-related and task-related information.

In addition to the information seeking that takes place during newcomer socialization, employees also engage in information seeking in the course of their daily practice. Numerous models of the information seeking process exist in the information science literature (for reviews see Case, 2002; Wilson, 1999). Models of the information seeking behaviour of professionals indicate that work roles and tasks generate information needs that must be met in order to move their work forward (Leckie, Pettigrew & Sylvain, 1996; Wilkinson, 2001). Information needs are influenced by a number of intervening factors such as individual background, context, frequency, predictability, importance, and complexity, while individual information seeking behaviour is affected by a number of factors including awareness of information, sources of information, and outcomes of the process (Leckie, Pettigrew, & Sylvain, 1996; see also Rice, McCreddie & Chang, 2001). A number of studies have used Leckie et. al.'s model to investigate the information seeking of specific occupations including engineers (Kwasitsu, 2003), pastoral clergy (Wicks, 1999) and undercover police officers (Baker, 2004). However, no studies have been published investigating the information seeking behaviour of academic business librarians.

Continuing Professional Education

All librarians, regardless of their years of professional experience, are expected to maintain their professional competence by engaging in both formal and informal professional development and updating activities, which may include coursework, training sessions, professional conferences, participation in electronic mailing lists, and a variety of self-directed learning activities (Chan & Auster, 2003). Weingand also includes teaching, presentations, and research as venues for continuing professional education (CPE) because although “less often recognized as CPE, preparing for teaching, delivering a paper, or writing an article or book involves considerable research and study” (1999, p. 5). Ross and Dewdney (1998) have included making presentations and publishing articles in the professional literature among the set of professional communication skills needed in the field of librarianship. Pollack and Brown (1998) used a career span approach to investigate the role of continuing professional education in the career transitions of librarians and found that all the librarians they interviewed, regardless of career stage, recognized the importance of peer support and networking as learning resources.

Little has been written about the work lives of academic business librarians. For example, what were the experiences of new librarians as they learned the practice of business librarianship, what challenges did they face, how did they resolve them, and how did these experiences vary across different work environments? In addition, little is known about the roles that professional communication networks, communities of practice, socialization practices, information seeking behaviour, and continuing

professional education serve in the acquisition and maintenance of professional competence of academic business librarians.

Purpose of Study

The purpose of this study is twofold: first, to investigate the communication, information seeking and continuing professional education activities of a community of academic business librarians in order to develop a better understanding of how they acquire and share knowledge related to their professional practice. Of particular interest is how these activities vary according to variables such educational background, years of professional experience, and the type of library in which they work (i.e., central library or branch business library). Indeed, Morrison's review of newcomer information seeking suggested that future researchers investigate information seeking across a wider range of contexts as well as how information seeking differs between newcomers and experienced members (2002). Pagell and Lusk, who surveyed academic business librarians in 2000, recommended investigating whether academic business librarians in 'special settings' differed from those who were part of a general library setting as well as the role that library professional societies and professional conferences play in their professional development.

The second purpose of this study is to use the framework of communities of practice (CoP) to determine the extent to which this population of academic business librarians can be characterized as a CoP. Cox and Morris argued that the CoP concept is also useful for studying looser-knit groups which may be labeled communities of interest, or networks of practice, because these groups are on a continuum with CoP, "and that the

same model should be used to guide the study of them, even if not all the features are likely to occur as predicted” (2004, p. 2).

Methodology

Population

The study used a criterion-based purposeful sampling strategy and confined itself to academic business librarians employed at Ontario universities. While there are 20 universities in Ontario, not all of the university libraries employ business librarians because either the universities do not offer business degrees, or because the libraries do not use the subject specialist model of library service. Therefore, the population under study was further restricted to individuals identified as business librarians or business subject specialists at universities that offered business degrees.¹ Individual academic business librarians or business subject specialists were identified by scanning the public websites of Ontario university libraries including staff directories and listings of library staff by subject or liaison responsibilities. While most subject specialists in academic libraries hold the MLIS or an equivalent degree, there are a few individuals working as business subject specialists who do not. The criterion for inclusion in the population under study was job title, so all individuals with subject or liaison responsibility for business were included. Names and email addresses were harvested to construct the sampling frame which comprised a target population of 25 individuals working at 15 different universities.

¹ Business degrees are broadly interpreted here to include degrees in accounting, administrative studies, business administration, commerce, and management.

Research Design

A two phase, multi-method research design was employed to collect data using quantitative and qualitative data collection techniques. Multiple methods are used to examine issues from multiple perspectives, which heightens the validity of both research approaches. Multi-method designs allow researchers to collect a breadth of data about a population and also explore a smaller set of subjects in greater detail (Hunter & Brewer, 2003). Phase one of the study involved gathering quantitative data via a web-based survey instrument (along with some open-ended comments), while phase two of the study involved gathering data via in-depth qualitative interviews with a number of individuals who had completed the questionnaire. Details on both phases are discussed in the sections that follow.

Ethics Review Process

The plan for this research study was reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board at the University of Alberta on January 5, 2005. Due to the fact that the author is also a librarian faculty member at Brock University, the study was also reviewed and received ethics clearance through Brock University's Research Ethics Board on January 28, 2005. Copies of the information letters and consent forms sent to potential study participants have been included as appendixes and are discussed in later sections of the study.

Phase One: Questionnaire

Survey Instrument and Administration

A web-based survey instrument consisting of 23 closed and open-ended questions was designed to elicit information on the communication, information seeking, and professional development activities of academic business librarians (see Appendix A). The first section gathered information on each respondent's personal characteristics including educational background and professional experience. The second section investigated the context in which the respondents worked including the size of the university, the type of library in which the librarian worked, and the specific nature of his or her job responsibilities. The third section of the questionnaire gathered information on each librarian's professional development activities. The final section gathered information on each librarian's professional communication habits.

The questionnaire was created using Survey Monkey, a web-based survey software tool that allows individuals to design and edit web-based questionnaires that are hosted on the Survey Monkey website (<http://www.surveymonkey.com>). The questionnaire was administered over a three week period in February 2005. A mailing list consisting of the names and email addresses of the target population was created using Survey Monkey's List Management feature and an email invitation was sent to each librarian's work email address, personalized with each potential respondent's first name. The email message included a description of the research project and informed consent procedures and an invitation to complete the questionnaire (see Appendix B). A link to the questionnaire web site was embedded in the email message which took participants directly to the questionnaire's welcome page. Two reminder emails were sent using

Survey Monkey's List Management feature, which allows for tracking of individual responses to emails and the creation of customized messages (including messages constructed to appear to come from the author's own email address, rather than from SurveyMonkey.com). Both reminders were sent only to those who had not yet completed the questionnaire. The first reminder (see Appendix C) contained a copy of the original invitation and was sent three days after the original invitation. The second reminder (see Appendix D) was sent 10 days after the original notice (i.e., one week after the first reminder) and incorporated Dillman's Tailored Design principles to increase response rates by providing rewards (e.g., showing positive regard, saying thank you, or asking for advice), reducing social costs (e.g., avoiding inconvenience and making questionnaires appear short and easy), and establishing trust (e.g., by making the task appear important) (Dillman, 2000). Dillman also makes an argument for changing the look, feel, and content of later contacts, including invoking the social validation concept in order to increase response rates; all of these techniques were used here.

Results

21 questionnaires were completed for a response rate of 84%. Data from the closed-ended questions were downloaded into an Excel spreadsheet for analysis and data from the open-ended questions were recoded for data entry and analyzed for common themes. The gender breakdown of the questionnaire respondents was 14.3% male and 85.7% female. The respondents were also asked to indicate their age range in decades to get a sense of the age distribution of the sample. As shown in Table 1, the 30-39 age range was the largest with 42.9% of respondents, followed by the 50-59 range with

23.8% of respondents. Just over half of the respondents (11 of 21) were under 40 and just under half (10 of 21) were 40 or older.

Table 1			
Age Distribution by Decade			
Age range	Number	Percent	Cumulative
Under 30	2	9.5%	9.5%
30-39	9	42.9%	52.4%
40-49	3	14.3%	66.7%
50-59	5	23.8%	90.5%
60 or over	2	9.5%	100%
Total	21	100%	

Educational Background

The first section of the questionnaire queried respondents about their educational backgrounds including their undergraduate and graduate degrees. 100% of the respondents held a Bachelor of Arts degree; 14 different subjects were listed as undergraduate majors, with English cited most frequently followed by History. Only three librarians had majored in Business or Economics before becoming a librarian. The detailed results on undergraduate background by major subject area appear in Table 2.

Table 2			
Undergraduate Background by Major Subject			
Major Subject	Number	Percent	Cumulative
English	8	27.5%	27.5%
History	4	13.7%	41.3%
Anthropology	3	10.3%	51.7%
Sociology	2	6.8%	58.6%
French	2	6.8%	65.5%
Economics	2	6.8%	72.4%
Religious Studies	1	3.4%	75.8%
Visual Arts	1	3.4%	79.3%
Political Science	1	3.4%	82.7%
Business Administration	1	3.4%	86.2%
Geography	1	3.4%	89.6%
East Asian Studies	1	3.4%	93.1%
Spanish	1	3.4%	96.5%
German	1	3.4%	100.0%
Total	29		100.0%
N=21. Note: total exceeds 21 because some respondents reported two major subjects.			

Respondents were asked when they obtained their MLIS degree (or equivalent). The earliest reported date was 1965 while the most recent reported date was 2003. Three respondents reported that they did not hold the MLIS degree or its equivalent, but one of these three is currently working towards obtaining this degree. 7 of the 18 respondents that held the MLIS degree obtained their degrees within the last 5 years, while four of the five MLIS degrees obtained in the 1990s were granted between 1996 and 1999. Additional details appear in Table 3. Five respondents reported holding graduate degrees in addition to the MLIS degree, including master's degrees in Canadian History, Organizational Behaviour, English Literature, Theological Studies and Religious Studies.

Table 3			
Date that MLIS Degree was Obtained			
Year	Number	Percent	Cumulative
Prior to 1970	2	9.5%	9.5%
1970-1979	2	9.5%	19.0%
1980-1989	2	9.5%	28.5%
1990-1999	5	23.8%	52.3%
2000 or later	7	33.3%	85.6%
Currently enrolled in MLIS program	1	4.7%	90.5%
Do not have MLIS	2	9.5%	100%
Total	21	100.0%	

Respondents were also asked to indicate how many years of experience they had: (a) as a librarian, (b) as an academic business librarian, (c) at their current institution, and (d) in their current position. Years as a librarian ranged from a low of 0.5 years to a high of 40 years, with an average of 13.75 years, while years as an academic business librarian ranged from a low of 0.5 years to a high of 28 years, with an average of 6.46 years. The respondents had been in their current position for an average of 3.75 years but at their current institution for an average of 7.04 years. Table 4 provides a detailed breakdown of the minimum, maximum, mean and median for each of these categories of work experience.

Table 4					
Comparative Years of Experience					
	Min	Max	Mean	Median	Number of Respondents
As a librarian	0.75	40	13.75	8	21
As an academic business librarian	0.5	28	6.46	3	19
At your current institution	0.5	30.5	7.04	2.5	19
In your current position	0.5	28	3.75	1.5	19

Fewer academic business librarians in Ontario have educational backgrounds in Business or Economics than their peers in other countries. In 2000, Pagell and Lusk surveyed 114 US and international academic business librarians and found that while less than 20% had undergraduate degrees in Business, 23.5% held MBA degrees. Liu & Allen's 2001 study of 147 academic business librarians in the US found that 15% had undergraduate degrees in Business and 23% had second masters degrees in Business or Economics. None of Ontario's academic business librarians reported holding an MBA and only one librarian held a second masters degree in a business-related field.

Ontario's academic business librarians have fewer years of experience as academic business librarians in comparison to their American peers and have been in their current positions for less time. Pagell and Lusk (2000) reported that the average number of years as an academic business librarian was 9.1 years in the US and 6.3 years for the International (non-US) librarians. Liu and Allen's (2001) sample of US academic business librarians had been in their current positions for an average of 11 years, compared to 6.1 years for Pagell's US sample and 3.7 years for the Ontario academic business librarians surveyed here.

Workplace and Current Position

The respondents were asked to report the size of their university in student full time equivalents (FTEs). Responses ranged from a low of 1500 to a high of 67,000. Most of the respondents work at universities with at least 10,000 students and the mean student FTE size was 23,776 students. The responses, grouped by size range category, appear in Table 5.

