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Scholarly Communication at Canadian Research Libraries: Conversations with Librarians

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Abstract

INTRODUCTION The landscape of librarianship in relation to the practice of scholarly communication is evolving. The objectives of this study were to investigate: the scope of scholarly communication activities within Canadian research libraries; the organizational structures in place to support them; and the roles of librarians who participate in them. Key challenges to its advancement and how librarians envision its future were also investigated. **METHODS** Twenty-nine academic librarians from Canadian Association of Research Libraries member institutions participated in semi-structured, open-ended interviews. Interviews were analyzed for recurring themes. **RESULTS** Participants outlined initiatives, services, and structures to support scholarly communication at their institutions. Solo scholarly communication librarians, specialized teams, and committees were identified as primary structures. Liaison librarians play an essential supporting role regardless of structure. Individually, librarians are seen to have an impact as leaders and advocates in promoting scholarly communication. The concept of “librarian as researcher” is also important. Participants shared a desire for better communication and collaboration in this area. Many participants saw the need for standardized assessment and evaluation methods. Participants enumerated their greatest challenges and provided suggestions for addressing them in the future. **CONCLUSION** This study demonstrates that organizational structure can enhance scholarly communication activities in libraries. Leadership both at the personal and collective level is necessary to provide an impetus for scholarly communication activities. Librarians should be knowledgeable about the issues and be ready to deliver the “pitch.” Strengthening collaboration and communication among Canadian librarians is essential for moving the scholarly communication agenda forward.

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Implications for Practice:

- This study provides evidence of the value organizational structures have in supporting scholarly communication.
- Findings show that top level library administrators have a major influence on advocacy and promotion of scholarly communication initiatives on their campuses.
- Efforts need to be made by all academic librarians, regardless of their role, to develop an understanding of scholarly communication issues and the skills to communicate them.
- Development of standardized measures and benchmarks for assessment of scholarly communication activities need collective attention.
- Canadian librarians need to seek opportunities for sharing and collaborating in the area of scholarly communication.

INTRODUCTION

Scholarly Communication is the system through which research and other scholarly writings are created, evaluated for quality, disseminated to the scholarly community, and preserved for future use.

ACRL Scholarly Communication Committee (2003)

It is a largely unarguable fact that the Internet is changing how we work and communicate with each other. The way scholars share, publish, and disseminate their research is no exception and is undergoing a significant adjustment. Led by the Scholarly Publishing and Academic Resources Coalition (SPARC), academic libraries are actively supporting and advocating for new scholarly communication (SC) models. These include sustainable publishing practices and tools to facilitate greater reach and impact of scholarly research. Libraries are advocating for Open Access (OA) publishing and are creating the infrastructure and tools to support digital research collections and research data. These new SC practices are impacting library operations from collections to services.

Canadian academic research libraries, like their global counterparts, are taking an active role in this transformation. With Canada's uniqueness in terms of bilingualism, geographic spread, and unique political and economic realities unlike United States (US), United Kingdom (UK) and Australian contexts, it is important to understand the SC landscape and practices within Canadian research libraries. This paper describes

the results of a grant-funded exploration of SC activities within Canadian research libraries.

Research Objectives

The purpose of the study was to review the Canadian landscape of SC activities and librarian roles within that landscape. As such, it had several objectives:

1. To investigate the scope of SC activities within Canadian research libraries.
2. To understand the organizational structures in place to support SC.
3. To investigate the roles of librarians who participate in SC activities.
4. To determine what librarians see as key challenges to the advancement of SC.
5. To see how librarians envision the future of SC.

LITERATURE REVIEW

The existing literature provides extensive coverage of both SC activities and related librarian roles. In 2010, the ACRL Research Planning & Review committee identified SC as one of the top trends for academic librarianship (ACRL, 2010). Recognizing the growing role of librarians in SC activities, Williams (2009) developed a position description framework for redefining traditional librarian roles to include ten areas including SC. Indeed, SC has become more common in position descriptions: Detmering and Sproles (2012) monitored library professional websites

in 2010 to study academic entry-level job-ads. They noted the emergence of SC in 7.3% of ads, particularly for science librarians. These positions required some level of expertise in data-sharing, OA initiatives, digital repositories and related areas. Similarly, in an analysis of SC librarian descriptions provided by Association of Research Libraries (ARL) member libraries, Cross (2011) found that responsibility for OA, copyright and new forms of digital scholarship appeared prominently in these descriptions. However, he opined that SC job descriptions lack coherence and that SC librarians must be able to articulate what they do, why the issues are important, and what needs are being met by the services they offer. Evolving position descriptions not only provide a picture of emerging library involvement in SC, but are also being used to shape the training needed for librarians to fill these roles. For example, Kim et al. (2013) developed a list of competencies for digital curation based on job advertisements to determine emerging requirements for a qualified workforce in this area of library expertise.

Clearly, the evolving SC system has grown to provide multiple opportunities for library participation. Several of the most common areas of library involvement reflected in the literature—and in practice—are discussed further in the following sections.

Institutional repositories

Many academic libraries have built IRs in order to archive and preserve the intellectual output of their parent institutions. Walters (2007) describes the restructuring needed to adopt new roles with respect to IR staffing, while Salo (2008) analyzes the infrastructure, staffing and management of IRs. Salo concludes that allocating more resources, obtaining the backing of administration, and demonstrating the IR's inherent value to the organization is critical to the success of IRs.

Looking beyond Walters (2007) and Salo (2008), the issue of staffing for IRs has continued to be a consistent theme in the literature. Connell and Cetwinski (2010) surveyed the organizational structure, responsibilities, and staffing of IRs based on a survey of ARL libraries in order to understand the impact on technical services. More recently, Madsen and Oleen (2013) describe the staffing and workflow of a maturing IR whereas

Simons and Richardson (2013) cover the training needs of repository staff in Australia and New Zealand. These studies are indicative of the growing interest in, and understanding of librarian contributions to, the management of IRs.

