

Information Management in the Canadian Federal Government: Principles, Practices and the Role of Information Professionals

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1. Introduction

The extensive literature and large number of conferences dealing with Information Management (IM) testify to the pervasive interest in the matter. But what is the day to day reality in the workplace? Over the past two decades the government of Canada has developed a comprehensive policy framework covering the management of information, largely originating from the Treasury Board Secretariat and Library and Archives Canada. The Treasury Board of Canada Secretariat's *Policy on Information Management* defines information management as:

"A discipline that directs and supports effective and efficient management of information in an organization, from planning and systems development to disposal or long-term preservation."
(TBS 2007)

Information management in the Canadian public sector is a complex area involving many professions such as librarians, archivists, records managers and information technology professionals. This exploratory study looks at the literature and experiential (qualitative) evidence from IM professionals in order to paint a picture of information management principles and practice in the Canadian federal government (GC). This picture includes a window into some of the practical aspects (day-to-day experiences) of IM as seen by these professionals. The study also looks at roles of librarians and other IM professionals now and in the future, particularly in information management. Note that this study is based entirely on individual accounts as depicted in personal interviews.

For a list of abbreviations see Annex 1.

2. Background

2.1. Trends in the GC relating to information management

Over the past two decades, networked computing and database technologies have enabled the provision of information-based services to the public. The federal government knowledge base is increasingly seen as an important asset (Brown 2012). According to “Strategic Direction for Government: IM” (TBS 2006a), the first statement of government direction in information management was *IM Policy Overview: Strategic Direction in IT Management in the Government of Canada 1987*. Earlier legislation leading up to this strategic direction included: the Public Records Order in 1966, inclusion of computer records in 1978, the *Access to Information Act* and *Privacy Act* in 1983 and the 1986 Security Policy’s requirement to review all information holdings (TBS 2006a).

Besides the major roles held by ICT’s and access to information and privacy legislation in bringing about IM, other government initiatives impacting IM or illustrating its rise in importance include:

- *Common Look and Feel (CLF)* – standardizes the federal presence on the Internet and promotes online accessibility
- *e-Government* – covers electronic government administration and the internet in public administration (Roy 2006)
- *GOL (Government Online)* – is a government-wide initiative to bring the 130 major federal services for the public into the electronic environment. The TBS’s Information Management Subcommittee (TIMS) was mandated to champion efforts to get government on-line (TBS 1999). A large amount of the services brought online were classified as information services, many including published material. Acclaimed both in Canada and internationally, GOL officially ended in 2006 (PWGSC 2006).
- *Year 2000* – one expected outcome was a greater understanding of the government’s IM/IT assets resulting from inventories of systems, network interdependencies, etc. to improve service delivery (TBS 1999)
- *Open Government* – its goal is to make more data and information on government activities available to citizens and to expand citizen engagement via Web 2.0 (Wouters 2012)
- *Shared Services Canada* – launched in August 2011, a new entity that aims to consolidate government IT services, namely resources and personnel for email delivery, network services, and data centres (Wouters 2012). An example is the move to a GCDocs EDRMS solution
- *Open Government* – 2012, three components: Open Data, Open Information (to proactively make government information available) and Open Dialogue, which includes using Web 2.0 technologies (Open Government 2012).

Measures to increase accountability and horizontal initiatives to integrate services for Canadians have raised awareness over the last decade of the importance of IM (TBS 2006). An example is the Management Accountability Framework (MAF), a government performance management tool

introduced in 2003 which aims to produce results by means of culture and management excellence. The MAF requires, for example, that departments manage their information to meet accountabilities and service outcomes (TBS 2012, Section 12). The importance of IM is also seen by the Chief Informatics Officer position being transformed to Chief Information Officer in 1997, with the newfound addition of information policy responsibilities (Brown 2011).

2.2. IM and Libraries in the GC

2.2.1. Information management

The IM work in the federal government is carried out by librarians, records managers, archivists, content managers, information technology (IT) professionals – in other words, a host of professions who are involved to some extent in information management. The *Directive on Information Management Roles and Responsibilities* (TBS 2007a) defines an IM functional specialist as one who has abilities in:

“records and document management, library services, archiving, data management, content management, business intelligence and decision support, information access, information protection and information privacy”

IM is not a mature profession and does not have a recognized degree equivalent to the MLS in librarianship, though courses and programs such as Dalhousie University’s School of Information Management are becoming more common. As one interviewee put it:

“IM is where IT was 25 years ago. People working in IT were nurses, historians and others.... That lack of professional credibility is a problem for us in IM.”