Table 5		
Size of university in student full time equivalents (FTEs) (n=21)		
Size Range	Number	Percent
Less than 10,000	3	14.2%
10,000 to 19,999	9	42.8%
20,000 or greater	8	38.0%
Total	21	100%
Minimum	1500 FTE	
Maximum	67,000	
Mean	23,776	
Median	18,000	

Respondents were also asked to indicate the types of business degrees offered by their university according to the degree types listed in Table 6. It is not surprising to find, based on how the sample was constructed, that virtually all (20 of 21) of the respondents worked at universities that offered an undergraduate degree in Business (i.e., Bachelor of Commerce or its equivalent). The one exception worked at a university that offered a Bachelor of Accounting degree. 14 individuals worked at universities that offered an MBA, and 8 individuals worked at universities that offered a PhD in Business. Other Business-related degrees taught at these universities include undergraduate or graduate degrees in Accounting, Taxation, Marketing and Consumer Studies, International Business, and Human Resource Management.

Table 6		
Business degrees offered by university (N=21)		
Degree Type	Number	Percent
Continuing Education Certificates (non-credit)	12	57%
Bachelor of Commerce or equivalent	20	95%
Master of Business Administration	14	66%
Doctor of Philosophy	8	38%
Other	6	28%

Since there is no standard model for the provision of academic business library services, respondents were asked to describe how business library services are offered at their institution. 43% or 9 of 21 respondents reported that such services are provided in a branch business library, located in or adjacent to the business school's building while the other 57%, or 12 of 21 respondents, reported that business library services are integrated with the central library. They were also asked about the nature of their responsibilities as a business librarian. All of the respondents indicated that their responsibilities included reference service, collection development, library instruction, and acting as a liaison to business faculty. Other responsibilities cited by respondents included administration, data services, and web development.

Another question attempted to determine how many individuals had sole responsibility for business (referred to by practitioners as 'solos') and how many had shared responsibility for business. 6 of 21 respondents (28.6%) indicated they were the only business librarian at their university while 15 of 21 respondents (71.4%) indicated that they were not the only business librarian. Of those librarians that shared responsibility for business, 7 of 15 reported that they shared this responsibility with one other librarian, 3 of 15 shared business with two other colleagues, and 4 of 15 shared responsibility with more than two colleagues. In most cases, the responsibilities were divided by subject area (e.g., Accounting, Finance, Marketing).

Pagell and Lusk's (2000) survey of academic business librarians found three main models of business library service: 31% were located in their business schools, 20% were located in a separate location within the general library and 38% were part of the general library staff. Fewer variations in business library service are found in Ontario, with 57%

of Ontario's academic business librarians located within the central library versus 43% who work in branch business libraries. Pagell and Lusk's survey did not explore the frequency of shared versus sole responsibility for business library services, but Pagell later noted that "most academic business librarians are the one person designated for business with their central library" (2003, p. 26) suggesting that most 'solos' are found in central libraries.

Continuing Professional Education Activities

Library and Information Science (LIS)-related association memberships. The third section of the questionnaire asked academic business librarians about their continuing professional education (CPE) activities including LIS-related professional association memberships, conference attendance, conference presentations, and other CPE activities. Respondents were asked to indicate if they currently held memberships in a number of major library and information science-related associations including the American Library Association (ALA), the Canadian Library Association (CLA), the Special Libraries Association (SLA), and the relevant provincial library association, the Ontario Library Association (OLA). The most frequently cited membership held was in OLA which was mentioned by 13 of 21 respondents, of which 11 were also members of OLA's academic librarians section, the Ontario College and University Libraries Association (OCULA). 8 of 21 respondents were members of SLA, and seven of those eight members were also member of the Business and Finance (B&F) Division. One librarian specifically mentioned in her comments that she also belongs to the College and University Business Libraries (CUBL) roundtable which is a subunit within the B&F

Division of SLA. CLA and ALA were each cited by seven respondents. Only one of the seven CLA members was also a member of the Business Information Interest Group, while four of the seven ALA members were also members of ALA's Business Reference and Services Section. A detailed breakdown of responses appears in Table 7.

Table 7				
Current LIS Association Memberships (N=21)				
Association Name	Yes	No	Total	No Answer
Canadian Library Association (CLA)	7	9	16	5
CLA's Business Information Interest Group	1	10	11	9
American Library Association (ALA)	7	8	15	6
ALA's Business Reference and Services Section	4	9	13	8
Special Libraries Association (SLA)	8	5	13	8
SLA's Business & Finance Division	7	6	13	8
Ontario Library Association (OLA)	13	5	18	3
OLA's Ontario College and University Libraries Association	11	5	16	5

Respondents were also asked to indicate which other LIS-related associations they belonged to. Seven respondents indicated that they held other memberships which included: the Association of College and Research Libraries (ACRL), a division of ALA; the Academic Business Library Directors (ABLD); the Canadian Association of Public Data Users (CAPDU); the International Association of Social Science Information Service and Technology (IASSIST); and CLA's Technical Services Interest Group.

Overlap analysis of LIS-related professional association memberships. Each of the four associations (ALA, CLA, OLA, SLA) touts the benefits of personal membership including professional development, and networking opportunities and personal subscriptions to association publications, but each association varies in its size and offerings. Table 8 provides a comparison of the characteristics of each of these associations. As Brown and Duguid (2001) have noted, professional knowledge is shared

through conferences, newsletters, web pages, and email discussion lists. Shared association memberships provide opportunities for boundary-spanning communication across organizational boundaries via the formal communication channels (journals and conferences) sponsored by these organizations (Weedman, 1992). Therefore, individual questionnaire responses were analyzed to determine if respondents belonged to more than one of these associations and to discover the extent of overlap between their choices.

Table 8				
Comparison of the characteristics of four major LIS associations				
Association Name	ALA	CLA	OLA	SLA
Membership Size	64,000	2,500	5,000	12,000
Membership Dues	US \$60.00 + \$35-40 per division (e.g., ACRL)	CN \$200 (includes one type of library division) + \$15 per interest group	CN \$100 (includes one type of library division)	US \$125 (includes one division and one chapter)
Location of Annual Conference	2005 Chicago 2004 Orlando	2005 Calgary 2004 Victoria	Always held in Toronto	2005 Toronto 2004 Nashville
Publications included with membership	American Libraries (magazine); division publications and newsletters (e.g., College & Research Libraries)	Feliciter (magazine); division newsletters	OLA Access (magazine); division newsletters	Information Outlook (magazine); division newsletters

The questionnaire revealed that, except for membership in the OLA, there was little overlap in membership between the four professional associations; no single combination of choices stood out as being the optimal choice for academic business librarians, with 11 of 21 respondents holding multiple memberships. One respondent reported holding members in all four associations (CLA, ALA, SLA, & OLA). Three

respondents held memberships in three of the four associations, while seven respondents held memberships in two of the associations studied. Eight respondents held memberships in one of these four associations, while two respondents reported that they did not hold memberships in any of these four associations. Of those that held memberships on only one of these four associations, two belonged to CLA, two belonged to OLA, and four belonged to SLA. No one reported belonging only to ALA. A detailed breakdown of the overlap can be found in Table 9.

Table 9		
Overlap of Professional Association Memberships		
Associations	Number	Percent
CLA, ALA, SLA, OLA	1	4.8%
ALA, SLA, OLA	2	9.5%
CLA, ALA, OLA	1	4.8%
CLA, OLA	3	14.3%
ALA, OLA	3	14.3%
SLA, OLA	1	4.8%
CLA only	2	9.5%
ALA only	0	0%
SLA only	4	19%
OLA only	2	9.5%
Did not belong to any of these	2	9.5%
Total	21	100%

Kamm (1997) examined how librarians make membership decisions about their associations and found that the following factors, listed in order of frequency, influenced librarians' decisions: (a) the opportunity to network with colleagues, (b) the opportunity to contribute to the profession, (c) the quality of meetings or conferences, and (d) the cost of dues. Her study also identified a number of reasons for dropping memberships including the cost of dues, lack of local opportunities for involvement, and job changes. The issue of the value of professional association memberships for academic business librarians is explored in further detail in phase two of this study.

Conference attendance. Almost all of the respondents (19 of 21) reported attending a conference related to the field of library and information science within the last year. Of the two that did not attend any conferences, one indicated that she could not secure time off work to attend, while the other indicated that, in her library, non-MLIS holding subject specialists rarely attend out of town events. Respondents were asked to list all the conferences they attended within the last 12 months. The most frequently mentioned conference (cited by 13 respondents) was the Ontario Library Association's annual conference (always held in Toronto in late January or early February). Attendance figures for recent OLA conferences reveal that approximately 10% of those in attendance (407 of 4,393) were academic librarians while 17% of the workshop sessions were developed by OCUA, the section representing academic librarians (Ontario Library Association, 2005). The second most frequently mentioned conference was the Workshop on Instruction in Library Use (WILU) (cited by four respondents). Other conferences mentioned included CLA (mentioned three times) and ALA Midwinter (mentioned three times). Two respondents reported attending the ABLD meeting. Other events, each mentioned by one respondent, included the SLA annual conference, an Ontario Council of University Libraries (OCUL) meeting, a Western New York/Ontario ACRL conference, an Eastern Canada Innovative Users Group annual meeting, LIBQUAL meetings, and an Association of Caribbean University & Research Librarians conference.

Conference presentations. Presentations, poster sessions, and panel sessions are all examples of professional activities that provide participants with opportunities for knowledge sharing and interaction with their peers. One survey question explored

whether respondents had ever given any presentations (e.g., papers, poster sessions, or panel sessions) at a LIS-related conference. 10 of 21 respondents indicated they had done so, but 2 of the 10 did not provide specific details of their activity. Of the eight that did supply details, four indicated that they had presented at a previous OLA conference. Others presentation venues included a WILU conference, an Ontario Council of University Libraries (OCUL) Director's meeting, an ALA Midwinter meeting, and a Canadian Association of Law Libraries conference.

Active participation in professional association activities such as attending conferences and presenting at conferences can contribute positively to a librarian's professional development and facilitate future job and career success (Frank, 1997). However, Havener and Stolt (1994) found that institutional support policies (e.g., release time and financial support) are positively correlated with academic librarians' professional activities. It should also be noted that in Canada most academic librarians have academic status (rather than faculty status) so there is often less pressure to engage in research and publication than in academic libraries in the United States (Leckie & Brett, 1995, 1997). In this study, less than 50% of the respondents had ever presented at a LIS-related conference. Henry and Neville (2004) surveyed Florida academic librarians on their research, publication, and service patterns and found that 68% of respondents had given presentations at the state or national level, and 31% had participated in at least one poster session. They also found a relationship between career stage and publishing activity such that "those in promotion-earning and/or tenure positions at doctoral, research and master's level institutions do feel more pressure to perform research and

publish to achieve career advancement and are engaging in those activities to a higher degree than their colleagues” (Henry & Neville, 2004, p. 445).

Other continuing professional education activities. Another survey question prompted individuals to list other formal continuing professional education (CPE) activities such as classes, training sessions, or workshops that they had participated in within the last 12 months. Sources of CPE activities included: (a) offerings sponsored by professional associations such as ALA, ACRL, and OLA, and library organizations such as OCUL or the Association of Research Libraries (ARL); (b) internal training or information sessions offered by their own library, the business school, or other units within their own universities; (c) database training offered by vendors; and (d) continuing education courses and workshops offered by their own university or other colleges and universities. 16 of 21 respondents provided examples of their CPE activities, which are listed in Table 10 by type of information provider. Many of the activities were general in nature (e.g., library management or instructional design) or targeted at specific job responsibilities (e.g., data training or acquisitions), rather than activities related to their business responsibilities. Only a few respondents indicated that they participated in business-related CPE activities (e.g., coursework in human resource management or the Canadian Securities Course) while approximately half of the respondents listed business database training sessions among their CPE activities.

Table 10	
Continuing Professional Education Activities by Type of Information Provider	
Type of Information Provider	Example Activities
Professional Association or Library Organizations	Library Management Workshop (ARL); Fundamentals of Acquisitions (ALA); Data training (CAPDU/DLI); Choosing and using government documents (OLA Institute online course); Refworks Train the Trainer (OCUL); Visioning libraries of the future (ACRL)
Internal (within own library, business school, or university)	Leadership & supervisor training (university); instructional design (university); active learning (library); new developments in searching the web (library); what MBA students think about teaching (business school)
Database vendors	Database demonstrations and training sessions for: Business Source Premier, Datastream, eMarketer, Factiva, FP, Gartner, LexisNexis, Mergent, Snapshots International
College or University Continuing Education courses	Canadian Securities Course; Dreamweaver; Excel; Human resources management in Canada;

While data is not available on the CPE activities of Ontario's academic librarians (i.e., across all subject areas), Chan and Auster's (2003) research on the professional development activities of reference librarians in Ontario's public libraries found that they spent an average of 31.5 hours in formal updating activities (e.g., courses or workshops) versus an average of 300.8 hours spent in informal updating activities such as attending conferences, participating in email discussion lists, and a variety of self-directed learning activities.