Library publishing services

While institutional repositories have been well-represented in the literature for a decade, library publishing services have gained greater prominence in recent years. For example, a report by Richard et al. (2009) discusses librarians and libraries supporting OA publishing in Canada. In 2010, Taylor et al. (2013) conducted a survey of OA publishing in Canada that included university libraries, university presses, and non-university scholarly presses. The results showed that most of these organizations were hosting some OA journals and that personnel resources were a “notable factor” in the ability to host journals (Taylor et al., 2013, p. 27). A 2012 report, which included academic libraries across North America, used a survey, workshops, case studies, and a literature review to comprehensively cover the extent of library involvement, technology, collaboration, services and staffing, and sustainability of campus-based publishing initiatives in academic libraries (Mullins et al., 2012).

While much of the literature devoted to library-based publishing focuses on journal or book publishing, a growing emphasis on the implications of non-traditional publications and digital humanities projects is also reflected in the literature. For example, Shearer (2012) discusses recent moves to digitize special collections and heritage material for preservation that have implications for staffing changes in Canadian research libraries, while other librarians have written about the role that libraries can/should play as joint participants with faculty in digital scholarship projects. (Vandegrift & Varner, 2013; Bryson et al. 2010).

Copyright

Copyright issues affect both repository and publishing programs (among other services). Though it is an area that falls within the scope of SC services, the possibilities for librarian involvement in this area have not been fully explored. Harris (2010) describes copyright

and licensing as job growth areas for librarians, while Horava (2010) studied organizational structures and copyright responsibilities in Canadian libraries. Horava's study reveals that Canadian libraries faced a diversity of approaches and challenges in creating awareness of copyright issues (Horava, 2010). However, a subsequent publication by Zabel and Hickey (2011) does provide practical suggestions as to how librarians can take a more active role in advising and educating their communities on copyright issues. Examining a more specific population (NIH grantees), Charbonneau and McGlone (2012) describe the need for librarians to educate faculty on the value of retaining copyright and the importance of self-archiving to help advance public access to their research.

Open access

Many library SC activities (e.g. IRs, publishing, and copyright/author rights advocacy, as noted above) are related to general support for OA. OA has received universal support among academic libraries worldwide. Mullen (2011), in discussing the impact of OA on academic librarians' roles, concludes that OA will require the transformation of many everyday library practices. For example, librarians, rather than research officers, are more likely to be actively engaged in supporting public access policies (Greyson et al., 2010). In fact, Fernandez et al. (2010) see promoting public access policies as a new role for librarians. Librarians can also play a supporting role in promoting open educational resources. According to Mullen (2011a), helping faculty build lists of scholarly resources that are OA, for inclusion in courseware and distance learning, can provide great opportunities for knowledge dissemination. In the same article, Mullen also mentions open data as an area where librarians can partner with faculty to enhance the research process.

Emerging areas

Although library services and advocacy related to traditional scholarly publishing are prevalent in the literature, other emerging areas in SC and corresponding opportunities for libraries are the subject of some recent articles. Luce (2008) provides an overview of the nature of e-research and the key roles that libraries can play in this area. According to Luce, the multidisciplinary nature of e-research may require more fluid staffing structures than the current

model of assigning departmental or subject liaisons. There is also growing discussion about the role science librarians can play in research data management (RDM) (Antell et al., n.d.; Gabridge, 2009). Cox et al. (2013) explores the possibilities of up-skilling liaison librarian (LL) roles to include RDM by mapping existing competencies to the new skills required. Specifically considering the Canadian context, Shearer and Arguez (2010) explore the research data gap in Canada, as well as suggesting ways to address the gap—including developing expertise through formal training.

The organizational structure

Whether specific SC activities are just emerging, or have been part of libraries for several years, all new service areas require examination of how best to structure/restructure the library to support them. The Association of Research Libraries (ARL), which has sponsored Spec Kits on various aspects of SC such as OA resources, author addenda, IRs, public access policies, SC education initiatives, RDM, digital humanities, and digital preservation, published a Spec Kit in 2012 that details the different organizational structures and staffing models involved in supporting SC activities in ARL libraries (Radom et al., 2012). Similarly, Thomas (2013) conducted a separate survey, examining SC activities across non-ARL schools. He found that participation in these activities occurs at varying levels and was most likely to be led by a single person.

A common theme in examining library structures that support SC is the use of liaison librarians (LL)—indeed, LLs are often seen as essential participants in the SC system. Brannon and Fuchs (2008) explore the librarian role in the promotion and advocacy of new SC models and provide a case study in which a SC program led by a digital initiatives librarian was designed to include liaison roles. In later articles, both Kirchner (2009) and Malenfant (2010) address the LL role in SC and the restructuring needed to expand this role. Finally, Jaguszewski and Williams (2013) have recently reinforced the need for transformation of LL roles.

Future landscape

A futures scenario approach has been widely used to re-imagine and redefine the library's role in SC. In projecting the future of higher education in 2025, Staley

and Malenfant (2010), include SC-related activities as areas of future opportunity for academic librarians. Carpenter et al. (2011) also envision the library's role in SC in the year 2025, and developed several scenarios for research library directors to examine. Based on the results, Carpenter et al. (2011), conclude that the changing landscape of research and SC has created an urgency to redefine the library's role in this area, although there were individual differences on how this issue is to be addressed. Focusing on specific SC issues, Cawthorne et al. (2012) project that OA and RDM will transform the ARL library workforce of the future. It is impossible to predict if, and how, these scenarios will unfold in individual libraries. However, all of the studies discussed here agree on one thing: building collaborations will be essential for the development of SC services.

The existing literature is helpful for understanding and defining the extent to which certain activities are commonly considered part of SC services in academic

libraries. However, although there is a healthy body of literature generated both in the US and beyond, there are few research publications about SC that cover the Canadian context. Moreover, the roles that Canadian librarians play in promoting SC have not been fully explored. (*Note:* While the ARL Spec Kit (Radom et al., 2012) covers similar topics to those addressed in this study, the Spec Kit was only published after the interviews for this study had been completed.)

