The CARL Portage Partnership Story
L’histoire du partenariat Portage de l’ABRC

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Article abstract
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Abstract

Portage is the research data management initiative of the Canadian Association of Research Libraries and its story has been very much about establishing partnerships in a complex environment to advance research data management services and infrastructure in Canada. Many jurisdictions make up the space in which research data management takes place. A variety of legal, political, cultural, economic, technological, and scientific factors are at play and how they fit together depends on the connections between a number of stakeholders. The levels at which these stakeholders operate and the transient nature of research data itself made the development of partnerships a complex undertaking for Portage. This article describes the building of partnerships in a multi-jurisdictional environment, discusses challenges in operating in Canada's digital research ecosystem, and highlights the importance of working with Canada's regional academic library associations in laying the foundations for digital research infrastructure to support data management.

Keywords

Research Data Management Partnerships; Canadian Association of Research Libraries; Digital Research Infrastructure; Digital Research Ecosystem; Partnership Principles; Portage

Portage is the research data management initiative of the Canadian Association of Research Libraries (CARL). The directors for CARL approved start-up funding for Portage in May 2015. Prior to this, CARL was engaged in several research data management activities. Among these were participating in an e-Science/e-Research Institute developed in conjunction with the Association of Research Libraries in 2011 and 2012; helping sponsor and organize a National Data Summit in Canada in 2011; developing and hosting its own research data management training program in 2012 and 2013; preparing a major proposal for national research data infrastructure in 2010
and 2011; and conducting a feasibility study that culminated in the formation of Portage in 2014 and 2015. While this is not an exhaustive list of CARL’s prior commitments to research data, it provides some milestones along the way leading up to the launch of Portage. It also illustrates the international and national levels of engagement at which these activities occurred. Foremost, CARL Portage is a story about establishing partnerships in a complex environment to advance research data management services and infrastructure in Canada.

**The Basics of Partnerships**

Partnerships have been vital to Portage’s development. In particular, four characteristics of partnerships have played prominent roles in this story:

- **Cooperation**: This entails a willingness to engage in discussions with other stakeholders, seeking to identify common interests that they may hold and to discover areas in which they might work together.

- **Coordination**: This involves stakeholders planning together and agreeing on pathways toward common goals. Coordination doesn’t require that they will necessarily work together on specific projects, but rather that their individual actions will prove beneficial to one another.

- **Collaboration**: This element involves parties working together on projects that they agree will accomplish commonly desired outcomes. Collaboration requires a mutual level of trust among parties and the sharing of resources as they work together.

- **Compromise**: Parties will naturally bring competing priorities into a partnership; therefore, it is essential that they understand each other’s positions and are willing to make adjustments to accommodate the other’s priorities.

Each of these characteristics is structured upon a set of attitudes, behaviours and skills that together increases the likelihood of a successful partnership. This includes skills in communication, negotiation, project planning, and project evaluation, among others. Attitudes reflective of successful teams are also part of this formula, including trustworthiness, reliability, forthrightness, and responsiveness. While these aspects of partnerships are not unique to the Portage experience, the lessons from the research data management context may provide useful insight when forging future partnerships in complex, multi-layered settings.

**Building Partnerships in the Face of Complexity**

Many forces shape the space in which research data management takes place. A variety of legal, political, cultural, economic, technological, and scientific factors are at play and how they fit together depends on the connections between a number of stakeholders. The levels at which these stakeholders operate and the transient nature of research data itself made the development of partnerships a complex undertaking for

Portage. To begin, the many jurisdictions under which research is conducted in and outside of Canada was in itself a large-scale puzzle. Similar to the way a person might approach a 1,000 piece jigsaw puzzle, Portage had to construct a big picture of this landscape while concurrently working mostly with individual pieces. With a jigsaw puzzle, pieces making up the frame are typically separated from the others; pieces with common images and colours tend to be organized into groups; and finally, the connectors between individual pieces have to be aligned and assembled. Navigating Canada’s research data ecosystem required a comprehensive account of the many pieces to the puzzle. The border or boundary shaped pieces were essential to understand the jurisdictions within which decisions and actions occur regarding research data. In some instances, gaps existed in the boundary. For example, no national research data policy existed in Canada to identify which entities are responsible for the legal, economic, cultural, and technological guidelines, practices, and support for research data. Some organizations or departments appeared to have partial responsibility because of related mandates in research. In these instances, it fell back on each entity to claim a responsibility. In some cases, these self-declared mandates rubbed up against other organizations.

An example of the ambiguity around mandate is exemplified by the absence of a clear assignment of responsibilities for the specification and requirement for data management plans, which is a method for identifying practices prior to data production that will culminate in research data that are findable, accessible, interoperable, and reusable (the FAIR principles\(^1\)). Portage took a lead by providing web technology that assisted researchers in the preparation of data management plans. This technological piece of the puzzle then had to be connected with other organizations to make a more complete mandate for and implementation of such plans. Pilot projects were defined and tested to explore researcher adoption of these plans. This included partnerships between Portage and two of Canada’s research councils: the Social Sciences and Humanities Research Council (SSHRC) and the Canadian Institutes for Health Research (CIHR). Local institutional support to researchers was provided through libraries and evaluated in the SSHRC pilot. International Development Research Centre in Canada also piloted data management plans and incorporated them into their Open Research Data Initiative. Workshops were organized to introduce data management plans to researchers attending the Congress of the Humanities and Social Sciences and to members of the Canadian Association of Research Administrators and the Canadian Association of Research Ethics Boards. These latter two national organizations represent local institutional stakeholders in the wider mandate for data management plans. Since many researchers are based in local universities, offices of the VP Research are a stakeholder in how data management plans are eventually applied.