Professional Communication Habits

LIS-related email discussion lists. The final section of the questionnaire explored the professional communication habits of academic business librarians including the use of LIS-related email discussion lists and various other communication channels. One question specifically addressed their use of the Business Librarians (BUSLIB-L) email

discussion list. Nearly half of the respondents (10 of 21) reported that they did not subscribe to this discussion list. Of those that did subscribe, 5 of 11 read BUSLIB-L messages daily while 2 of 11 respondents read BUSLIB-L messages several times a month. Several comments from respondents provide insight into the lack of interest in the BUSLIB-L list: “I used to monitor BUSLIB, but the value of the interactions declined quickly” and “ I subscribe, but have it automatically going to a sub-directory, so look at it only occasionally (I find it less useful as an academic librarian than when I was in [the] corporate [sector])”.

Email discussion lists such as BUSLIB-L predate the World Wide Web and have been cited by a number of studies (Ladner & Tillman, 1993; Kovacs, Robinson & Dixon, 1995) as an important tool for current awareness, advice, and professional development. However, nearly half of the academic business librarians surveyed in this study did not subscribe to the BUSLIB-L email discussion list, despite its large subscription base of academic librarians. Unfortunately, the questionnaire failed to specifically elicit reasons for not subscribing to this list but the qualitative interviews provide an opportunity to further explore its value to the practice of academic business librarianship.

Respondents were also asked to list other LIS-related email discussion lists to which they subscribed. Responses were provided by 17 respondents and included the following categories: (a) lists sponsored by professional associations (ALA, ACRL, OLA) and library organizations (OCUL, ARL); (b) lists on specific topics (e.g., information literacy, digital reference, information commons, systems, acquisitions); (c) restricted lists (e.g., the ABLD list that goes to members only) and internal lists for library staff; (d) data-related lists (CAPDU, Data Liberation Initiative); and (e) an email list for academic

business and economics librarians in Ontario (nicknamed ABEL-O by its participants) that relies on individuals creating and maintaining their own email distribution lists via their own email software's address book (e.g. within Eudora or Outlook) rather than traditional "listserv" subscription software.

A number of questions elicited information on the frequency of postings to LIS-related email discussion lists. The respondents were not frequent posters to such lists, with only 6 of 21 (28.%) indicating that they posted queries several times a year. They did respond to the queries of others on a more frequent basis, as often as several times a month. Table 11 and Table 12 compare the frequency of posting and responding to queries on LIS-related email discussion lists. These results are similar to the results of a study of subscribers to the LIBREF-L email discussion list, a discussion list for reference librarians, which also found that subscribers responded to queries more often than they posted queries themselves (Cromer & Johnson, 1994). A more recent study by Flynn (2005) compared university reference librarians' use of email for assistance with reference queries by academic discipline and found that 74.5% of business librarians had posted queries to email discussion lists at least once a year compared to 54.5% of reference librarians posted across all disciplines. This findings are similar to the results of this study, where 71.5% of respondents reported posting queries to LIS-related discussion lists.

Table 11		
How often do you post queries to LIS-related email discussion lists?		
Frequency	Number	Percent
Often (several times / month)	0	0%
Sometimes (several times / year)	6	28.6%
Rarely (once a year or less)	9	42.9%
Never	5	23.8%
Other	1	4.8%
Total	21	

Table 12		
How often do you respond to queries from LIS-related email discussion lists?		
Frequency	Number	Percent
Often (several times / month)	2	9.5%
Sometimes (several times / year)	8	38.1%
Rarely (once / year or less)	9	42.9%
Never	2	9.5%
Other	0	0%
Total	21	

Direct communication with other business librarians. The questionnaire also explored how often individuals communicate directly with other business librarians outside of their own institution. 4 of 21 (19%) communicate with other business librarians several times a month; 15 of 21 (71.4%) communicate with others several times a year; 1 of 21 (4.8%) rarely communicates with others; and 1 of 21 (4.8%) never communicate directly with other business librarians outside of their own institution. Flynn's (2005) study of university reference librarians (across all academic disciplines) found that frequency of communication did vary by tie strength: 57.5% of respondents had sought assistance with a reference question by directly emailing a latent tie (a peer

they had never met or spoken to before) while 67% of respondents had sought assistance by directly emailing a weak tie (a peer they had met before).

In this study, respondents were also asked to indicate how frequently they use a number of communication methods when communicating directly with other business librarians outside of their own institution. 20 of 21 respondents answered this question, but some did not provide answers for every communication method. Table 13 contains a summary of frequency of use by communication method. The most frequently used communication method is email, which is used often or sometimes by all 20 respondents. The next most popular is the telephone, which is used often or sometimes by 16 of 20 respondents, while face-to-face communication is used often or sometimes by 13 of 19 respondents. The least frequently used communication methods when communicating with other business librarians are chat, which 15 of 16 have never used; fax, which 12 of 17 have never used; and regular mail, which is rarely or never used by all 17 respondents. The results from the qualitative interviews also provide further understanding of the frequency of communication among business librarians.

Table 13				
How frequently do you use the following communication methods when communicating with other business librarians?				
	Often	Sometimes	Rarely	Never
Chat (e.g., MSN Messenger)	0	0	1	15
Email	14	6	0	0
Face-to-face	3	10	6	0
Fax	0	2	3	12
Mail	0	0	7	10
Telephone	5	11	4	0
N=20 (rows do not total 20 because respondents skipped part of the question)				

Although this questionnaire did not explore the reasons behind the respondents' choice of communication media, some insight into their selection can be gained from studies of communication media choice (e.g., Lengel & Daft, 1988; Straub & Karahanna, 1998; Trevino, Webster & Stein, 2000; Waldeck, Seibold, & Flanagin, 2004). Communication media vary in their capacity to convey information including the ability to handle multiple information cues simultaneously, the ability to establish rapid feedback, and the ability to establish a personal focus (Lengel & Daft, 1988). Lengel and Daft's media selection framework suggests that effective communication occurs when rich media (i.e., face-to-face communication or the telephone) are used for non-routine messages and lean media (i.e., mail or email) are used for routine messages.

Lengel and Daft argue that rich media, especially face-to-face communication, allow individuals to extend their social presence within an organization by conveying cues of personal interest, caring, and trust. According to Cohen and Prusak, "the relationships, communities, cooperation, and mutual commitment that characterize social capital could not exist without a reasonable level of trust" (2001, p. 29). Conversely, lean media such as email can be used to maintain and strengthen weak ties among employees who are members of professional, dispersed occupational communities "through less frequent and less emotionally intense communication, in relationships that do not require or encourage sharing of confidences or establishment of strong reciprocities" (Pickering & King, 1995, p. 480). An employee's weak ties serve as links between strong tie networks and can be used to provide access to organizationally-useful information to facilitate problem solving or to facilitate the mobilization of like organizations to respond to a common problem (Pickering & King, 1995).

Trevino, Webster and Stein (2000) make a distinction between media choice (an individual's decision to use a medium in a specific communication incidents) and media use (an individual's broad pattern of usage over time). In a comparison of media choice using four communication media (meetings, email, fax, and written media), they found that, for long distance communications and for messages involving large numbers of recipients, individuals were more likely to choose email, fax or written media than to choose meetings. Media use, specifically meeting use, was influenced by an individual's job equivocality (ambiguity and the existence of multiple and existing interpretations).

Other factors influencing media choice are proximity, recipient availability, and the desire for task closure (Straub & Karahanna, 1998). Straub and Karahanna's study focused on five media (email, fax, face-to-face, telephone, and voicemail) and found that email was chosen most often when recipients were unavailable while the telephone and voicemail were preferred when the recipient was located at a distance. In this study, the respondents used email most frequently when communicating with other business librarians. This lean media lends itself well to communicating routine messages, for conveying messages when the recipient is unavailable, and for maintaining and strengthening weak ties. The respondents did, however, also use richer media such as the telephone and face-to-face communication, which lend themselves to communicating non-routine messages. Communication media choice can also be influenced by social and occupational norms; academic librarians were early adopters of email as a convenient and low-cost communication medium for long distance communication.

Phase Two: Qualitative Interviews

Interview Method

One of the purposes of this study was to investigate the communication, information seeking, and continuing professional education activities of a community of academic business librarians in order to better understand how they acquire and share knowledge related to their professional practice. Phase two of the study provided an opportunity to further explore these activities using a different data collection technique and involved gathering qualitative data via interviews with some of the librarians who had completed the web-based questionnaire. Volunteers were recruited in two ways: first, a message asking for volunteers appeared at the end of the questionnaire (see Appendix A); second, an email invitation, which provided further details on the nature of the second phase of the study, was sent to all of the questionnaire respondents (see Appendix E). A total of eight individuals from six different universities volunteered and were interviewed in March 2005. Each interview took place at the participant's workplace, either in his or her own office or in a private meeting room, and lasted approximately 45 minutes. Permission was received to audiotape seven of the eight interviews. These were recorded using a digital voice recorder and the recordings were transcribed by the author. The field notes from the one interview that was not recorded were transcribed immediately after the interview. All participants agreed to the use of anonymous quotations in the project report (see Appendix F for the consent form).

Interviews were conducted using the critical incident technique (CIT) method to elicit details on each respondent's information seeking strategies. The CIT is classified as a qualitative interviewing procedure and "facilitates the investigation of significant

occurrences (events, incidents, processes, or issues) identified by the respondent, the way they are managed, and the outcomes in terms of perceived effects” (Chell, 1998, p. 56). The CIT has been used in a number of information behaviour studies (see reviews by Fisher & Oulton, 1999; Urquhart et al., 2003) including the study of the information needs and information seeking patterns of university professional and managerial staff (Wilkins & Leckie, 1997). Commenting on the value of the critical incident technique, Wilkins and Leckie found that the critical incident interviews “provided an extremely rich source of additional data on the nature of the participants’ work worlds and their information seeking...suggesting avenues for exploration that could not have been easily evoked through a survey instrument alone” (p. 573). Wilkins and Leckie’s study asked participants to recall critical incidents in which they needed information in order to complete an important job-related task, and their interview questions became the basis of the interview protocol described in the next section.

Interview Protocol

The interview protocol (see Appendix G) consisted of a series of questions designed to elicit insight into individual librarian’s information seeking behaviours. Each interview began by asking for further background on the librarian’s educational and work experiences as well as details on current roles and responsibilities. Recently hired respondents (i.e., within the last three years²) were asked to reflect back on their experiences since they had assumed their current position including the process by which they learned the requirements of their position. In the second part of the interview, each

² A broader definition of the notion of recently hired (within 3 years rather than within 12 months) is based on Black and Leysen’s (2002) definition of entry-level librarians as individuals possessing three or less years of professional experience.

respondent was asked to discuss in detail one or more problems that he or she had recently encountered (i.e., within the last 12 months) connected to the practice of business librarianship that required him or her to seek out information or advice to get on with a task or to tackle a problem. In order to prompt for better recall of details, probing questions were used such as: can you describe the problem in detail? What set of circumstances led to this problem? Can you describe the information sources that you consulted? Who did you talk to? In addition, the interviews provided an opportunity to further explore some issues identified in the questionnaire phase such as the importance of email discussion lists, networking with other business librarians, and the nature of each librarian's continuing professional education activities.

Participant Profiles

The eight librarians (7 female and 1 male) who were interviewed represented a cross-section of the total target population with respect to: (a) educational background, (b) age range, (c) career stage³, (d) years in current position, (e) type of library and (f) nature of position. All eight librarians held Bachelor of Arts degrees with majors or double majors in a wide range of subjects including Anthropology, Business, Economics, English, French, Political Science, Sociology, Religious Studies, and Visual Arts. One librarian was under 30 years of age, four librarians were between 30 and 39 years of age, two librarians were between 50 and 59 years of age, and one librarian was over 60 years of age. Three had less than 5 years of experience as librarians, two had between 5 and 15 years of experience as librarians, and the remaining three had more than 25 years of

³ Pollack and Brown's career stages, based on years of experience, are: librarians new to the profession (0-5 years), early-career librarians (5-15 years), mid-career librarians (15-25 years) and advanced-career librarians (over 25 years).

experience as librarians. Despite this wide range of experience, most were fairly new to business librarianship, with all but one having held their current position for less than 4 years. Five of the eight librarians worked in central libraries while three worked in branch business libraries. Of the five librarians working in central libraries, three had sole responsibility for business-related services and two had shared responsibility for business. The remaining three librarians had shared responsibility for business-related services in branch business libraries.