METHODS

Selection of participants

This study focused on Canadian Association of Research Libraries (CARL) university member institutions. In so doing, a purposeful sample was developed that included one participant from each of the 29 academic libraries belonging to CARL (see Figure 1 below and Table 1 following page).

Figure 1. Map of Canada and location of participants' institutions
(see appendix A for names of institutions)



Image Credit:

Map of Canada adapted from http://commons.wikimedia.org/wiki/File:Blank_map_of_Canada.svg

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We contacted potential interviewees who had the greatest level of involvement with regards to the advancement of SC services and initiatives at these institutions. Some were members of the CARL SC Committee, others had SC responsibilities (e.g. digital initiatives) or SC mentioned implicitly in their titles (i.e. Scholarly Communication Coordinator). In some cases, we approached University Librarians (ULs) for advice on whom best to interview. They either directed us to a prospective candidate or participated themselves. The result was that participants came from different levels of responsibility within their organizations (as shown in Figure 2).

In this paper, the term “UL” refers to all top level administrators including Chief Librarians, Library

Deans and Directors/Director General. Similarly, Associate University Librarians (AULs) and equivalent are grouped together. All SC practitioners are referred to as SC librarians.

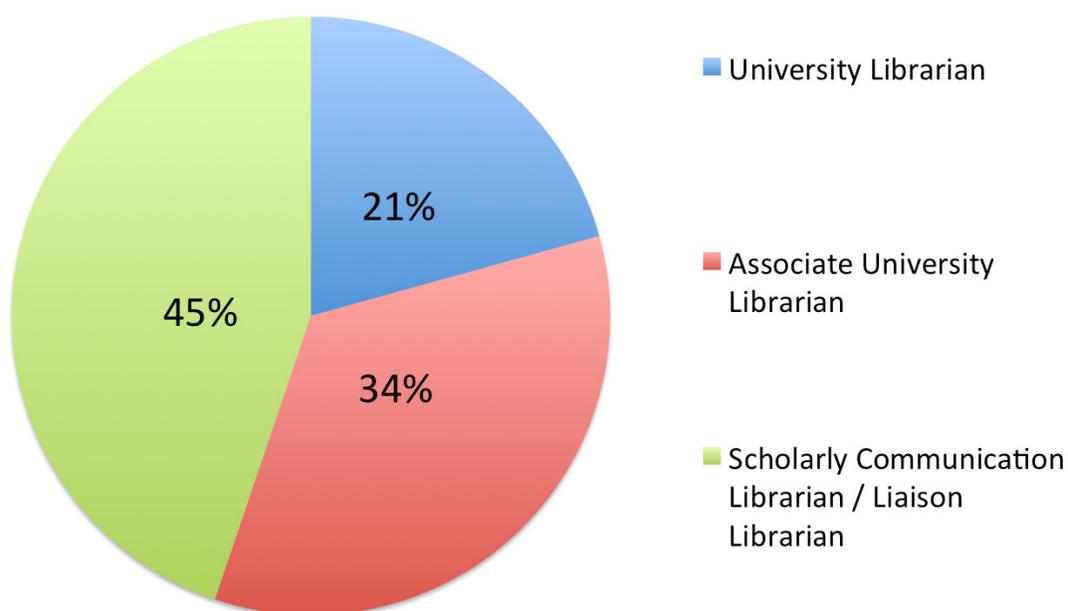
Ethics approval was sought at both the researchers’ institutions as required by the Human Participants Review Committee. As part of the process participants signed a consent form that assured confidentiality both during and after the study. Once consent had been obtained, we used an exploratory qualitative approach with semi-structured telephone interviews. Open-ended questions based on specific themes allowed for a conversational flow and probing opportunities. The method provided a rich source of textured information that would not have been possible with a text-based survey.

Table 1. Institution size based on enrolment (FTE)

(Source: CARL Statistics 2009/10)

Size	Number of Participants
Large (25,000 +)	14
Medium (10,000 – 25,000)	14
Small (0 – 10,000)	1

Figure 2. Participants by position rank



Interview topics (Appendix B) were shaped after a comprehensive literature review highlighted significant areas in SC and the related role of librarians. We shared a draft of the topics with SC colleagues at both the authors' institutions for feedback. They confirmed that we were on the right track and that the research results would be of interest to the profession.

Participants were at different levels and with varying roles, and thus they would have needed to get input from their colleagues for some topics. Moreover, some of our chosen participants were not native English speakers. These facts would likely limit interview depth and quality. To mitigate these limitations, we sent participants the topics in advance to allow for review and consultation with institutional colleagues and to give them an opportunity to identify and provide relevant supporting documents. French speaking participants were encouraged to send written responses in advance for review during the interview.

Data analysis

Interviews were recorded and audio files uploaded to the NVIVO 10 software for qualitative analysis. A list of categories and subcategories was prepared for coding. This allowed material related to a topic or theme to be identified and tagged in such a way that we were able to cluster together the interview audio snippets by theme. Based on the coding results and notes made by the authors during the interviews, the authors met to discuss the analysis of the results and examine connections, recurring themes, and novel approaches. While analyzing the themes, the authors individually crosschecked the interview audio files to examine the context and relevance of individual quotes.

RESULTS

Participants were engaged during the interview process, speaking with passion and commitment about the SC initiatives at their institutions. It may be useful to note that responses were affected by events taking place at both the local and international level. During the interviews, participants referred to cutbacks to funding at Library and Archives Canada (LAC) and the Canada Institute for Scientific and Technical Information (CISTI), the Elsevier boycott, anticipated changes in Canadian copyright law, and unnecessary licensing fee increases by Access Copyright.

The interview data presented below are collated by theme into five major sections: "I. The Landscape," "II. The Structure," "III. The Librarians," and "IV. Key Challenges," and "V. The Future," with subsections where appropriate.

I. The Landscape

Participants provided details on how their libraries were supporting SC in the following areas:

Institutional repositories

All 29 libraries covered in our interviews have IRs, and all have or are developing Electronic Theses and Dissertation (ETD) programs to meet LAC's goal to accept only ETDs by 2014. Most CARL libraries use the DSpace platform. A few use the E-print platform. A few participants mentioned outsourced solutions such as Digital Commons. Participants felt that ETDs were major drivers of IR success but that there was great value for the institution when the IR included other types of research outputs.