The Treasury Board Secretariat recently conducted a survey of all government employees who work in IM related areas (TBS 2012a). Out of the 3,750 IM specialists contacted in 28 federal government institutions, 2,160 people completed the questionnaire (participants who didn’t spend 50% or more of their time on IM were thanked and directed out of the survey; 68% spend 90-100% of their time on IM). The IM specialists identified represent between 0.6% and 3% of their departmental populations. Largest numbers of respondents were part of the following employee levels (see Annex 1 for abbreviations): CR4 (20%), AS2 (7.3%), AS3 (5.9%), CS2 (5.3%), AS4 (4.5%) and AS5 (4.3%). Respondents fell into the following modified IM service categories:

- Records and Document Management
- Data Management
- Web Content Management
- Archival
- Business Intelligence and Decision Support
- Strategic Planning, Policy and Awareness
- Library
- Information Architecture
- Training and Awareness
- Strategic Alignment, Integration and Evaluation

Although respondents spend part of their time working in all IM service categories, most allocate some time to Records & Document Management.

The Association for Information and Image Management (AIIM) recently launched a new qualification, the Certified Information Professional (CIP). Results from a survey that AIIM commissioned in 2012 indicate that there is a high demand for people with IM certification (Mancini 2012).

Given the variety of professions involved to greater or lesser degrees in IM, it is no wonder that there is much confusion about the area. Compounding this is a plethora of IM policies, directives and guidelines. Mechanisms for sharing information include the public IM discussion list (listserv), IM directors' email lists and networking (interviewee), as well as government wide tools such as Info Source.

2.2.2. Libraries

Federal government libraries, and agencies to varying degrees, are governed by 22 laws, 37 policies, 10 standards and 18 directives; they do not include Library and Archives Canada (LAC), a national library, and the Canada Institute for Scientific and Technical Information (CISTI), which is both a national science library and the library of the National Research Council (Elgee et. al 2012). Although libraries are included in the IM community they don't really fit with the definition of IM nor with the other sub-disciplines.

Librarianship is a mature profession with well-developed standards in cataloguing and a masters-level degree. The library is often the repository for the departmental publications which are mandated to be retained by the government's Communications Policy (TBS 2006b). Federal government librarians are a cohesive group - they communicate developments and collaborate on initiatives via mechanisms such as the Federal Libraries Community listserv (FLC-CBF-GEN), the Federal Libraries Consortium (FLC) for buying library and information products and CFLSN (Canadian Federal Libraries Strategic Network), a network composed of library directors.

The ADM Task Force on the Future of Federal Library Service states that:

By 2015, public servants have seamless access to a "federal library service without borders" through the interconnected network of: GC librarians, library services and all information resources (McPherson 2012).

Among the ADM Task Force's areas of concentration for seamless access are cataloguing, procurement, access to all library information resources and digitizing departmental publications. It is this last item that intersects with managing government information and seems to be the focus of LAC as seen by, for example, Daniel Caron's remarks at the 2011 Annual Public Sector CIO Forum:

Finally, as part of the work of the ADM Task Force on the Future of Federal Library Service, we are also looking to provide guidance for the digitization of published material. Beginning in 2017, LAC will no longer receive or will receive very little in the way of paper government records. Documents will be ingested in an electronic format and LAC will become a Trusted Digital Repository (Caron 2011).

It would be interesting to know whether the Information Commissioner agrees with Daniel Caron's 2017 vision, considering the ATIP (access to information and privacy) requirement to retain "recorded material" and produce it on demand.

It is currently a very difficult time for libraries in the federal government. Many libraries have recently closed or are seriously downsizing, and the future is not bright. Only LAC and CISTI, along with the Supreme Court Library and the Library of Parliament, have a legislative foundation for their existence (Elgee et al. 2012). IM on the other hand is critical for access to information and privacy (ATIP) and is mandated by a myriad of federal policies, directives and other legislation, making it seemingly more resistant to government cutbacks.