Findings

One aim of this study was to determine how individual communication, information seeking and continuing professional education activities vary according to individual and contextual differences. Information seeking can be defined as “a conscious effort to acquire information in response to a need or gap in your knowledge” (Case, 2002, p. 5). In this study, individual background factors included educational background and career stage, while organizational contextual factors included the type of library (i.e., centralized or branch) and the nature of subject responsibility (i.e., sole or shared). Both new and experienced academic business librarians identified a number of specific information seeking incidents which occurred on a continuum of frequency. Information seeking occurred most frequently with new and early-career stage librarians who were new to business librarianship and who were working as solo business librarians (i.e., had sole responsibility for business). Occasional information seeking was reported by librarians who had shared responsibility for business, regardless of career stage, while the most experienced librarians, regardless of context, reported the least amount of

information seeking. In addition, the one librarian who did have a subject background in business also reported rarely engaging in information seeking behaviour related to the practice of business librarianship. The information seeking incidents can be categorized into two themes: (a) socialization strategies (learning the job as a newcomer to the position), and (b) role-related information seeking (addressing information needs arising out of the daily practice of business librarianship). Details on these two core themes are explored in the sections that follow.

Socialization Strategies

Organizational socialization refers to the process by which an individual is taught and learns the social knowledge and skills necessary to assume a particular organizational role (Van Maanen & Schein, 1979). Socialization occurs throughout all stages of an individual's career, but is more intense during the outsider to insider boundary passage, when one enters a new organization, than when an individual undergoes a job change within the same organization. Seven of the eight librarians who were interviewed had held their positions as academic business librarians for less than four years. Four of these seven assumed their positions as newcomers to the organization, while the remaining three assumed new positions within their current organizations. The processes which each librarian experienced during the socialization process are better understood through the lens of organizational socialization theory.

Van Maanen and Schein's (1979) theory of organizational socialization describes six major tactical dimensions of the organizational socialization process, selected either consciously or unconsciously by the organization, to socialize employees to their new

roles. These tactical dimensions include: (a) collective vs. individual, (b) formal vs. informal, (c) sequential vs. random, (d) fixed vs. variable, (e) investiture vs. divestiture, and (f) serial vs. disjunctive socialization processes. These socialization tactics do not appear individually, but are associated with one another such that “the actual impact of organizational socialization upon a recruit is a cumulative one, the result of a combination of socialization tactics which perhaps enhance and reinforce or conflict and neutralize each other” (Van Maanen & Schein, 1979, p. 253).

Some general observations can be made about the socialization processes used in academic libraries. Most academic libraries do not hire large numbers of new librarians at the same time, so individual socialization processes are used and new recruits tend to be processed singly. Individual socialization is also most likely to be associated with learning complex roles (Van Maanen & Schein). In addition, new librarians are not segregated from experienced organizational members during the socialization period nor are their roles differentiated from those of regular organizational members, as is the case with formal socialization processes. Informal socialization processes are typified by ‘on-the-job-training’ assignments which place newcomers in the position of selecting their own socialization agents. A recent survey on the training experiences of new academic librarians in Canada found that 42% had been offered formal training (e.g., information about job duties); 46% had received informal training (e.g., one-on-one discussions); and 12% had received no training at all (Oud, 2005). In addition, Oud found that “most libraries have an unstructured approach that often requires the person being trained to come up with the questions and suggest areas of need” (p. 86).

As a rule, academic librarians follow a fixed timetable for achieving permanency and promotion which does vary among universities but which corresponds to a fixed socialization process. Inclusionary boundary passages such as acquiring tenure, and functional boundary passages such as moving from cataloging to reference librarianship, are associated more with random socialization processes. Libraries most likely follow the investiture socialization process, which confirms the entering identity of new recruits and builds upon the skills, values, and attitudes the recruit is thought to possess (Van Maanen & Schein, 1979). The serial-disjunctive tactical dimension is the one tactic that did vary among academic librarians. Both serial and disjunctive processes were evident in the experiences of the librarians interviewed in this research project, and will be explored in greater detail in the following analysis.

New librarians with solo responsibility. Disjunctive socialization processes occur when newcomers are not following in the footsteps of immediate or recent predecessors, or when there are no role models available to inform them how to proceed in their new role (Van Maanen & Schein, 1979). Similar feelings of professional isolation were experienced by two librarians, Ellen⁴ and Ann, who were hired as solo business librarians in two different centralized libraries. Ellen is an early career-stage librarian (with just over five years of experience) who was hired to fill a vacant position as a business librarian a little over a year prior to the interview. Although she had studied Economics as an undergraduate student (which provided an educational background in a related subject area) and had done some contract work in academic and public libraries (which provided some relevant work experience), she had not taken a business information

⁴ All names are pseudonyms.

course while enrolled in her MLIS program and had not previously worked as a business librarian. In the following passage Ellen describes her sense of isolation as a solo academic business librarian:

When I first came here, number one thing I noticed was there was nobody who could train me. Because whoever did it before took her expertise with her. There was no one else doing joint work or shared work so that someone else could teach me how to do it. I was dropped right into the position but there was nobody to ask for help and so I was on my own to begin with.

Ann is another new librarian (with less than five years of experience) who was hired in 2002 to work as the solo business librarian in a centralized library. Ann might be considered an ‘accidental business librarian’; when she applied for the position it was not advertised as a business-related librarian position, but she was assigned responsibility for business-related subject areas after she was hired. In her library, the business portfolio gets passed around like a ‘hot potato’. In the following passage she reflects on the status of business librarianship in some academic libraries:

Business librarianship in academic libraries... my impression is that nobody wants to do it. At least in Canada or in a lot of places where there is a general library. [In my library] this portfolio gets passed around to the newest librarian. Nobody wants it. [My predecessor] was so happy when I got here so she could get rid of it.

Considering that Ann is an accidental business librarian, she was better prepared than many to enter the field because she took a course in business information while in her MLIS program and had worked part time in a branch business library on the same campus as her MLIS program. Ann was also fortunate because her predecessor was still on staff and available to be consulted. However, her predecessor also lacked a background in business and served more as resource for technical and procedural

information (such as internal policies and practices) rather than a role model in effective business librarianship.

Both Ann and Ellen were proactive in their information seeking behaviour and used a variety of tactics and sources to overcome their feelings of isolation and uncertainty regarding their new roles. After Ann was first hired, she spent a lot of time meeting with business librarians at other universities and touring their libraries. Ellen initially tried getting help from business librarian colleagues at a few nearby universities but soon discovered they could not provide the kind of focused help that she needed, and that she needed to develop other strategies:

The neighbouring universities like [University A and University B] don't have a strong business strength so that is not their first priority whereas here it is. For the [Business] faculty. Even within the three universities, I'm not getting enough help so even if they do help me, it's not focused enough. I've pretty much given up getting help within. My options were to either take a class, to find someone outside of here who will teach me or be a mentor, or getting to listservs and networking.

The use of third parties (e.g., external information sources) is typically used when the primary source (e.g., supervisor) is unavailable or lacks the expertise to answer a newcomer's questions (Miller & Jablin, 1991). Overt tactics, such as direct questioning, are efficient means of acquiring information and may assist in developing relations that enable easier access to information sources for future information requests. Observing is a critical means for gathering information to fill gaps in role knowledge because new hires may use modeling behaviours to learn their roles (Miller & Jablin). However, in Ann's and Ellen's cases, they lacked access to business librarians within their own workplaces who they could observe and use as role models.

New librarians with shared responsibility. Serial socialization processes occur when more experienced organizational members serve as role models and groom newcomers who are about to assume similar kinds of positions (Van Maanen & Schein, 1979). The impact of shared responsibility for business can be seen in the experiences of two other new librarians, Bill and Fran, who were both exposed to serial socialization processes. Bill is a new librarian who was hired less than a year prior to the interview to be the second business librarian in a centralized library. He did not take the business information course during his MLIS program nor did he have an academic background in business, but found that he had an easier time learning the job than either Ann or Ellen because he had a colleague to turn to for advice and guidance and to ‘show him the ropes’. Although he did have occasions to seek technical and procedural information with respect to internal policies and procedures relating to collection development, he found his transition from the MLIS program into business librarianship to be pretty smooth. He has not actively tried to build a professional network of business librarians and instead relies on his business librarian colleague’s network of external contacts when he cannot get the information or advice he needs from internal sources.

Another librarian, with an even smoother transition from the MLIS program to business librarianship, was Fran, whose career path into academic business librarianship represents something of a textbook case in how this transition should work. In addition to having an academic background in business and the social sciences, she interned in the library where she currently works, and after graduation was hired there on contract. Although she is primarily responsible for a subject area in the social sciences, and works in a centralized library, she shares subject responsibility for business collection

development with the head of the branch business library on the same campus. She also worked part-time in the branch business library for a number of months before assuming her current position. She is part of a team of liaison librarians who share advice regarding reference, instruction, and liaison work, and she works closely with the head of the business library regarding collections responsibilities. Fran also did not feel the need to build an external network of business librarian colleagues and has even been a source of advice to business librarian colleagues at other universities.

The two new librarians who experienced serial socialization also made use of a number of information seeking tactics such as overt questioning of coworkers and observing the behaviour of role models. The difference between these two groups is that the librarians who shared responsibility for business rarely felt the need to seek advice from third parties external to their own organizations, so they did not concentrate on building networks of external contacts. According to Oud's survey on training for new academic librarians, training sessions need to pay more attention to facilitating relationships with external contacts, particularly for new librarians who may be the sole experts in their area, and could even include introductions to and instructional sessions with librarians at other institutions (2005). This approach to training and orientation would have been a great benefit to the librarians who experienced disjunctive socialization processes, as it would have facilitated the development of a network of informal mentors and role models in effective business librarianship.

Job transitions in later career stages. Librarians in later career stages face transitions when they accept new job responsibilities or transfer to new positions and also need to engage in information seeking as they orient themselves to their new positions.

Three of the librarians interviewed in this study assumed positions as academic business librarians after varying amounts of experience in academic libraries, and experienced smooth transitions into business librarianship. In all three cases, the job transfers were internal, either within the same centralized library or between branches within the same library system, and the librarians generally experienced less uncertainty and greater role clarity than the newly hired librarians described earlier. In addition, all three of these cases were examples of serial socialization.

Heather is an early-career librarian (with less than 10 years of experience) who works in a branch business library. She transferred to the business library after working in another library on campus for a few years. She did not have any previous business reference or collections experience and did not have an academic background in business, but had taken a business information course during her MLIS program and thought she might be interested in pursuing business librarianship. Heather's main information source about her new role was her new supervisor who was the head of the business library. She was trained by the head of the business library and worked collaboratively with her in all aspects of her position including library instruction, collection development, faculty liaison and reference service. In this case, Heather's supervisor acted as her mentor and role model as she learned the practice of business librarianship.

Another interviewee, Donna, returned to academic business librarianship about two years prior to the interview as one of several business librarians in a branch business library after many years in administrative positions in the same library system. She had maintained her ties to the subject area by helping out on the reference desk in the business library on occasion, but had not been directly involved with business collections

work. The transition from administration back to business librarianship involved a certain amount of training and updating, but because she had spent many years working in a variety of business-related positions, the learning curve was not very steep. A key source of information were her colleagues, both within her branch library and across her library system, who helped her learn new acquisitions processes, and gave her advice on how to build a business collection.

Gail's many years of experience in government and academic libraries served her well when she took over the business portfolio in a centralized library when it became vacant. Gail found the transition to be quite smooth as she was already familiar with the requirements of the position. In her previous position as head of the Reference Department, she had supervised the person who had held the position previously, and had worked with her in the areas of collection development and library instruction. So, unlike the solo librarians who experienced disjunctive socialization processes entering their positions from outside, Gail's experience could be considered a serial socialization process, because she was following in the footsteps of her predecessor and she knew how to proceed in her new role.

Discussion. Several background and contextual factors greatly affected the socialization processes of new business librarians as well as more experienced librarians who recently acquired new roles as business librarians. New and early-career librarians hired to assume solo responsibility for business in centralized libraries experienced disjunctive socialization processes. Lacking local role models, they engaged in a variety of strategies to seek out information and acquire expertise from external information sources. In contrast, an advanced-career stage librarian who assumed solo responsibility

for business (in the form of a job transfer in the same library) was able to draw on her own prior knowledge and experience as well as her familiarity with what the previous business librarian had done, thus engaging in a serial socialization process. The librarians that were hired to share responsibility for business, regardless of career stage, also experienced serial socialization processes and were able to acquire expertise from local colleagues who served as mentors and role models.

Role-related Information Seeking

In addition to the information seeking that occurs following a personal career transition, librarians engage in role-related information seeking in the course of their daily professional practice. All of the librarians interviewed shared similar roles that included responsibility for providing reference services, collection development, instruction, and liaison within their assigned subject areas as well as a responsibility to engage in continuing professional education. Most of the librarians' role-related information needs fell into the following categories: (a) seeking information to answer challenging reference questions involving topics such as economics, accounting and finance or involving data and government documents; (b) seeking advice to assist with collection development decisions including choosing and evaluating databases and selecting books in their assigned subject areas; (c) seeking information to assist with instructional and liaison responsibilities; and (d) seeking information to pursue continuing professional education responsibilities.