Library publishing services

Twenty-two of the 29 libraries surveyed mentioned that they are hosting journals. These journals are faculty-led, graduate, or undergraduate journals and are largely OA or delayed OA with a rolling wall. Participants valued collaborative initiatives such as Synergies¹ and Érudit.² One participant explained that Synergies was "transformative" because it helped develop journal-hosting capacity in libraries, and it helped move many Canadian social science and humanities journals from print to digital formats. Participants were pleased the Canadian Research Knowledge Network (CRKN), the national site licensing organization, has adopted Érudit.

¹ Synergies: Canada's SSH Research Infrastructure—A not-for-profit platform for the publication and the dissemination of research results in social sciences and humanities published in Canada. <http://www.synergiescanada.org>

² Érudit: A multi-institutional publishing consortium (Université de Montréal, Université Laval, Université du Québec à Montréal) and a non-profit society established in 1998. Érudit is the leading provider of Francophone and Canadian peer reviewed journals in North America. The platform gathers in one point nearly 150 Canadian scholarly and cultural publishers, including the most prestigious French-language Canadian university presses. <http://www.erudit.org>

Some participants mentioned that their libraries were interested in open monograph publishing.

Digitization and digital preservation

Digitization and digital preservation activities are seen to be growing in most CARL libraries. Special collections, institutional assets, cultural artifacts, and aboriginal and heritage materials are examples of newly targeted content for these activities.. The funding for such initiatives does not always come solely from the library budget. Community grants or vendor partnerships, for example, are being used to support these projects. Some participants noted that their libraries are contributing digitized materials to the Internet Archive, providing worldwide visibility to unique Canadian collections.

Copyright

The growing importance of copyright management in an academic environment was recognized by a majority of our participants. They felt that copyright support, as it relates to support for author rights, is assuming a prominent place in libraries. However, the management of legal issues related to securing rights tended to be relegated to copyright offices external to the library. In the light of increased licensing fees by Access Copyright, and in anticipation of proposed licensing changes in copyright law to include educational exemptions, many institutions had not signed new licensing agreements. In this context, many participants wanted to see their libraries assume a more prominent role in copyright management and felt that librarians need to develop a greater understanding of the issues. In the words of one participant, “we are losing the lead on this.”

Open access advocacy

OA advocacy forms a major focus in the development of the SC programs and initiatives taking place in respondents' libraries. With few exceptions, participant libraries participate in OA Week, which is seen as a key advocacy platform. Many librarians are delivering sessions about various topics in SC. Examples mentioned by participants include OA, author rights, theses and repository deposits, Creative Commons licensing, alternative metrics, and data management.

Many participants revealed that the development of self-archiving OA policies for faculty were at a nascent stage. The institution-wide OA policy, the faculty-based policy, the senate resolution on OA, and the several librarian self-archiving OA policies or commitments that did exist were seen to lack teeth and were not strictly enforceable. A few participants agreed that it was largely as a result of an institutional ETD mandate that deposits were active in the IR. Efforts to increase faculty deposits included awareness campaigns for public access policies from granting agencies and efforts to help faculty understand the positive implications of adhering to these policies. Participants from Quebec mentioned a draft OA statement being circulated by their library directors to vice-principals and vice-rectors. (Quebec institutions belonging to CREPUQ³ released the Statement when together they signed the Berlin Declaration in 2012.)

Importantly, libraries are using financial resources to support new modes of publishing. More than half of the participants' libraries have author funds or hold institutional memberships covering author fees for publishing in OA journals. These, many felt, were useful in generating awareness about OA. A couple of participant libraries held publishing innovation funds in which librarians participated in the adjudication process. One participant mentioned that their institution was a major user and financial supporter of the physics arXiv. Others mentioned that their institutions provided funding support for the Directory of Open Access Journals (DOAJ).

Emerging areas

Many participants, particularly those from the larger institutions, mentioned that their library was either investigating or experimenting in emerging areas of SC such as RDM, digital humanities, open monograph publishing, and research impact metrics.

Overall, it was evident from interviews that CARL libraries were at different levels with respect to the development of SC activities. In general, the majority of participants foresaw the strategic expansion of SC

³ CRÉPUQ: The Conference of Rectors and Principals of Québec Universities (CRÉPUQ) is a private organization comprising, on a voluntary basis, Québec's 18 universities. <http://www.crepuq.qc.ca>

activities within their libraries. One UL advised libraries to move cautiously when developing new initiatives such as RDM, stating that, “It is important to get it right.” The statement was referencing the failure by CARL to obtain funding for the development of a joint RDM infrastructure to be spearheaded by libraries.

II. The Structure

Reporting structures

Participants outlined the reporting structures put in place to support SC at their institutions. In most cases, SC was the responsibility of AULs, particularly with those who held collection oversight responsibilities. In a few libraries, ULs had direct responsibility for SC, and in some libraries, the SC librarian reported directly to the UL.

At the departmental level, SC services are generally aligned with serials, information technology (IT), and technical services departments. At many institutions, copyright services lay outside the library. At some, copyright services and SC were aligned as a joint responsibility. One participant had a centre for SC on campus. This unit was part of a larger entity that included cultural resources such as the university press and a museum. When SC projects initiated elsewhere on campus begin to grow, many participants noted that the library was often approached to take on and manage them over time. ETDs, the IR, and GIS & data are examples of projects that now report to the library.

Regardless of departmental affiliations in specific institutions, three general types of SC organizational structures were identified in CARL institutions covered in this study: the solo SC librarian; the SC team with dedicated roles; and the committee structure.

The scholarly communication librarian

Participants reported that when a single librarian had overall responsibility for SC at their institution, they often had oversight for the IR, and were involved in its management, marketing and promotion. In addition, they were responsible for conducting workshops on SC issues for faculty, graduate students, and library colleagues. Journal publishing and digitization projects often came within this individual’s purview, along

with promoting and monitoring of OA author fund uptake. A couple of participants highlighted that they had strong publishing backgrounds that are helpful in their role. In a few libraries, the UL or AUL was the de-facto SC librarian.