2.3. Study Rationale & Methods

2.3.1. Rationale

The intent of this exploratory project is to capture some of the discourse and conversation around the on-the-ground reality in information management. Day to day practice is different from theory and principles for a number of reasons associated with culture and the intangible and difficult-to-measure nature of information and knowledge, as seen in personal experiences of and input from informants to the study. The study focuses on several aspects of IM in daily experiences of librarians and other information managers. It also looks at the roles of librarians and IM professionals, particularly roles in IM. Although librarians are included in the GC definition of information manager, for the purposes of this study they are sometimes considered separately.

2.3.2. Methods

This exploratory study looks at IM in the Canadian federal government and the roles of librarians and information managers. The study received clearance from the Carleton University Research Ethics Board on April 10, 2012.

An invitation to participate was posted on two electronic discussion lists (listservs): FLC-CBF-GEN@LISTSERV.LAC-BAC.GC.CA, serving the federal library community, and imliste-listegi@lists.canada.gc.ca which serves the IM community. The study was also announced at two IM workshops and by word-of-mouth, creating a small snowball effect. The intent was to gather impressions and experiences from a small number of librarians and information managers while in the meantime keeping the scope of the project manageable. There was not enough time for a wider distribution, for example to the archival community.

There were 22 respondents to the invitation, 20 of whom agreed to an interview. A list of responding departments and agencies is found in Annex 1. The respondents each received a consent form and the interview questions in advance of the interview. Interviews were conducted at the interviewee's place of choice with most participants choosing an onsite location, though a few opted for cafés and two chose telephone interviews because it was not possible to meet in person. One interviewee was recently retired and one was between jobs, so they spoke about their last workplace. At one location, four people were interviewed (library and IM people). Data was also gathered from pre-testing interviews, informal conversations, a meeting with an IM consultant, and participant contributions at two ARMA/NCR events and an iSchool course on the fundamentals of IM.

Interviews were conducted by one of the researchers who took notes then transcribed and categorized them. The sessions averaged an hour in length, slightly longer than anticipated. Original notes were kept in a secure location until project completion, at which time they were destroyed. As promised to participants, reporting of responses preserved anonymity.

As seen earlier, professions associated with IM in the federal government include librarians, archivists, records managers, IT personnel, etc. Participants in the study ranged from records managers to librarians (Table 1), five of the librarians having acquired or moved into information management roles. A total of 11 respondents had IM in their job, and four of the remaining respondents worked in units where the library and IM fell under the same umbrella. Slightly over half of the respondents were coordinators, supervisors or managers.

Table 1: Professions of Respondents (n=20)

Profession	IM in their job	IM not in their job
RM, IM, IT	3	
Librarian	5	8
Library/Archives Technician	2	1
Other	1	

As noted above, for the purposes of this study a distinction is sometimes made between librarians and those working in other sub-sections of information management as defined by the GC Policy on IM.

3. The intention: What Treasury Board wants all entities to do (IM)

3.1. The Information Life Cycle

A key concept in the definition of information management is the information life cycle, which has had a direct influence on public sector information management and is embedded in the Policy on IM (Brown 2012). The IM life cycle has seven stages (TBS 2007a):

1. planning
2. acquisition of information
3. its organization
4. its use
5. its maintenance and preservation
6. its disposition and
7. evaluation

At the end of the life cycle, records of enduring value are transferred to Library and Archives Canada (LAC) which has established rules and procedures for decisions about destruction and long-term preservation. LAC is currently shifting to digital recordkeeping, e.g. the Digital Office of the Future project states that by 2017 departments can only send digital versions to LAC of government information resources that originate in a digital format (LAC n/d).

3.2. IM Strategy in the GC

In 1985 Treasury Board formed the IM division (Morton and Zink 1991). The origins of the GC IM Strategy date back to 2005 when the Treasury Board Secretariat (TBS) began a transformation initiative to achieve an enterprise vision for information management in the government of Canada. The GC IM Strategy grew out of this initiative and, officially launched in 2008, its overall goal was to safeguard information as a public trust and manage it in order to maximize its value in serving Canadians. The Strategy sets specific IM priorities and establishes key objectives such as providing consistent policies, guidance and tools for departments (TBS 2008, 2010).