Several librarians who worked in settings where there was shared responsibility for business reported that they regularly conferred with their colleagues and that their

roles were done in collaboration with each other. Cathy reflects on the benefits of a collaborative approach:

We regularly confer when it comes to doing reference and teaching. We develop our teaching program together. I believe in a team approach. I don't know that it is seeking advice. We have chosen to do a collaborative approach, whether it is collection development, whether it is teaching, reference service... When we collaborate, we always learn things because people have different approaches. In that way, we do change our ways after we discuss. We think we may do a course one way, but after looking at the feedback from earlier courses. We may take a totally different approach. It is more a collaborative thing rather than me asking about how we are going to do something. It comes out of the collaborative process.

Librarians who had sole responsibility for business were more frequent information seekers than their peers with shared responsibility. The following sections will explore in greater detail their role-related information needs and information seeking activities.

Reference services role. Information needs of professionals are influenced by a number of variables such as individual demographics, context, frequency, and complexity (Leckie, Pettigrew & Sylvain, 1996; see also Bouwman & van den Wijngaert, 2002).

Lack of a subject background in business coupled with limited professional experience can make business reference work seem intimidating. Ann commented on the frequency of her information seeking behaviour and how she has coped with her unease about the subject area:

Well I'd say it's more frequent than not that I have a problem. They tend to be on a fairly minor, easy to solve basis. But they come up almost weekly because I don't have a subject background in this and I rely a lot on my colleagues. I almost see myself as a liaison in some ways between the people I'm supposed to be liaising with and my colleagues. I direct people to people who have developed expertise in the area that I supposedly have it in. For me it's a problem. I don't like the fact that I feel as at sea as I do sometimes.

Many of Ann's information needs are driven by a lack of confidence in her own knowledge and abilities so she tends to immediately contact a colleague, particularly for advice on tackling complex reference questions involving data and government documents. Professionals are likely to consult information sources, such as colleagues, based on factors such as familiarity, trustworthiness, timeliness, quality and accessibility (Leckie, Pettigrew & Sylvain, 1996; see also Fidel & Green, 2004).

Other, more experienced, librarians also reported needing to consult data or government documents specialists for advice and assistance, so this seems to be a common problem among librarians:

Gail: I have more than 30 years of experience as a reference librarian. I may be less comfortable but I can usually figure it out. I have never pretended to do their data work for [the Economics Department]...I guess the ones I've had problems with are the economics and the finance ones. Its more like I don't know whether the stuff is available.

Donna: Certainly when it comes to the resources, there are areas where I need development. For instance, some of the financial data area....It tends to be in areas, the data and statistics area.

Heather reported that staff in her business school's financial trading floor (a specialized computer lab dedicated to the simulation of stock market trading) occasionally serve as a resource for difficult accounting and finance questions. Several librarians also mentioned turning to database vendor sales representatives as information sources for business-related reference questions:

Bill: I had one prof asking for information on ... [tracking] joint ventures and strategic alliances. Is there a database we can do that with? We purchased Mergent Online in which you can see joint ventures and I think you can search it. He seemed pretty happy. So I would go to the sales rep and say can I answer these types of questions using the product. Sometimes it is successful, sometimes not.

Packaging requirements, such as requiring information to be in a particular format, can also influence the choice of information sources, so turning directly to database vendors for verification can be an efficient means of meeting a reference-related information need.

A few librarians made use of email discussion lists including BUSLIB-L and ABEL-O as resources for answering reference questions. Ellen liked them because they helped her overcome her geographic isolation and she found them most useful for short, very specific reference questions. Some of the other interviewees reported monitoring the BUSLIB-L list but many of the librarians were reluctant to post queries to it, preferring instead to exhaust local resources (i.e., internal colleagues) and other close contacts. This echoes Flynn's (2005) findings that reference librarians initiate direct contacts via email more frequently than they post requests for assistance on email discussion lists. One librarian, Cathy, who does rely on email discussion lists as an information source, has taken a strategic approach to managing her subscriptions and her time:

I find some have too much traffic. So although they are useful, I don't have time. I join for a few months and search the archives. There are only a few that I regularly participate in...From time to time, when it is valuable I look at the virtual reference and the BUSLIB-L. Those I only do in small pieces because the traffic is way too heavy... It depends on what project I'm on which one I'll join and for how long.

At first glance, email discussion lists appear to be low cost, accessible, and trustworthy information sources. However, there are a number of costs associated with using such information sources including psychological costs (for example, by posting queries one may risk appearing dumb or incompetent) and time-based costs (i.e., the amount of time needed to read through the postings as well as the delay involved in receiving a satisfactory reply to your query). In addition, a lack of familiarity with the

discussion list may lead one to question the quality of the information received, particularly if the discussion list is not moderated. Lurking (reading messages but not posting) is recommended as a valuable way to evaluate email discussion lists (Robinson, 1996).

Studies of participation in email discussion lists and online communities have found that only a minority of subscribers actually actively post messages (Preece, Nonnecke, & Andrews, 2003) and that many lists have high subscriber turnover (Rojo & Ragsdale, 1997). People lurk in online communities and on email discussion lists for a variety of reasons such as not needing to post, needing to find out more about the group prior to posting, or feeling that they having nothing to contribute to a discussion (Preece, Nonnecke, & Andrews).

Collection development role. Collection development decisions such as selecting book titles and making database purchase recommendations are both causes for information seeking for some business librarians. One librarian who has responsibility for collection development in Economics found it challenging to determine the selection criteria for ordering books because he did not have a background in that field. Bill took a multi-pronged approach to seeking information to support his collections work, starting with internal colleagues who had done the job before him, then consulting with faculty, and finally, scanning course outlines:

I asked a few of the librarians who had done the Economics Dept. in the past ... for some advice. I relied on Mary quite a bit because I grabbed those subjects from her so she used to do them before me. And she provided me with some guidelines... What I wasn't used to was the amount of books that I had to evaluate and the size of the budget. Trying to make that decision and understand what level, or what types of books I needed to buy. So then my first approach was to ask people here. Another strategy I tried was meeting with some of the faculty.

I'd go over and introduce myself. It was a nice opportunity because I was new. I'm not an expert in this area. I wanted this to be a team rather than me just buying things. I tried to get a sense of what they were doing in terms of research themselves. I printed off basically the course outlines for every course. This was earlier when I had lots of time. I skimmed their basic topic areas e.g., microeconomics, macroeconomics, to get an idea of what was there. Tried to figure out when I purchased books whether they fit into these categories. Got a sense of the Economics Dept. from their rep that they are fairly traditional. That made life a little easier. And then the last thing is just lots of practice.

Information needs are also shaped by their predictability, importance, and complexity (Leckie, Pettigrew, & Sylvain, 1996; see also Bouwman & van de Wijngaert, 2002). Another librarian, Ann, describes how difficult business database collections work can be and how overwhelmed she felt having to make recommendations about new business database subscriptions after only a few weeks on the job:

The problem with collections, the major problem is the collecting of databases. Because there is so much overlap from one to the next. And yet you kind of need, because each one is unique in its own way. They are extremely expensive. The major obstacle I came across, not having used these tools myself as a student or in research, I don't really know how they are used. I can only make an educated guess. I can only get as much information from students or faculty as I can dredge out of them. They are not terribly cooperative or interested I find in general. It is frustrating because you... At the beginning, I had been here two weeks and suddenly had this issue with the budget where we needed to spend a whole bunch right a way. They said, could you just name 3 or 4 databases that you want. I picked some stuff that I knew from working in other libraries. Turned out they probably weren't the best fit for this institution.

In this case, the need was unexpected, urgent, and difficult to resolve and this individual had little personal knowledge and experience on which to draw to make her decision.

Librarians who work in team settings, where they share responsibility for business, seem to have an easier time evaluating databases than those who work alone, as reflected in the comments from one librarian, Ann, whose situation changed from solo to shared responsibility for business in the same library:

It has been terrific having another business librarian here since last August...Even though he doesn't have a background either. We sort of, our ignorance, we come up with something. At least playing things off each other. What do you think about this? How can we explore this further? Two stupid heads are better than one. Well not stupid but you know what I mean. We've spent many hours in the last semester reviewing which databases we have and trialing a ton of new ones. Trying to make an educated guess about what direction we should be going in. Not convinced that we did make the right decisions. It's not black and white.

Several librarians reported that they evaluate their database holdings on an annual basis and engage in a constant assessment process. New databases are examined annually and feedback is sought from faculty, students, and other librarians before recommendations are made. By making database selection a predictable information need, there is less urgency to these librarians' information seeking behaviours.

Attending database demonstrations by vendors and arranging for trials and evaluation periods helps decision making to some degree, but the most frequently cited tactic was to benchmark the holdings of other business libraries. Drivers of benchmarking efforts include accreditation reviews, university rankings, and the addition of new degree programs, particularly the Ph.D. Libraries with larger budgets and stronger collections (usually branch business libraries at research universities) are seen as models to emulate, so several librarians reported spending time scanning other business library web sites to see what databases they subscribed to. The ABEL-O email list has been used to query librarians on specific database holdings (J. An, personal communication, February 17, 2005). Another source of benchmarking data is the annual survey of business library database holdings produced by the Association of Business Library Directors (ABLD) which is posted on the ABLD website and was cited by several librarians as a useful information source.

Instructional role. Many business librarians engage in library instruction as part of their professional practice but few librarians felt a need for information related to their instructional role. In libraries where there is shared responsibility for instruction to business students, some classes are team taught, or the work is shared among team members (e.g., one creates the presentation slides while the other creates a web guide). In these cases, librarians can regularly confer with each other for advice and assistance, and serve as sounding boards for each other. However, that is not always the case for solo librarians. One solo librarian found that in her library few people wanted to learn to use business resources so there was no one to help her with her instructional responsibilities. Lacking a mentor in her own library, she decided to seek out an external mentor in another university library and describes how she made the arrangements:

Ellen: I contacted one person who knows a lot about...I started with one person. I would say, "if you are offering any instruction to students or faculty, can I come watch". That is how I started. So I would go to their instruction sessions and pick up what I need to know in order for me to do that.

Interviewer: Is this someone here or at another university?

Ellen: At another university. I said, I want to observe your instruction sessions.

Another librarian, Ann, who was unsure about how to teach students how to do business plan research described her approach which involved seeking external advice:

There was a particular incident last summer when a professor wanted me to teach an MBA class about creating business plans. I could speak generically about what a business plan was but I didn't know what I would teach. In searching the Internet, I came across a class about putting together a business plan at the Toronto Reference Library and went to that class and connected with the public librarian there. What happens 9 times out of 10 is that I found that I knew it anyway.

Other librarians reported collaborating with government documents and data experts on library instruction assignments for business and economics students. In some

cases, the classes are taught by a team. However, this is not always possible, as Gail reported:

That person [the new government documents librarian] won't be starting until the middle of April and the person who retired, retired last August. I ended up giving the seminar to a 4th year Economics class on data. I prepared what I thought and I reviewed it with the Head of the Data Centre. The invitation to us went to the acting Government Information Librarian, who left at Christmas, the Head of the Data Centre, who said she didn't have any time, and me... I was little annoyed, but I did it.

Continuing professional education role. All of the librarians interviewed have responsibility for continuing professional education (CPE) and engage in information seeking to support these information needs. As indicated in the results of the phase one questionnaire, sources of CPE activities included: (a) offerings sponsored by professional associations and library organizations, (b) internal training or information sessions offered by their own library or university, (c) database training offered by vendors, and (d) continuing education courses and workshops offered by their own or other colleges and universities. The interviews provided an opportunity to explore in more depth how academic business librarians vary in their approach to CPE and to identify barriers or constraints to participating in CPE activities.

Chan and Auster's survey on the professional development of reference librarians in public libraries found that lack of time and lack of relevance were the two most influential barriers to participation (2003). A number of this study's respondents reported that getting time off from work to participate in CPE activities can be a constraint, particularly in branch business libraries where there are only a few staff and it can be problematic to be away for extended periods of time. Cathy, who is the head of her

branch library, found that she had to forgo attending conferences so that she could enable her staff to attend:

Earlier, I was active in a lot of [conferences]. CLA, SLA, OLA. We are so short staffed here. If I attend [a conference] then Susan and Wendy can't go. Susan is at a stage in her career where – we have a continuing appointment process – that she needs to be active. So there is no way that we can all do this. I have to stop attending. I don't belong to them because there is no point. I can't get to them. I get very frustrated by this but you have to make choices. It is more important that Susan attends them than me. I'm at a totally different stage in my career.