Even when SC duties fell to one librarian, that individual usually had other assignments as well. At one institution, the SC librarian was also the digital humanities librarian. In yet another, the SC librarian was a research associate in the campus Electronic Text Laboratory of the Humanities Computing Centre. SC librarians sometimes led committees with a broad strategic focus. According to one participant, a downside to having a solo SC librarian is that other librarians and staff may feel that they do not need to be conversant with the issues, leaving the solo librarian alone to promote the cause.

The scholarly communication team

Three participant libraries had adopted a team structure with specialized roles. These teams provided strategic directions and planning for SC development on their campus. Two of these teams worked closely with LLs. The LL model did not exist in the third library.

SC teams supported others in developing SC expertise. In some cases, the team had a specialized mandate (i.e. focus on e-science or digital preservation). Participants reported that like SC librarians, teams developed deep expertise in SC and that there were inherent efficiencies in service development and delivery. At the same time, participants felt that this model tended to exclude library-wide involvement leading to a siloed approach. In an attempt to be more inclusive, some teams, we were told, were being remodeled every few years.

Committees

Participants reported two types of SC committees: ones that were dedicated to SC and others that covered SC issues tangentially. Most participants reported that ad-hoc committees or working groups had a specific focus or were formed to support special events. Examples of such working groups mentioned were ones created specifically to develop OA policies, training workshops, and OA Week events. Several participants reported that their institution had a standing committee for

SC which included representation from across campus or from across the library. Some committees involved multi-campus participants. In all cases, committees were seen as important platforms for librarians to engage with the issues. They depended largely on volunteers and interested individuals responding to calls for participation.

The liaison librarian (LL)

Outside of the three organizational structures specifically designed to support SC, participants also highlighted the value of engaging LLs in SC efforts. LLs, they reported, are well placed to create connections and advocate for relevant issues. LLs participate on faculty councils, departmental committees, and are active OA Week organizers. Many participants lamented that SC was not a formal part of most LL job descriptions—if SC were to be included in job descriptions, it was felt that LLs would be more inclined to pursue these activities. One UL noted,

Librarians all need to be on board. We all need to understand the importance of OA and work collectively to get it going and to push it forward. Librarians are so busy doing our busy work that we don't find time to migrate over to the important work and I think it should be the other way around. I would like to see a way to focus on how we do this work and how we get this moving and how we make sure that it is a primary piece of what we do.

Other participants expressed reservations about adding SC to the already heavy portfolio of LL activities. ULs and AULs in our study spoke about the need to ensure a balance between workload and adding SC to LL responsibilities. One UL stated,

The real issue for us is time. The liaison librarian is such a busy role. This kind of advocacy takes time. If I could give my librarians anything it would be more time. But the confidence to speak of these issues is very important too.

New staffing alignments

Several participants reported structural changes that were occurring in their libraries that were having positive outcomes for SC. In two instances, when

positions opened, the solo SC role was reexamined in order to create broader LL involvement. One participant's library was embedding SC into the job responsibilities for LLs. Another had transitioned librarians from the collections department to the digital initiatives portfolio. Funding for positions was not always available and one participant viewed the end of Synergies funding as detrimental to the enhancement of SC. New positions, participants recounted, were emphasizing areas such as copyright, digital assets management, digital humanities, data & GIS.

Interview comments showed that larger libraries were most likely to have multiple structures in place. Other libraries relied on the SC librarian, UL, or AUL, but included some level of LL involvement. A few participants reported that their library was very much in the early stages of developing initiatives and had not yet formalized any of the structures mentioned above. Participants from these libraries felt that apart from their IR, SC was not an institutional priority. Hindering their progress, some reported, was the fact that the library was seen as a service support unit for the institution rather than an academic partner in the research enterprise.

III. The Librarians

Librarians as leaders and advocates

Interviewees shared examples of SC leadership taking place on their campuses. At the senior level, ULs and AULs were advocating for OA mandates with administrators. One UL was instrumental in starting a campus-wide dialogue that resulted in a Senate-approved OA mandate. One participant mentioned that her UL was Copyright Officer and advocated at university-level committees—and that ULs like her had impacted copyright licensing negotiating positions adopted by universities across the country. Together, library directors in Quebec played an influential role in promoting OA at the provincial level.

Many interview participants stressed that all librarians needed to show leadership and make efforts to influence SC outcomes. As one UL put it,

Librarians, regardless of who they are, can't just stay inside the library. They need to be out where the researchers and the publishers are doing the work.

Librarians as learners

Participants felt that librarians need to deepen their understanding of SC issues, especially with regard to local and international events. More specifically, better awareness of copyright and its limitations, knowledge of author rights, and licensing were mentioned as being absolutely necessary. One participant would love to see more intellectual debates on SC topics taking place in the library. Participants want to see librarians develop greater technical skills in areas such as programming, web publishing, metadata, and project management. Workshops, webinars, and conference sessions were seen as important venues that helped librarians keep abreast of SC topics. The ACRL SC Roadshow received special mention by several participants. Participants also saw ample opportunities for in-house professional development for their colleagues.

Specialized conferences were valued as key ways to deepen the expertise of SC librarians. The ARL sponsored e-science institute; the PKP and Open Repositories conferences; the Berlin OA conference; and Canadian Association of Learned Journals (CALJ) meetings were examples mentioned by participants.

Participants also lauded organizations such as ARL, SPARC and CARL for their role in keeping librarians abreast of the issues. French speaking participants agreed about the intrinsic value of these activities but would like to see more French translations of promotional material.

Part of the value that participants placed on continued learning and professional development seem to be related to librarians' need to be effective advocates. Interviewees agreed that it is essential for librarians involved in SC advocacy to be able to communicate well; to present in a coherent and persuasive way; and to possess political acumen and the ability to engage people in a way that makes sense to them, making them feel that it is part of their own agenda. Professional development activities seem to be logical opportunities to hone these skills.