3.3. Policy on IM

The earliest IM and management of IT policies date from the early 1970s and were redrafted later in the 1980s once the Access to Information Act came into being in 1983. The ATIP legislation established a clear boundary between records/recorded information and published material. At the centre of the IM policies was the Management of Government Information Holdings (MGIH) Policy, which was intended to oversee both records and publications (though its coverage of records was more detailed). Records were the responsibility of records managers, who were governed by MGIH and ATIP policies and related directives.

To a large extent government libraries and librarians were unregulated by Treasury Board or any other policy. Government publications were governed by the Communications policy and subject to deposit in the National Library (now Library and Archives Canada). Although government libraries benefitted from some leadership by the National Library, they did not get the same policy treatment as

records managers. The depository libraries in university and public libraries also came under the Communications policy, administered by PWGSC, Public Works and Government Services Canada (this paragraph and parts of the first one taken from readings and from conversations with David Brown).

Management of ATIP and records policy was separated from management of the communications policy in the late 1990s. MGIH became the Management of Government Information policy and subsequently the current Policy on Information Management, which came into effect in 2007:

In principle the intention was to recognize the enhanced role of electronically held information, and the fact that it can straddle the internal and external dimensions, but for all intents and purposes it built on the records management components of MGIH and lost its umbrella feature and any sense of linkage to Communications and libraries and as a result to information dissemination to the public. The situation was further blurred by the merger of the National Library and National Archives, which for the purposes of this discussion entrenched the orientation towards records as the core component of IM. In fact, you will barely find anything more than passing reference to libraries or published material in the Policy on Information Management. There is nothing in its list of DM accountabilities about libraries or publications and only one of seven LAC accountabilities talks about libraries (a pale reflection of the statements in the Communications policy):

8.2.7 “assists federal government departments in ensuring that all of their published information is easily accessible to decision makers and is available to the public” (David Brown, personal communication; TBS 2007).

The main IM policy centre in TBS is the Chief Information Office Branch. Sometimes forgotten is that TBS also administers IM-related policy through its *Communications Policy*. The *Communications Policy* and the *Directive on Recordkeeping* are discussed in more detail below.

3.4 Communications Policy

The *Communications Policy* promotes the dissemination of information and is concerned with information collection and organization (TBS 2006b). According to David Brown (personal communication), a fundamental problem for librarians is that they do not have a strong “home” in TB policy, unlike records managers and other sub-categories of IM. The closest thing is a couple of provisions in the Communications Policy (TBS 2006b), namely:

Policy Requirements, no. 30, the Communications policy states that:

“Institutions must: c. maintain an internal library where copies of all publications an institution issues, in all formats, are deposited to ensure long-term retention and access (in co-ordination with Library and Archives Canada);”

Accountability, no. 10, Library and Archives Canada has:

“Under the *Library and Archives of Canada Act*, institutions are required to deposit all newly published material in various formats with Library and Archives Canada. The agency manages the redistribution of library materials institutions have declared surplus. *It is responsible for co-ordinating government library services, and for providing them with leadership and direction.* (Italics added for emphasis)

Library and Archives Canada also has audit and evaluation responsibilities with respect to the materials institutions publish. It monitors whether published material in all formats is deposited with an institution's internal library as well as with Library and Archives Canada. It also monitors the management of an institution's published material, and reports and advises on its long-term access and preservation in all formats.”

3.5. Directive on Recordkeeping

Of special note is the Directive on Recordkeeping which is issued under the authority of section 7 of the *Financial Administration Act* (R.S.C. 2009, c. F-11). The Treasury Board Secretariat has the authority to administer this directive under the Policy on Information Management, and the Librarian and Archivist of Canada has authority for the disposition of information resources and can delegate disposition authorities. TBS also monitors compliance, which includes assessments under the Management Accountability Framework, performance reports, and audits (TBS 2009b).