Cathy has not been able to maintain her ties with other business librarians in other institutions, but finds opportunities for continuing professional education internally such as offerings within her own library system or by working with business faculty on special projects:

Interviewer: Because you have had to let that part go, have you still been able to maintain ties with other business librarians at other institutions?

Cathy: No, it is almost impossible.

Interviewer: Just because you are not able to.

Cathy: I'm not able to participate. I used to participate with them [external colleagues] in writing reports or doing presentations, co-presenting. Well I don't go to these things. I really miss that part. There is no way you can do this. I know I'm not going to be able to do them.

Interviewer: That's too bad. But you've got lots of opportunities within the University [X] system to work with other colleagues.

Cathy: That is why I do things like this marketing research [project with a business professor]. And do our own evaluations within. It is not the same scope as when you are able to do it with colleagues outside of the institution.

Another librarian, Heather, working in a branch library also found it problematic to attend more than one day of a professional conference and virtually impossible for both librarians in her branch to be away at the same time. Although there are capable support staff who can cover for short absences, these librarians cannot get backup coverage from other reference librarians on campus for their branch library's reference

desk because business reference skills are not transferable. As a result, they take turns attending conferences and other events. This has also affected their ability to visit other business libraries. Both Heather and her supervisor would like to go together but they cannot leave the library 'librarianless'.

Another constraint to CPE is the lack of relevant offerings for business librarians at professional association conferences. Ellen is a member of both OLA and SLA but is generally dissatisfied with their offerings for academic business librarians:

I looked at OLA and SLA and ALA...OLA is too public library [focused]. SLA is too corporate and too American. The corporate you can live with, the American part is not as useful. There is not a lot of Canadian content. ALA is too expensive. If you can't there [to the conference]. So when you don't go, there is no use...I don't think there is one particular [association] that is really good. You get bits and pieces from each association.

Ellen did attend an 'introduction to business information for non-business librarians' session at an OLA conference shortly after she was hired, but did not find it useful.

Another librarian, Ann, looked at the pre-conference offerings for a forthcoming SLA conference and pondered the value of such sessions for her, personally:

I'm looking at some of these pre-conference sessions at SLA. I don't want to spend \$300 at this point for a five hour session for business librarians. It's not tailored enough to me and it can't accomplish that much in five hours.

These findings echo those of Pagell and Lusk(2000) who surveyed an international sample of academic business librarians on the effectiveness of various professional development methods who found that only 32.9% of US respondents rated attending SLA conferences very effective and even fewer, 14.7%, rated ALA conferences as very effective. In contrast, Pagell and Lusk reported that 59% of all respondents (US and International) rated going to workshops and specialized training sessions as very effective,

followed by reading the professional literature, rated as very effective by 50% of respondents.

Business database vendors are also providers of CPE for academic business librarians. Most librarians reported attending database demonstrations at their own institutions or engaging in database training delivered in person or via the telephone. One librarian talked about how she and another business librarian at a nearby university library tried to maximize the value of their annual business database vendor training sessions:

Ellen: We talked about doing a joint vendor demonstration between universities. You go to each other's so you go more than once. If you're doing it in your own institution you only get one shot.

Interviewer: So shared vendor presentations.

Ellen: I go to [University X] whenever they do it and she comes here. The vendors don't like that.

There can also be institutional constraints to participating in database training, such as a lack of appropriate facilities. One librarian in a branch business library reported that because there is no training facility in her branch, arrangements have to be made to book a training room elsewhere on campus. Business database vendors do contact them and offer training or demonstrations for the librarians, but these space constraints often make such sessions hard to set up.

For librarians who do not have an academic background in business, one goal of continuing professional education can be to obtain subject matter expertise. Acquiring subject matter expertise in business may be more important for newer librarians who are solo subject specialists than for more experienced solos or librarians who share subject responsibility for business with others. One librarian, Ellen, reflected on how her lack of

subject matter expertise was adversely affecting her reference, liaison and instructional responsibilities:

If I don't know specific things I can't be providing information. It is not like another area where you can guess. With business either you know it or you don't. There is nothing in between. So for instance a while ago someone said I need the Beta for something. You don't even know where to begin. Where do you get that? Is it an accounting term or a finance term? ...If I don't know, there are a lot of implications. The future of the library, the service level, and way the faculty will see us as useless, other than buying FP and Mergent with the money we have. You can't talk on the same level and it affects the liaison work and instruction.. Because of that, they don't feel comfortable giving us instruction. If I talk to them at a level where I understand their terminology, at least we have common ground.

For those who want to take courses, one barrier can be filtering through all the possibilities to decide what the most appropriate course of action should be, which is the problem Ellen faced when she realized she needed help understanding business subject matter:

In terms of taking courses, even determining which course was a huge task because no one could tell me what was relevant to me. It was either too specific or too broad... I couldn't find exactly what was going to help me in the shortest time possible. You can't take all these classes. I don't think there is one perfect class that you can take and then just do it. Perhaps what is going to happen. It is going to be a long term continuing education. Much more so with business librarians than other librarians. And also it changes so much. I can't just take one class and be done with it.

While some of librarians who were interviewed felt the need to acquire additional subject knowledge, there was little interest in pursuing an MBA degree, with the exception of one librarian, Ellen, who works at a university that will soon be offering a Ph.D. in Business:

Now I'm getting to the point where maybe I might not have a choice. I might have to take the MBA classes. Even auditing. Especially since they are offering the Ph.D. I'm a little bit concerned about that and how much I can help them.

A recent survey of business librarians explored the benefits of possessing an MBA degree and found that these included increased subject knowledge and increased respect and credibility from faculty, students, other patrons, and colleagues (Leonard, 2003).

In lieu of pursuing business degrees, some librarians are instead choosing to take selected continuing education courses such as the Canadian Securities Course preparatory course⁵ or introductory courses in Accounting and Finance. However, not every business librarian sees value in acquiring subject knowledge through coursework. One librarian felt that even if she took courses in a specific subject area, she might forget specific information because questions do not come up very often. This librarian tries to learn the information sources rather than the theory behind the information. She sees greater value in practical courses such as web-based workshops on competitive intelligence or training courses on software packages (e.g., Dreamweaver).

Discussion. The frequency and nature of the role-related information seeking of business librarians did vary according to organizational context. Less external role-related information seeking was reported by librarians employed in branch business libraries. Such libraries usually employ more than one business librarian, which guarantees the presence of colleagues for advice and support, enables individuals to immerse themselves in the business subject area, and provides access to larger and stronger business collections. Solo librarians are typically found in centralized libraries, where they are surrounded by colleagues who may not be able to provide much advice or support, and with collections that may be smaller and weaker than their business branch

⁵ The Canadian Securities Course (CSC) is an introduction to the financial services industry and investments, and is offered by the Canadian Securities Institute. CSC Preparatory Courses are taught via continuing education and are designed to improve knowledge of basic math, finance and economics.

library peers. A recent survey on training for business reference in general academic library settings found that non-business colleagues were not motivated or interested in being trained to answer business reference questions (Barsh, 2005).

Business librarians sought information using a variety of tactics and information sources. In addition to tapping into the expertise of local colleagues for institution-specific help or for expertise in data and government documents, some librarians turned to business librarians outside of their own library, specifically those in branch business libraries because they have stronger collections and focus only on business information. Another category of information sources were business database vendors, who were helpful in determining the capabilities of databases owned or to determine what new databases would be required. Business database vendors were also used as subject matter experts to determine what subject matter expertise was needed by librarians and to suggest pathways to acquire that expertise; they also served as sources of annual training on business databases.

Email discussion lists such as BUSLIB-L are used as current awareness sources and occasionally as sources for quick answers to reference questions. Monitoring or 'lurking' on email discussion groups can be an unobtrusive (indirect) information-seeking tactic. Many interviewees engaged in continuous assessment processes (i.e., regular annual evaluations of databases) and benchmarked other libraries holdings by scanning library websites, sending emails to survey librarians on holdings, and by scanning the annual statistical report produced by ABLD.

There are time, relevance, and institutional constraints to engaging in CPE activities. Branch business librarians found it difficult to get away to attend conferences,

and either took turns attending or only attended for one day. Lack of relevant offerings for business librarians at professional conferences was cited as another constraint.

Business database vendors were also sources of CPE but usually limited their training visits to once per year. Some librarians without an academic background in business were interested in acquiring subject matter expertise but there was little interest in pursuing an MBA degree, despite reports that holding one brings additional credibility in the eyes of faculty, staff, and other patrons (Leonard, 2003).

Applying the Framework of Communities of Practice

One of the purposes of this study was to use the framework of communities of practice to determine the extent to which academic business librarians in Ontario can be characterized as such a community. The community of practice concept was first introduced by Jean Lave and Etienne Wenger in their 1991 work *Situated learning: legitimate peripheral participation* and was explored in great detail by Wenger in his 1998 work *Communities of Practice: Learning, Meaning, and Identity*. Wenger (1998) identified three dimensions of communities of practice that need to be present to a substantial degree to indicate that such a community has formed: (a) the mutual engagement of participants, (b) the negotiation of a joint enterprise, and (c) the development of a shared repertoire. Since communities of practice can exist without being named as such, he outlined 14 indicators that a community of practice has formed including:

1. sustained mutual relationships – harmonious or conflictual
2. shared ways of engaging in doing things together
3. the rapid flow of information and propagation of innovation
4. absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
5. very quick setup of a problem to be discussed
6. substantial overlap in participants' descriptions of who belongs
7. knowing what others know, what they can do, and how they can contribute to an enterprise
8. mutually defining identities
9. the ability to assess the appropriateness of actions and products
10. specific tools, representations, and other artifacts
11. local lore, shared stories, inside jokes, knowing laughter
12. jargon and shortcuts to communication as well as the ease of producing new ones
13. certain styles recognized as displaying membership
14. a shared discourse reflecting a certain perspective on the world (Wenger, 1998, p. 125-126).

Unfortunately, confirming the presence or absence of these indicators, as itemized by Wenger, only seems feasible after lengthy periods of ethnographic field research. There is however, another way to determine if a particular population more closely resembles a community of practice or a network of practice based on available questionnaire and interview data. John Seeley Brown and Paul Duguid (2000, 2001) outlined the differences between the two social structures along a number of dimensions, which are summarized in Table 13. Both types of structures contain members who have practice and knowledge in common, where practice is defined as “undertaking or engaging fully in a task, job, or profession” (Brown & Duguid, 2001, p. 203). The differences between the two structures are related to the nature of links between members, the nature of the knowledge being communicated, the reach of the network, the degree of reciprocity and the intensity of relations.

Table 14		
Comparison of Wenger's Community of Practice and Brown & Duguid's Network of Practice Concepts		
Dimension	Community of Practice	Network of Practice
Membership	Practitioners	Practitioners
Nature of Links	- Direct (face-to-face) - Know each other and work together	- More indirect than direct (through third parties) - Unknown to one another
Nature of Knowledge Being Communicated	Tacit / Implicit	Explicit
Reach of Network	Limited	Extended
Degree of Reciprocity or Interaction	Strong	Weak
Nature of Network	Tight-knit groups	Loosely-coupled system

The community or network members are the academic business librarians and business subject specialists (non-librarians) within the province of Ontario that are engaged in the same or similar roles: providing reference, instruction, collections and liaison services to university-based business degree programs. The nature of the links between members are more indirect than direct, as evidenced by both the frequency and nature of their professional communication with other business librarians outside of their own institutions. The majority of questionnaire respondents communicated with other business librarians a few times a year, rather than a few times a month, and the most frequently used communication method was email. As Brown and Duguid have noted, in professional networks of practice, practitioners share professional knowledge “through conferences, workshops, newsletters, listserves, Web pages, and the like” (2001, p. 206). Questionnaire respondents indicated some overlap in professional association membership, conference attendance, and electronic discussion list subscriptions. Interview respondents indicated that they used other libraries’ web pages to benchmark

database holdings and turned to email discussion lists to answer reference questions, which are both examples of explicit knowledge sharing.

While the size of this community or network is small (less than 25 members), the reach is extended across 15 different institutions that are all members of the same library consortium (the Ontario Council of University Libraries); this reach is facilitated by ease of communication via email or telephone. Results from both the questionnaire and interviews indicated that there was little reciprocity across the network, with individual members engaging in little direct interaction with each other, with the exception of the new librarians with solo responsibility. As Wenger states: “it is not necessary that all participants interact intensely with everyone else or know each other very well – but the less they do, the more their configuration looks like a personal network or a set of interrelated practices rather than a single community of practice” (1998, p. 126). After this quick examination, it appears that this population more closely resembles a network of practice than a community of practice, as originally conceptualized by Wenger.