Librarians as researchers

The need for librarians to develop a research profile was stressed by a number of participants. Many participants saw value in the librarian's role as scholar

and researcher. They stressed that librarians need to gain a full understanding of the research cycle and deepen their knowledge of publishing practices. One UL felt that "Librarian as researcher needs to be emphasized if we want to be taken more seriously in the academy." Another AUL echoed a similar thought: "It is hard for librarians to speak to faculty about their publications if they have no personal experience in it."

Emphasis on research participation was reinforced by another interviewee who indicated that librarians were developing a campus profile as researchers and that their library was hiring 'scholar librarians' and providing support for research. Conversely, some librarians lacked faculty status, and a few participants reported that their librarians were not required to conduct research.

Librarians as partners

Participants extolled some of the SC-related partnerships they had developed across their campuses. These included SC-related projects such as IRs; ETD programs with graduate studies departments; support of copyright offices; participation in electronic-text centers; and Knowledge Mobilization⁵ efforts. Additionally, some participants shared about successes they had in joint ventures with local community organizations. e.g. local history digitization projects.

IV. Key Challenges

Collaboration and community

Collaboration and community is extremely important to librarians. From ULs down to front-line staff, librarians elaborated on their perceived success and failure in this area. The librarians interviewed for this study saw Canadians as strong collaborators in the context of provincial associations and national consortia, but less so in SC initiatives.

⁵ Knowledge Mobilization (KM): The term KM describes the process of "moving knowledge into active service for the broadest possible common good" (Social Sciences and Humanities Research Council of Canada (SSHRC)). KM is concerned with reciprocal exchange relationships between researchers and the wider community. It is intended to bring together faculty, students, community members, and policy makers to find solutions to problems and pursue research questions. <http://www.sshrc-crsh.gc.ca/societe-societe/community-communite/index-eng.aspx>

The ULs and AULs felt connected as a community of leaders in Canada, but it was clear that the LL and SC librarians felt disconnected from their colleagues. As one librarian put it,

The biggest problem in Canada is that it is so difficult to connect with other Canadian librarians. When I meet other Canadians it is in committee work in the US. I don't meet them in Canada. There is something very wrong with that.

It is interesting to note that there were frequent references to JISC in the UK and SPARC in the US and their ability to pull together initiatives at a national level. Some participants felt that on a global scale, Canada was falling behind in its efforts to transform the SC landscape. One AUL lamented,

If we look at the US, UK, and Australia, we can see that Canada does not have its act together. CARL is taking the lead in advocating on a national scale but, as a country, we are still spinning our wheels. We are talking to ourselves and to the converted. I envy that the UK has JISC, and all the foundations in the US with funding mandates.

It is clear from the discussions that many Canadian librarians look to other examples from around the world for leadership. In this context, some participants felt that there was a lack of political will to find solutions for transforming Canadian SC practices. Other participants were deeply concerned about budget cuts at LAC and CISTI, with one participant suggesting that it would be useful to have a champion at the federal level.

Assessment

Participants believe that SC initiatives lack tools for proper assessment. SC assessment is important, they felt, but because it was relatively new to their campuses, it was difficult to assess and measure impact. One AUL articulated, "It is too soon to do any real assessment. It is just perception and feelings right now. It is very subjective."

Journal article and IR use statistics (hits and downloads) and attendance numbers at library events were common measures mentioned by participants. Participants discussed the use of benchmarks in committee planning,

as well as the introduction of statistics in library and university academic plans and in annual reports. Some participants planned to survey campus users or do environmental scans to better understand faculty needs. In general, participants agreed that more standardized assessment was needed in Canada. One SC librarian said, "We are not doing a lot of hard targets. We are doing a lot of tracking. It may be enough to say that we are making progress and we are moving forward."

Return on investment is often a measure used by libraries assessing their programs. Although we asked about the extent of financial resources being allocated to SC activities, we did not receive clear answers to this question. This is understandable, as resources may include infrastructure and salaries that may be difficult to assess, especially if they are shared with other areas. Participants were more forthcoming about the extent of funding to support OA. Three participants had participated in a CARL mini-survey on the extent of their commitment to OA and through it had calculated that they spent 1-3% of their library budgets in support of OA. This amount included funds directed towards OA author funds, institutional memberships with OA publishers, salaries, and infrastructure costs for the IR.

In addition to the challenges mentioned above, participants perceived a number of systemic barriers that were impeding the success of SC at their institutions and across Canada. The following examples were mentioned:

- There is an absence of strong public access mandates from Canadian granting agencies;
- Libraries are footing the majority of the infrastructure costs for SC services. (One concern was that the loss of Synergies funding could result in Canadian journals moving to the United States. Another concern was that services are more vulnerable to cuts if they are not seen as core to the institution); and
- Disciplinary differences and negative perceptions of OA by faculty are hindering adoption of services in support of OA scholarship.

V. The Future

The enthusiasm shown by participants and their strong interest in the future of scholarly communication in

Canada is an encouraging sign. Participants shared a number of suggestions about ways to move the SC agenda forward, and foremost among these was a desire that librarians develop strong Communities of Practice (CoPs). CoPs were deemed necessary to improve communication and sharing of best practices, to develop skills for present and future roles, and to support and build formal assessment of SC activities. One AUL articulated, “We need to get ourselves in order. We are trying to help scholars communicate and we don’t even communicate with each other.”

One SC librarian expressed her own frustration about the duplication of effort and the lack of communication and sharing, asking, “Why are we reinventing the wheel at every institution? Is it because we think we are special snowflakes? It is killing me.”

Participants agreed that the future of SC in Canada depends on collaborative work and the decisions made by those in leadership roles. Some participants extolled Canadian libraries for their successes in working together in consortia. Others were less positive. They felt that there was much more to do to improve our national collective practice and strategies.

Participants also hoped that Canadian government granting agencies would follow the lead of Canadian Institutes of Health Research (CIHR) and adopt OA mandates. Many were looking forward to OA publishing becoming more prevalent in universities. There was some sense that OA author funds would assist in this transition. One participant suggested a desire for a consortia approach to OA author funding.