The deputy head of a department designates the IM senior official who is responsible for departmental recordkeeping requirements throughout the information life cycle. For example, the IM senior official is responsible for establishing mechanisms to identify records of business value, to determine retention periods and to set up repositories and classification systems (TBS 2009b). The deadline for complying with the Directive on Recordkeeping is 2015.

3.6. Responsibilities for IM

The Chief Information Officer’s responsibilities include “leading the government-wide pursuit of excellence ... in the management of information and technology for Canada”, and deputy heads are responsible for the management of information and technology throughout their departments (TBS 2007c). Deputy head responsibilities include ensuring that decisions are documented, that there is information-sharing within and across departments, and that electronic systems are the preferred means of creating, using and managing information (TBS 2007).

Employees’ responsibilities are outlined as follows:

“All employees are responsible for applying information management principles, standards, and practices as expressed in Treasury Board and departmental frameworks, policies, directives, and guidelines in the performance of their duties, and for documenting their activities and decisions. Expert services such as records, library, and data management provide specialized information management support to departments” (TBS 2007).

3.6.1. Lead Agencies for IM

Five departments have key IM policy responsibilities and are known as “lead agencies” – these are: Treasury Board Secretariat (TBS), Library and Archives of Canada (LAC), Public Works and Government Services Canada (PWGSC), Statistics Canada and CSPS, the Canada School of Public Service. The roles and responsibilities for these lead agencies and for the departments in general are outlined in Figure 1.

Figure 1: IM Policy Roles & Responsibilities

TBS

Leads the GC IM Strategy; Provides IM policy; Develops directives, standards, guidelines and tools to help departments implement IM policies.

LAC

Leads the development of the recordkeeping regime for the GC; Acquires, preserves, makes known and facilitates access to the documentary heritage of Canada; Issues records disposition authorities.

PWGSC

Provides government-wide information and IT solutions for document management, web content management, portal and collaboration management, as well as enterprise search management.

Statistics Canada

Collaborates with and provides assistance to federal government departments in the collection, compilation, analysis and publication of statistical information.

CSPS

Develops and delivers a government-wide core learning strategy and program for public servants involved in IM.

Departments

Support program and service delivery; foster informed decision making; facilitate accountability, transparency and collaboration

(Adapted from TBS 2008, Table 1, slide 13)

For a more detailed list of IM responsibilities of other government organizations, refer to the *Policy on Information Management* (TBS 2007, section 8).

3.7. Related IM Policy Legislation

Other policies, acts, directives and guidelines relating to the *Policy on Information Management* include:

ATIP - The *Policy on Access to Information* is based on the 1983 *Access to Information Act* which required that documents requested under the *Act* be produced within 30 days (TBS 2008a). The ATI policy covers the organization and dissemination of information in response to requests under the *Act* as well as protection for exemptions (Brown 2012). It works in tandem with the privacy protection policy, based on the *Privacy Act*, which is oriented to protecting government information and safeguarding personal information (TBS 2008b). As of 2009, 250 Government of Canada institutions were subject to these acts or what is commonly known as ATIP, access to information and privacy (TBS 2009).

Section 70 (1) of the Access to Information Act requires a designated minister to watch over records management, ensuring it supports implementation of the act. This designated minister is the TB President, enforcing TB's role in IM and promoting its orientation towards records management (David Brown, personal communication). The ATI and Privacy acts apply to records, which are also subject to procedures that could lead to long-term deposit in the National Archives.

Guideline for Employees of the Government of Canada: Information Management (IM) Basics (TBS 2012b)

Library and Archives of Canada Act - Specifies that federal records must not be disposed of without the consent of the National Librarian and Archivist (S.C. 2004 c.11)

Policy on Government Security - aims to protect sensitive government information (TBS 2009a)

Policy on Management of Information Technology – aims to manage IT and increase the use of common IT assets (TBS 2007b).