While networks of practice are quite efficient at sharing information (in the form of explicit knowledge) related to members’ common practices, communities of practice are better at facilitating the transfer of tacit and implicit knowledge. As Brown and Duguid suggest, “for the sort of implicit communication, negotiation, and collective improvisation that we have described as part of practice, learning, and knowledge sharing, it is clear that there are advantages to working together, however well people may be connected by technology” (2000, p. 146). Is there another social structure that more closely resembles a community of practice, but whose membership spans multiple organizations and workplaces, that would facilitate implicit and tacit knowledge sharing?

The answer may be found in a recent reconceptualization of the communities of practice framework.

Distributed Communities of Practice

In 2002, Wenger, McDermott and Snyder redefined the concept of a community of practice to allow for more variation in form including: (a) size (small or large); (b) duration (short-lived or long-lived); (c) location (colocated or distributed); (d) composition (homogeneous or heterogeneous); and (e) development (spontaneous or intentional). They also suggested that communities of practice can exist both inside and across organizational boundaries and can have a variety of relationships to organizations (from unrecognized to institutionalized). A distributed community of practice (DCoP) is one that cannot rely on face-to-face interaction as the primary way to connect community members and often crosses multiple types of boundaries (organizational or geographical). While colocation and regular face-to-face interaction are not necessary for the development of a distributed community of practice, there still must be regular interaction via other means such as a community web site, threaded discussion lists, or teleconferencing. Given the lack of infrastructure to support group interaction (i.e., no group web site or threaded discussion lists) and the fact that there have been no formal face-to-face group meetings, it is not possible to describe the population of academic business librarians in Ontario as a distributed community of practice.

What steps would be necessary to cultivate a DCoP within this population?

Wenger, McDermott, and Snyder suggest that the first stage of community development is to identify an extant loose network that has the potential to form a community of

practice, and “to find enough common ground among members for them to feel connected and see the value in sharing insights, stories, and techniques” (2002, p. 71). Distributed communities face greater challenges than local communities because they often need to devote more time and effort to: (a) reconciling multiple agendas in order to define their domain; (b) building personal relationships and trust between members; and (c) developing a strong sense of craft intimacy (close interaction around shared problems and a sense of commonality).

Wenger, McDermott and Snyder (2002) identify four key development activities for nurturing distributed communities:

1. *Achieving stakeholder alignment.* This involves both overcoming conflicting priorities and developing a common understanding of the potential value of the community.

2. *Creating a structure that promotes both local variations and global connections.* For large distributed communities, this is achieved by dividing communities into cells (e.g., by topic or by geographic area) and by appointing local coordinators and a global facilitator.

3. *Building a rhythm strong enough to maintain community visibility.* Communities can be launched with a visible with a face-to-face event, or quietly with little or fuss. Regardless of how the community is launched, community visibility can be maintained through threaded discussions, regular teleconferences or video conferences, and less frequent face-to-face meetings that rotate location among community members.

4. *Developing the private space of the community more systematically.* Community web sites can also facilitate interaction by allowing space for individual

members to post personal biographical details and to learn more about each other, which helps to build trust and strengthen relationships.

Benefits and Costs of Distributed Communities of Practice

There are both benefits and costs to communities of practice, whether they are distributed or local communities. Lesser and Storck (2001) identified four areas of organizational performance that were impacted by communities of practice: (a) decreasing the learning curve of new employees, (b) responding more rapidly to customer needs and inquiries, (c) reducing rework and preventing ‘reinvention of the wheel’, and (d) spawning new ideas for products and services. A study of community costs identified four categories of cost drivers: (a) the costs of participation time for members, (b) meeting expenses for face-to-face travel or teleconferencing, (c) technology costs associated with synchronous and asynchronous group messaging applications and community web sites, and (d) content publishing and promotional expenses (Millen, Fontaine, & Muller, 2002).

What would the benefits of a DCoP of academic business librarians be to the individual librarians, their employers, and the profession as a whole? Individual members currently employed as academic business librarians would benefit from the ability to share expertise to solve problems (e.g., to answer challenging reference questions) and to coordinate activities (e.g., evaluating databases for collection development). Solo academic business librarians who felt professionally isolated would develop a sense of belonging and a stronger sense of professional identity. The DCoP could also play a role in the socialization of new librarians to the practice of academic business librarianship

through the process of legitimate peripheral participation. Communities of practice also foster professional development among community members. This would be of benefit to those librarians who find it difficult to participate in traditional continuing professional education activities such as conferences or workshops.

In addition to the organizational benefits mentioned earlier, distributed communities of practice would also benefit library consortia. Inter-organizational distributed communities of practice enable organizations to “pool resources to access outside expertise, learn from each other’s experience, purchase and develop common training material, assess the merits of different practices, and build a common baseline of knowledge” (Wenger, McDermott & Snyder, p. 223). Katsirikou (2003) suggests that library consortia should use the concepts of knowledge management, of which communities of practice are one strategy, to enhance their effectiveness and efficiency. Within library consortia, such as the Ontario Council of University Libraries, sharing the knowledge and expertise of experienced business librarians within its network can only serve to enhance the effectiveness of all member libraries.

Finally, the formation of distributed communities of practice for academic business librarians would also benefit the library profession. Library and information science students who are interested in becoming academic business librarians could join a distributed community on the periphery, just as they might subscribe to an email discussion list and ‘lurk’ on the list, reading postings but not necessarily contributing to the discussion. Library and information science instructors who teach business information courses might also be interested in participating on the periphery of a distributed community, in order to better inform their knowledge base of the current

practice of academic business librarianship, and to develop stronger connections with practitioners.

Given the lack of overlap in professional association memberships among academic business librarians, and the lack of a natural association home for these subject specialists, perhaps the solution to enhancing knowledge sharing among academic business librarians is to develop distributed communities of practice under the umbrella of library consortia. The shortage of academically-prepared business librarians means that the profession as a whole should share the burden of training and developing new business librarians currently entering the field, and one of the best mechanisms for doing so appears to be distributed communities of practice.

Summary and Conclusions

This study attempted to develop a better understanding of how a population of academic business librarians acquired and shared knowledge related to their professional practice. This was accomplished by investigating the communication, information seeking, and continuing professional education activities of the population via a web-based questionnaire and qualitative interviews. Questionnaire findings confirmed that nearly all members of the population lacked an academic background in business or economics and were, on average, less experienced than their peers in the United States. 57% were located within centralized libraries while 43% worked in branch business libraries. Solo librarians comprised 28% of the population while the remainder shared responsibility for business with one or more colleagues.

While nearly all of the questionnaire respondents held a membership in a LIS-related professional association, there was little overlap in membership choice. A majority of the population belonged to the Ontario Library Association and approximately half held multiple memberships in two or more of the following associations: OLA, CLA, ALA, SLA. Most also reported being able to attend at least one LIS-related professional association conference in the last 12 months with the most frequently cited being OLA's annual conference. Only a few reported attending an ALA, CLA, or SLA-sponsored conference during the same time period. Approximately half of respondents had made a presentation at a LIS-related conference in their careers. Common sources of continuing professional education activities included workshops and other offerings sponsored by LIS-related professional associations and library organizations, internal training sessions, vendor-sponsored database training, and college or university continuing education courses.

Nearly half of questionnaire respondents did not subscribe to the BUSLIB-L email discussion list, raising doubts as to its importance as a tool for current awareness, professional development, and advice. There is some evidence that the volume of traffic on the list inhibits ongoing subscriptions; only a few subscribers reported posting queries to the BUSLIB-L or similar lists, while others preferred to consult closer sources such as colleagues within their own library system, or referrals to outside specialists. Direct communication with business librarians in other organizations does take place, for most respondents, several times per year. Email is the communication method used most frequently by questionnaire respondents, followed by the telephone, and face-to-face communication.

This study also explored the impact of various individual and contextual factors on information seeking behaviour and found that information seeking occurred most frequently with new and early-career stage librarians who were new to business librarianship and working as solo business librarians. Organizational socialization strategies also affected the frequency and nature of the information seeking behaviour of newly hired librarians. Individuals who had experienced a disjunctive socialization process (i.e., where they lacked an internal role model) experienced greater uncertainty and a lack of role clarity, and made greater use of third parties (external information sources) than individuals who had experienced a serial socialization process (i.e., where they were groomed by internal role models). Other more experienced librarians who assumed responsibility for business within the same library system also experienced less uncertainty about their new roles and experienced serial socialization processes.

Role-related information seeking occurred with respect to reference, instruction, collections, and continuing professional education responsibilities and did vary according to organizational context. Less external role-related information seeking occurred in branch business libraries, which all employed more than one business librarian, and where the librarians worked in collaboration on reference, instruction, and collections responsibilities, than with solo librarians in centralized libraries. Benchmarking library holdings, particularly databases, was accomplished via email and by checking individual library web sites.

This study identified lack of time, lack of relevant offerings, and institutional constraints as barriers to engaging in continuing professional education activities. Some individuals in branch business libraries found it difficult to be away for extended periods

of time while others could not host database vendor training sessions due to a lack of appropriate facilities. The lack of relevant CPE offerings for academic business librarians at professional association conferences and the inability to travel to conferences (e.g., ALA or SLA) were also identified as constraints

This population was found to more closely resemble a network of practice than a community of practice, due to the indirect nature of links between members, the extended reach of the network, and a lack of reciprocity across the network. Networks of practice are efficient at communicating explicit knowledge, but lack the face-to-face interaction required to transmit implicit and tacit knowledge. This population does have the potential to develop into a distributed community of practice, which could serve an important role as an agent of socialization for new academic business librarians, as a knowledge sharing forum, and foster closer interaction and coordination among community members.

Limitations and Recommendations for Future Research

Due to the small size of the population, and contextual factors specific to Ontario, the results of the study may not generalize to the larger population of Canadian academic business librarians and are not predictive of future behaviour. Several strategies were used to ensure validity including the triangulation of data through the use of multiple data collection procedures and the use of thick descriptions in the report of research findings. Future research, on a national scale, may confirm some of the findings regarding the impact of socialization processes and organizational context on individual information seeking behaviour.

Black and Dunn (2005) lamented the state of continuing education in Canada, urging the LIS profession to “get our continuing education act together” (p. 23). One issue that could be explored further is the role of graduate library and information science education in preparing new librarians for roles as academic business librarians and the role these institutions play in providing relevant CPE offerings. Another issue that could be explored is the reason for the diversity of professional library association memberships held by academic business librarians and the perceived lack of relevant CPE offerings appropriate to Canadian librarians. Finally, the framework of distributed communities of practice for subject librarians could be explored in greater detail with other populations including other specialized fields such as science and engineering librarianship, where many librarians also lack subject expertise (see Winston, 2001).

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Appendix A

Web-based Questionnaire

Academic Business Librarians Survey
Welcome!

Welcome to my Academic Business Librarians Survey. This is the first phase of a two-phase study on the communication, information seeking, and professional development activities of academic business librarians.

All data gathered will be kept confidential. The survey results will be reported within my MA in Communications and Technology research project report. A summary of my final report will be posted on the University of Alberta's Faculty of Extension MACT website.

Complete of the questionnaire will take approximately 20 minutes of your time. You may leave unanswered any question you prefer not to answer. Participation is completely voluntary and you may withdraw at any time simply by clicking on the Exit this Survey link.

Thank You, Linda Lowry (llowry@brocku.ca)
Please click Next to continue.

Next >>

Section I

In this section, I am interested in learning more about your educational background and professional experience.

1. What was your undergraduate degree? Please specify the degree (e.g., Bachelor of Arts) and major (e.g., Economics).

Degree _____

Major _____

2. In what year did you obtain the Master of Library & Information Science (M.L.I.S.) or its equivalent? _____

3. Do you have other graduate degrees in addition to the Master of Library & Information Science (M.L.I.S.) or its equivalent?

___ No

___ Yes (If yes, please specify the degree, major, and the year the degree was obtained)

4. How many years of experience do you have? (Please answer all that apply)

As a librarian

As an academic business librarian

At your current institution

In your current position

5. What is your Gender ?

___ Male ___ Female

6. What is your age range?

- Under 30
- 30-39
- 40-49
- 50-59
- 60 or over

Section II

In this section, I am interested in learning more about your workplace and your current position.

7. What is the size of your university in student full time equivalents (FTEs)?

8. What business degrees are offered by your university? Please check all that apply.

- Continuing Education Certificates (e.g., non-credit)
- Bachelor of Commerce or equivalent
- Master of Business Administration
- Doctor of Philosophy
- Others (please specify) _____

9. Which best describes how business library services are offered at your institution?

- The business library is housed within the business school building
- The business library is in its own building
- Business library services are part of another branch library's services and collections
- Business library services are integrated with the central library's services and collections
- Other (please specify) _____

10. What is the nature of your job responsibilities as a business librarian?

Please check all that apply.

- Reference Service
- Collection Development
- Library Instruction
- Liaison with Business Faculty
- Other (please specify) _____

11. Are you the only business librarian at your university?

- Yes
- No. If no, how many other librarians share responsibility for business at your university and how are the responsibilities divided between you?