Study limitations

The study sample was confined to Canadian research libraries (CARL members), although there are non-CARL libraries that have strong SC programs. (It should be noted that both researchers are also from CARL institutions.) This was done in order to provide a focused sample and to complete the study within a more reasonable time frame. To overcome language difficulties, French-speaking participants in our study were allowed to provide written responses that were augmented by interviews. This could have affected the spontaneity and depth of responses. The study results are also dependent on how committed participants

were in seeking input from colleagues to enable more complete answers to our questions.

DISCUSSION

I. The Landscape

Canadian research libraries are replete with examples of leaders at all levels who have both individually and collectively been effective in driving the SC agenda forward. Our findings demonstrate a diversity of approaches and a difference in priorities. One hundred percent of the libraries in our study were actively using IRs, and the majority was also engaged in library publishing services and OA advocacy services. The fact that all 29 research libraries have taken on the mantle of providing access to ETDs through their IRs is significant, and it should provide both value and visibility to Canadian IRs. This is consistent with Salo’s contention that IRs should fulfill a need (Salo, 2008). The journal publishing programs in 23 research libraries and the many digitization projects also provide value and worldwide access to Canadian scholarship and heritage. Many libraries are at the early stages of adopting emerging services such as RDM, digital humanities, and research support services. These results demonstrate that a supportive organizational structure can help the advancement of SC initiatives.

II. The Structure

The ARL Spec Kit on organizational structures for SC activities (Radom et al., 2012) shows some commonalities with the findings of this study, even though our sample had a Canadian focus. (The most significant departure from the ARL Spec Kit was in the nature of the data collected: in contrast to the ARL survey, the current study’s semi-structured interview format provided a rich source of visioning statements and individual perspectives from participants.) One commonality with the ARL survey is seen in the finding of the coexistence of multiple structures in libraries. In addition, reporting structures and departmental affiliations were similar in both studies. Leadership roles of ULs and the important role played by LLs were evident in both ARL and CARL libraries. However, we considered teams and committees as separate structures with differing roles, whereas the ARL study grouped teams, task forces, and committees together.

This study shows that there are pros and cons to each organizational model. Not surprisingly, libraries that devoted greater resources and more staff to develop SC services on their campuses were able to offer a richer body of services to their users. Conversely, the involvement of a limited number of staff led to concerns about the level of distribution of expertise within an organization. When structures included a solo SC librarian or a SC team, expertise was concentrated among a limited number of individuals. While this adds deep value to an organization, participants lamented that with a solo SC librarian or SC team in place, other librarians had a tendency to rely on that one person or team to provide all SC leadership—thus creating dependency and siloed work practices.

In keeping with the idea that broad involvement leads to stronger services, this study also reinforces existing calls for including LLs in the delivery of SC services. Indeed, a recent article based on interviews of participants from ARL libraries indicates that there are structural changes taking place in libraries with respect to LL roles (Jaguszewski & Williams, 2013). The need for functional SC specialists to work with LLs is consistent with the findings of this study, although Jaguszewski & Williams recommend that bringing a team approach to this relationship may make it work better.

Outside of specific positions (whether specialists or LLs), committees offer certain advantages for SC service delivery largely because their structures are more fluid. Through open participation, they provide opportunities for any librarian to develop expertise in various SC areas. On the other hand, because committees depend on volunteer participation, workload commitments and competing priorities may slow down progress. Irrespective of the model, our findings suggest that programs will be more successful when they have an inclusive structure.

III. The Librarians

Many Canadian academic librarians are actively taking a leadership role in advancing SC at their institutions. However, our study showed some disparities in different librarians' levels of engagement. Some ULs are taking a more active role in driving the issues and, as a consequence, their institutions are seeing better uptake and interest by senior administration, faculty, and staff. However, in most institutions, it is the SC librarian

who is taking the lead in developing and managing initiatives. In either case, success appears to require some level of involvement and understanding by all librarians. LLs, in particular, with their departmental relationships and disciplinary expertise, are well placed for SC advocacy with faculty and graduate students.

Promotion and advocacy is imperative for SC initiatives to succeed. For example, participants shared concerns about low interest and attendance at events organized during OA week, and this could likely be addressed through better promotional strategies and intentional advocacy efforts. Many librarians are investigating the use of social media, blogs, and library guides as new mechanisms to advocate for OA, and it will be important to understand which methods are most effective for reaching different groups (faculty, students, etc.). Libraries also need to develop more integrated outreach methods if they are to be successful. This may include embedding SC and OA concepts into information literacy instruction. As a consequence, efforts must be made to ensure that librarians, regardless of their responsibilities, have a better understanding of SC and are able to speak clearly to the issues with users.

In addition to promoting general understanding of SC issues among librarians, it is evident that reworking existing positions and re-skilling for new roles must also take priority if libraries are to succeed in offering SC services and initiatives. As SC roles continue to evolve, the training of new librarians is a challenge libraries are facing. Professional associations and library schools can help fill the gap by creating educational and professional development opportunities that address core competencies in SC topics.

The role that Canadian librarians can play as researchers also needs to be emphasized. Results showed that there were disparities in how librarians saw themselves within the research enterprise. While some participants perceive themselves as equal partners in the research enterprise, others did not. The latter group mentioned that they lacked faculty status and therefore research was not a requirement. The ability to influence non-library faculty colleagues with regard to SC issues may depend on reshaping this view.

The value of working with colleagues outside the library is clear; participants were enthusiastic about campus and community partnerships. However, these appear

to depend largely on the presence of champions, the existence of close relationships, and on local needs. However, the success of some community-engaged activities demonstrates the need to direct attention and resources towards the larger community in addition to developing partnerships between libraries and campus partners. This will help advance the library's profile and impact both within and outside the institution.