This example illustrates some of the jurisdictional challenges in putting together partnerships with a variety of stakeholders operating nationally, regionally, and locally. Determining the stakeholders with whom to partner and how best to coordinate the

\(^1\) See https://www.go-fair.org/fair-principles/
interactions among stakeholders is part of the Portage experience. Stakeholder interest in Portage increased soon after it was launched with several organizations looking to form a partnership. It proved important to work with those for whom promised outcomes could be delivered in a timely manner and to build upon these successes.

**Building Partnerships within Canada’s Digital Research Ecosystem**

Figure 1 portrays four functions within Canada’s digital research ecosystem, placing them in relationship to a variety of Canadian stakeholders. Funding for the infrastructure that supports this ecosystem has been an ongoing debate for over a decade. Coming out of the Digital Infrastructure Summit in January 2014, research data management was recognized as one of the elements of digital research infrastructure (DRI) in Canada, along with advanced research computing and the research network. Prior to this, research data management had not been in the funding mix. This Summit’s recognition legitimized the inclusion of data management along with the other components in seeking national funding for DRI. Out of this formulation emerged new partnership opportunities for research data management.

The Leadership Council for Digital Research Infrastructure (LCDRI), consisting of senior administrators from DRI stakeholders, was funded in November 2016 to provide position papers on research data management and advanced research computing to the federal department of Innovation, Science, and Economic Development (ISED). CARL’s representation on LCDRI provided valuable input on data management for these senior administrators. CARL itself is a membership organization of institutions that work together in partnership. By pulling together in this situation, CARL strengthens Portage’s position in the digital research ecosystem. Not all of the fish in this ecosystem are equivalent in size, requiring timely actions to protect smaller fish if they are to survive. This was also part of the Portage experience.
While the above discussion has emphasized Portage’s national partnerships, equally important were the relationships it built with Canada’s regional academic library associations: Council of Atlantic University Libraries (CAUL), Bureau de coopération interuniversitaire (BCI), Ontario Council of University Libraries (OCUL), and Council of Prairie and Pacific University Libraries (COPPUL). This proved important for two reasons. First, the membership of these regional associations includes all universities within their boundaries, CARL and non-CARL institutions. Researchers reside at every Canadian university and to ensure that Portage’s research data management services and infrastructure would reach every researcher, Portage was dependent on working relationships with these regional associations. In looking at research data as a national asset in need of stewardship, everyone benefits if research data are well managed regardless of an institution’s size or resources. Second, the members of regional associations are already building digital infrastructure that can support research data. For example, regions have built or are building digital preservation infrastructure and data repositories have been made available regionally for researchers to deposit their data. These existing partnerships enable networks of national partnerships to provide the redundancy needed for preservation, the tools for researchers to curate and manage research data, and the levels of expertise in data management required to support researchers.
A further partnership lesson from Portage has been the benefits of pooling librarian talent across Canada. Portage was organized around five working groups responsible for stages in research data management (training, data management plans, curation, preservation, and discovery) and a sixth group gathering intelligence on emerging practices in data management. Librarians across Canadian universities voluntarily staff these working groups. Chairs were recruited to lead each group and a charter was provided that included a group’s terms of reference and a specified term for service. Meetings were held via frequent conference calls and the chairs of these groups met in person once a year to plan activities for the following year. Examples of the outputs from these groups include templates for data management plans, online courses, feedback about the curation functions of a data repository, and recommended standards for discovery metadata. The membership of these groups has consisted of librarians from across the four regional library associations. In many instances, volunteers have found their professional expertise to be transferable to research data, and when they have needed new skills, mentorship has been provided. This organizational structure has enabled librarians to learn from peers while through Portage they contribute to projects that advance data management services. In return, the service they provide at their home institution is strengthened through their participation in Portage working groups.

**Building Digital Research Infrastructure (DRI) Partnerships**

The transient nature of research data was mentioned above as a barrier to partnership formation. The ubiquitous application of information technologies to drive the processes and products of research has resulted in amassing voluminous amounts of diverse digital data that are in need of curation and management. The research community’s response to this problem has been to call for national digital infrastructure: if information technologies created the problem, then the solution must be in information technology. As an example, Portage participated in a pilot project with Compute Canada to assess the functionality of data repositories, an application of information technology. The teams from both of these organizations worked well with one another, and the trust that developed between them led to a post-pilot memorandum of understanding to develop a production version of a data repository that would store large data files and facilitate the discovery of data held in this and other data repositories across Canada. These two functions had been identified during the pilot as gaps in DRI at the time. Compute Canada covered the production costs of the software development while Portage, through its working groups, suggested standards and provided beta testing. This collaborative work was organized within a two-year project with a fair amount of compromise between the parties. The trust that had been established between these organizations was critical in order to get through the various stages of the project. Partnerships can be disproportionate in the amount that each party puts into a project, but the essential ingredient is the underlying trust that each party has for the other.

**Finding Middle-Ground for Partnerships**

Looking from the top-down at the volume of tasks that needed to be accomplished in research data management in Canada made the amount of work appear
insurmountable. Of the tens of thousands of research projects occurring in Canada at any single time, how could any organization address all that had to be done? The experiences of Portage have demonstrated the utility of working in partnership with stakeholders from the top-down and the bottom-up. This bidirectional approach made the whole enterprise less daunting. Consequently, in its partnerships Portage found a middle-ground between the top and bottom where a lot of the work was completed.