Section III

In this section, I am interested in learning more about your professional development and updating activities

12. Do you currently hold a membership in any of the following library associations?

- Canadian Library Association (CLA) Yes No
- CLA's Business Information Interest Group Yes No

- American Library Association (ALA) Yes No
 ALA's Business Reference and Services Section (BRASS) Yes No
 Special Libraries Association (SLA) Yes No
 SLA's Business & Finance Division Yes No
 Ontario Library Association (OLA) Yes No
 OLA's Ontario College and University Libraries Association (OCULA) Yes No

13. What other library / information science (LIS) associations do you belong to?

14. Have you attended a conference related to the field of LIS within the last 12 months?

No

Yes (Please list all the conferences you have attended in the space provided below). You will now skip ahead to Question 16. _____

15. If you have not attended any conferences related to the field of LIS within the last 12 months, why not?

Nothing was of interest

No financial support available to attend

Could not secure time off to attend

Other (please specify) _____

16. Have you ever given any presentations (papers or poster sessions) or been a panelist at a LIS conference?

No

Yes (please specify the name of the most recent conference, the year held, and nature of activity (i.e., topic of presentation or panel)) _____

17. What other formal professional development activities (e.g., classes, training sessions, workshops, etc) have you participated in during the past year? Please specify.

Section IV

In this final section, I am interested in learning more about how you communicate with other librarians.

18. How often do you read messages on the Business Librarians (Buslib-L) email discussion list?

Daily

Several times a week

Several times a month

N/A (I do not subscribe to Buslib-L)

Other (please specify)

19. What other library / information science (LIS) related email discussion lists do you subscribe to? _____

20. How often do you post queries to LIS related email discussion lists?

Often (several times a month)

Sometimes (several times a year)

Rarely (once a year or less)

Never

___ Other (please specify)

21. How often do you respond to queries from LIS related email discussion lists?

- ___ Often (several times a month)
- ___ Sometimes (several times a year)
- ___ Rarely (once a year or less)
- ___ Never
- ___ Other (please specify)

22. How often do you communicate directly with other business librarians outside of your own institution?

- ___ Often (several times a month)
- ___ Sometimes (several times a year)
- ___ Rarely (once a year or less)
- ___ Never
- ___ Other (please specify)

23. How frequently do you use the following communication methods when communicating directly with other business librarians outside of your own institution?

Often Sometimes Rarely Never

Chat (e.g., MSN messenger)

Email

Face-to-face

Fax

Mail

Telephone

The End

Thank you for completing this survey. Your participation is greatly appreciated.

I encourage you to consider volunteering to participate in a brief follow-up interview. I will be contacting potential participants via email to determine their interest. If you agree, I will send an information letter and a consent form.

If you wish to volunteer directly, please email me at: lhowry@brocku.ca

Thank You!
Linda Lowry

Appendix B

Email Information Letter for Web-Based Questionnaire

Dear (Recipient):

I am a Master's student in Communications and Technology in the Faculty of Extension at the University of Alberta conducting an applied research project under the supervision of Professor Lisa Given. I am researching the communication, information seeking and professional development activities of academic business librarians in order to develop a better understanding of how they acquire and share knowledge related to their professional practice. As a fellow academic business librarian, I encourage you to participate in this research study which will focus on academic business librarians located in the Province of Ontario.

There are two phases to this project. In the first phase, I have identified all those individuals who are listed as business librarians on their university libraries' websites and have sent each of them this email.

You are invited to complete a web-based questionnaire which will gather data on your educational and professional background, as well as your participation in a variety of professional development activities.

Completion of the questionnaire will take approximately 20 minutes of your time. You may leave unanswered any question you prefer not to answer. Participation is completely voluntary, and you may withdraw at any time. If you wish to participate in the questionnaire, please click on the following link: [link to web questionnaire will appear here]. Completion of the survey constitutes consent to participate in the first phase of this study.

In the second phase of the study, I would like to conduct follow-up in-person interviews with those who have filled out the questionnaire. The interview will explore in further detail your information seeking strategies with respect to your professional practice. Participation in the interview is also voluntary and you may decline to answer any question at any time. Your involvement in the first phase of the study does not obligate you to participate in the second phase. I shall contact you in approximately two weeks to determine if you are interested and to set up a mutually agreeable date, time and location for the interview. The interview will take approximately 45 minutes of your time.

All data gathered during both phases of the research study will be kept confidential. The results of the study will be reported within my MA research project report, and an abstract of the final project will appear on the Faculty of Extension's MACT student projects website: <http://www2.extension.ualberta.ca/Mact/research.aspx#2>

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

This study has also been reviewed and approved by the Brock University's Research Ethics Board (File #). Concerns about your involvement in this study may also be directed to the Research Ethics officer in the Office of Research Services at 905-688-5550 extension 3035.

If you have any questions regarding this study, please contact either myself or my faculty supervisor using the contact information listed below:

Principal Investigator:

Linda Lowry

M.A. Candidate, University of Alberta,
Edmonton, AB

Business Reference Librarian

James A. Gibson Library, Brock University,
St. Catharines, ON

Tel: 905-688-5550 extension 4650

Email: Linda.Lowry@Brocku.ca

Faculty Supervisor:

Dr. Lisa M. Given

School of Library and Information Studies
University of Alberta, Edmonton, AB

Tel: 780-492-2033

Email: lisa.given@ualberta.ca

Dr. Anna Altmann

Director, School of Library and Information
Studies, University of Alberta, Edmonton,
AB

Tel: 780-492-5315

Email: anna.altmann@ualberta.ca

Thank you

Appendix C

Follow-up Email Reminder for Web-Based Questionnaire

Dear (Recipient):

Recently, you received an email invitation to participate in a study on the communication, information seeking and professional development activities of academic business librarians.

If you have already completed the web-based questionnaire, thank you! If not, participants are still needed. Please click on the following link to visit the survey web site:

[link to web questionnaire]

For your convenience, a copy of the original invitation appears below.

I am a Master's student in Communications and Technology in the Faculty of Extension at the University of Alberta conducting an applied research project under the supervision of Professor Lisa Given. I am researching the communication, information seeking and professional development activities of academic business librarians in order to develop a better understanding of how they acquire and share knowledge related to their professional practice. As a fellow academic business librarian, I encourage you to participate in this research study which will focus on academic business librarians located in the Province of Ontario.

There are two phases to this project. In the first phase, I have identified all those individuals who are listed as business librarians on their university libraries' websites and have sent each of them this email. You are invited to complete a web-based questionnaire which will gather data on your educational and professional background, as well as your participation in a variety of professional development activities.

Completion of the questionnaire will take approximately 20 minutes of your time. You may leave unanswered any question you prefer not to answer. Participation is completely voluntary, and you may withdraw at any time. If you wish to participate in the questionnaire, please click on the following link: [link to web questionnaire will appear here]. Completion of the survey constitutes consent to participate in the first phase of this study.

In the second phase of the study, I would like to conduct follow-up in-person interviews with those who have filled out the questionnaire. The interview will explore in further detail your information seeking strategies with respect to your professional practice. Participation in the interview is also voluntary and you may decline to answer any question at any time. Your involvement in the first phase of the study does not obligate you to participate in the second phase. I shall contact you in approximately two weeks to determine if you are interested and to set up a mutually agreeable date, time and location for the interview. The interview will take approximately 45 minutes of your time.

All data gathered during both phases of the research study will be kept confidential. The results of the study will be reported within my MA research project report, and an abstract of the final project will appear on the Faculty of Extension's MACT student projects website: <http://www2.extension.ualberta.ca/Mact/research.aspx#2>

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 04-253). If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

If you have any questions regarding this study, please contact either myself or my faculty supervisor using the contact information listed below:

Principal Investigator:

Linda Lowry
M.A. Candidate, University of Alberta,
Edmonton, AB
Business Reference Librarian
James A. Gibson Library, Brock University,
St. Catharines, ON
Tel: 905-688-5550 extension 4650
Email: Linda.Lowry@Brocku.ca

Faculty Supervisor:

Dr. Lisa M. Given
School of Library and Information Studies
University of Alberta, Edmonton, AB
Tel: 780-492-2033
Email: lisa.given@ualberta.ca

Dr. Anna Altmann
Director, School of Library and Information
Studies, University of Alberta, Edmonton,
AB
Tel: 780-492-5315
Email: anna.altmann@ualberta.ca

Thank you

Appendix D

Second email reminder for web-based survey

Dear (recipient):

Last week I sent an email inviting you to participate in a study on the communication, information seeking and professional development activities of academic business librarians in Ontario. To the best of my knowledge, you have not yet completed the web-based survey.

I am writing to you again because hearing from everyone in this small province-wide sample helps to assure that the survey results are truly representative. I realize that this is a busy time and can assure you that the survey takes only 15 minutes to complete.

Please click on the following link to be taken to the survey web site:
<http://www.surveymonkey.com/s.asp?A=6228169E1696>

The survey web site will remain open until March 1st, 2005.

Thanks again for your participation. Your contribution with further our understanding of how academic business librarians acquire and share knowledge related to their professional practice.

If you feel that you have mistakenly been identified as a business subject specialist, please click on the following link to be removed from my mailing list:
<http://www.surveymonkey.com/r.asp?A=62281693E1696>

Sincerely, Linda Lowry
Principal Investigator, M.A. candidate in Communications & Technology,
University of Alberta, Edmonton, AB
And Business Reference Librarian, James A. Gibson Library,
Brock University, St. Catharines, ON
Email: Linda.Lowry@Brocku.ca

Appendix E

Follow-up email invitation for Phase-Two Interview

Dear (Recipient):

Thank you for taking the time to complete the web-based survey on the communication, information seeking and professional development activities of academic business librarians.

I am still recruiting participants for the interview phase of my research project.

The interview will explore in further detail your information seeking strategies with respect to your professional practice, with a particular focus on your role as a business librarian. Participation in the interview is also voluntary and you may decline to answer any question at any time. Your involvement in the first phase of the study does not obligate you to participate in the second phase. The interview will take approximately 45 minutes of your time.

If you are interested in participating, please reply to me by email and provide a telephone number where I may reach you. I will then contact to you to set up a mutually agreeable date, time, and location for the interview. An information letter and consent form will then be sent to you.

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

This study has also been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 04-253). If you have any pertinent questions about your rights as a research participant, you may also contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

If you have any questions regarding this study, please contact either myself or my faculty supervisor using the contact information listed below:

Principal Investigator:

Linda Lowry, M.A. Candidate, University of Alberta, Edmonton, AB

Business Reference Librarian

James A. Gibson Library, Brock University, St. Catharines, ON

Tel: 905-688-5550 extension 4650

Email: Linda.Lowry@Brocku.ca

Faculty Supervisor:

Dr. Lisa M. Given

School of Library and Information Studies
University of Alberta, Edmonton, AB

Tel: 780-492-2033

Email: lisa.given@ualberta.ca

Dr. Anna Altmann, Director

School of Library and Information Studies,
University of Alberta, Edmonton, AB

Tel: 780-492-5315 Email:

anna.altmann@ualberta.ca

Appendix F

Consent Form

I have read the information presented in the information letter about a study being conducted by Linda Lowry of the Faculty of Extension at the University of Alberta. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and any additional details I wanted.

I am aware that the interview will explore in further detail my information seeking strategies with respect to my professional practice, with a particular focus on my role as a business librarian.

I am aware that I have the option of allowing my interview to be tape recorded to ensure an accurate recording of my responses.

I am also aware that excerpts from the interview may be included in the project report and/or publications to come from this research, with the understanding that the quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 04-253). If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905 688-5550 ext 3035, reb@brocku.ca)

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.
 YES NO

I agree to have my interview tape recorded. YES NO

I agree to the use of anonymous quotations in any project report or publication that comes of this research. YES NO

Participant Name: _____ (Please print)

Participant Signature: _____

Researcher Name: Linda Lowry

Researcher Signature: _____

Date: _____

Please return one signed copy of this consent form in the enclosed stamped self-addressed envelope. Thank You.

Appendix G

Interview Protocol

Project: Interaction and knowledge exchange among academic business librarians in Ontario

Time of interview:

Date:

Place:

Interviewer:

Interviewee:

In this interview, I would like you to discuss in detail a problem you recently encountered (within the last 12 months) connected to the practice of business librarianship that required you to seek out information or advice and to describe the process you undertook to solve this problem including any information sources consulted.

Questions:

Can you describe the problem in detail?

What set of circumstances led to your interest in this topic / to this problem?

Can you describe the information sources that you consulted? Who did you talk to? What information sources did you consult? What strategies did you use?

Were there any constraints (time, money)?

What was the impact or effect of the information gathered or advice received on the problem? How did each information source help to solve the problem or answer the question?