IV. Key Challenges

The desire to know how well their programs are doing, and whether or not they were having an impact, motivated participants to discuss the importance of conducting assessment. Clearly however, assessment was being handled in ad hoc and random ways by all libraries in this study. As with the libraries surveyed for the ARL Spec Kit (Radom et al., 2012), participants reported that they do not have systematic assessment strategies. Standardized assessment of SC programs could be one major area for collaboration in the future. Just as CARL and ARL collect statistics on other areas of library activity, there are obviously opportunities to seek common methods for assessment.

Looking beyond assessment practices, collaboration was a general theme as well. For example, librarians who participated in this study had concerns about duplicating efforts and the need for better collaboration to address this issue. This echoes the findings in Thomas (2013), who surveyed non-ARL libraries on their SC organizational structures. Thomas suggests a shared technical infrastructure as one means of collaboration—which may be a meaningful approach for Canadian institutions that do not have the resources to initiate SC programs.

V. The Future

Canadian research libraries are unequivocal in their support of SC as a worthwhile endeavor in their institutions. However, they need to align these values with being more proactive in directing resources in this direction. Building a higher profile for SC at the institutional level and funding new positions to support emerging areas will certainly help address those concerns.

However, one of the most significant developments that can support the sustainability of SC services is not at

the institutional level, but at the inter-institutional and inter-professional level. The building of CoPs to share best practices, to promote the development of core competencies, and to develop benchmarks for programs and tools for assessment, is sorely needed. Given that the study participants expressing this need were all from CARL institutions, it is reasonable to suggest that CARL should provide support for the development of CoPs. For example, leadership from the CARL-CRKN OA working group could promote OA and support new SC practices nationwide. However, participation in CoPs should not be limited to CARL members; leaders within any CoP should ensure that librarians from both smaller and French language institutions are included.

CONCLUSION

This study highlights the ways in which librarians are shaping the evolution of SC services on their campuses across Canada, and describes both the present and preferred future landscapes of SC in the Canadian context.

Our findings demonstrate that vocal library leadership is imperative and that investment in a broad, inclusive, and flexible organizational structure is likely to strengthen and encourage deeper penetration of SC activities within an institution. SC programs will benefit when:

- ULs embrace the issues as a personal cause and give SC a larger profile in their libraries and on their campuses;
- Librarians, regardless of their roles, familiarize themselves with SC issues and initiate and participate in CoPs;
- Librarians are active participants in the research enterprise; and
- Canadian research libraries develop shared and meaningful assessment tools with measurable outcomes.

While this study was limited to CARL institutions, these findings have implications for all academic libraries—whether they are starting new SC programs or enhancing existing ones. For example, the importance of collaboration and training is common to all libraries, as is the need for assessment. Building strong and agile CoPs that include librarians from all types of libraries

will be a useful approach to achieve these ends, and will ensure that solutions to these shared issues will work for all libraries. Such collective participation will also enhance the broadening of knowledge and stimulate interest in SC as an important mission for libraries of the future.

To build on these findings, a future examination of the SC landscape in Canadian research libraries to assess areas of growth since this study is recommended, as well as an extension of the study to non-CARL libraries. Specific areas identified within this study would also benefit from further study. It would be useful to examine when and how new competencies are added to librarian roles. Investigation into existing and emerging methods of assessment pertaining to SC activities in libraries would also be invaluable and could inform the development of assessment-centered CoPs. The creation of SC CoPs would also benefit from a review of the role and impact of CoPs on library practice in general.

It should be noted that since the conclusion of these interviews, there have been a number of positive changes to the SC landscape in Canada. As these results were being shared, CARL began spearheading and endorsing a number of initiatives that address many of the concerns expressed by participants. This included:

- Workshops in RDM, assessment, and research methodology;
- A task force jointly supported by ARL, CARL, COAR and LIBER to develop core e-research and SC competencies for academic librarians; and
- The Tri-Council's draft open access (OA) policy⁶ for funded research.

These initiatives are welcome additions to the Canadian SC landscape and bode well for the future.

⁶ Tri-Council draft OA Policy: The draft Tri-Agency OA Policy is modeled after the Canadian Institutes of Health Research's (CIHR) Open Access Policy. If it comes into effect it will mean that the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) will join CIHR with a policy that would require federally funded peer-reviewed journal publications to be made freely available within one year of publication. http://www.nserc-crsng.gc.ca/NSERC-CRSNG/policies-politiques/Tri-OA-Policy-Politique-LA-Trois_eng.asp

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APPENDIX A

Participants consulted were from the following 29 CARL university libraries:

- Brock University
- Carleton University
- Concordia University
- Dalhousie University
- McGill University
- McMaster University
- Memorial University of Newfoundland
- Queen's University
- Ryerson University
- Simon Fraser University
- University of Alberta
- University of British Columbia
- University of Calgary
- University of Guelph
- University of Manitoba
- University of New Brunswick
- University of Ottawa
- University of Regina
- University of Saskatchewan
- University of Toronto
- University of Victoria
- University of Waterloo
- University of Western Ontario
- University of Windsor
- Université de Montréal
- Université de Sherbrooke
- Université du Québec à Montréal
- Université Laval
- York University

APPENDIX B

In order that they be fully prepared, interviewees were encouraged to consult with staff members that are responsible for components of the institution's scholarly communication services and initiatives on their campus.

Topics covered in interviews:

1. Interviewee's role, providing context responsibilities with regards to scholarly communication
2. The current scholarly communications initiatives and services offered at interviewees library and institution (how long/success stories/barriers or challenges)
3. Plans: to expand/scale back on these activities? Which? Why?
4. Advocacy and promotion
5. Impact of assessment
6. Resources: # Staff / % Library Budget
7. Organizational structures in place to support SC
 - Centrally located or distributed among campus libraries/ units; departmental affiliation?
 - Scholarly Communication positions/roles/reporting structure
 - Other professionals
 - Non-librarian staff roles
 - Liaison roles
 - Committee roles
8. Collaborative activities with other groups and its relative impact
 - Units/departments within institution
 - External groups
9. Staff skills required, and desired
 - Are skills development needs supported?
 - What is being done to prepare and address future skills needed?
10. In the broader context of Canadian institutions (and beyond), how does the interviewee envision scholarly communication evolving?