4. Challenges in Leadership and Governance

With IM legislation and policy being spread across several government departments and most IM services being carried out in departments and not in central agencies, it is difficult to get an overall understanding of IM in the government (TBS 2006). Brown (2011) attributed “organizational fracturing of IM” over different departments as an inhibitor of effective information management. He called IM an “unfulfilled promise”:

“This promise has not been fully realized, however, for a number of reasons. These include the historical neglect of information and records management in public administration, compounded by the lack of a unified understanding of what those activities encompass or even of how they relate to each other. There has also been a weak recognition and consequent undervaluing of information as a public resource, compounded by increasingly poor management of that resource in the electronic era.” (Brown 2012)

As seen above, the government of Canada has made tremendous advances over the last few decades in IM, a very complex area that is fraught with issues such as privacy and security (Roy 2006; Brown 2011). On March 28, 2013, Tony Clement, President of the Treasury Board, tabled the 2013-14 Reports on Plans and Priorities for 93 government departments and agencies. The IM related priorities identified by individual departments and agencies were conveniently pulled together by the CLA Government Library and Information Management Professionals Network (2013).

It is hoped that the weaknesses and threats noted in the TBS analysis of IM business problems may have lessened since the writing of that analysis, for example (TBS 2006):

- IM is poorly understood
- Fragmented and poorly defined IM community
- IT dominates IM
- IM has been unable to make its value clear
- IM is not viewed as an urgent priority
- Good IM practices are not widespread

Libraries are also affected by some of these issues, e.g. the dominance of IT and the difficulty in showing value. A few of the interview responses relating to the value of IM and libraries are:

- *we struggle with communicating the value of IM. The general response is "prove it". For example, the DMS upgrade costs millions and the return on investment is very hard to show.*
- *Librarians don't sell their skills well enough. Clients don't know how to use librarians who are seen to 'make trouble', e.g. copyright rules, they don't understand librarians' value or leverage our skills for work.*
- *There is a total unwillingness to defend ourselves and show our value (librarian).*
- *Key staff have been cut so we can't justify allocating resources to IM*

Two notable challenges that affect, but are not limited to, information management in the GC are staff turnover and cuts to libraries. These are briefly discussed below.

4.1. Staff Turnover

In a study on Canadian deputy minister turnover, Côté & Holland (2007) found that between 1997 and 2007 the average tenure of deputy ministers was 2.7 years and for ministers 1.6 years. Turnover was high down through the ranks. The Public Service Commission employment statistics showed that many public servants believed that staff turnover and organizational instability had a negative effect on workplace productivity.

The 2011 Public Service Employee Survey reported that 27% of respondents said they intended to leave their current position in the next two years. It is no wonder that 40% agreed or strongly agreed with the statement “I feel that the quality of my work suffers because of high staff turnover”. This has increased from the 33% who agreed with the statement in 2008 (Statistics Canada 2011). Though not asked specifically about staff turnover, a few interviewees alluded to it - for example:

- *perpetual reorganization and renewal*
- *high transition of staff including DGs, no one stays more than 3 years*
- *real problems with change management*

4.2. Library Cuts

Related to staff turnover is the government’s recent “Work Force Adjustment” that has resulted in the downsizing and closure of many federal libraries. For example, libraries at Transport Canada, Citizenship and Immigration, Public Service Commission of Canada and HRSDC (Human Resources and Skills Development Canada) have closed. In an earlier round of cutbacks, the Canadian International Development Agency’s library closed and the Canada Institute for Scientific and Technical Information (CISTI) reduced its staff by approximately 70%.

Other libraries have recently experienced significant staff reductions, notably Library and Archives Canada which cancelled interlibrary loans and reduced its digitization and circulation staff by 50% (CAUT 2012; CLA 2012). This means that federal employees will no longer have access or easy access to the collections from these libraries, nor to the expertise and networks of their library staff.

A recent CLA survey of its members identified areas most likely to be affected by the federal library cuts, including: access to material/information, research, interlibrary loans, Community Access Program, preservation, digitization (e.g. as a solution to everything) and staffing (CLA 2012). The report also included the following data on library closures since January 1, 2012:

“At Library and Archives Canada, more than 200 jobs will be cut over 3 years, representing a loss of 20% of their workforce. Their staff resource centre closed on 1 November 2012. Many federal libraries are also affected. Canada Revenue Agency will consolidate 9 libraries into one. The Public Service Commission library is closed. The Citizenship and Immigration Canada library will close by 31 March 2013. Parks Canada will consolidate 5 regional libraries into one. Fisheries and Oceans Canada will consolidate its library services into two principal and two subsidiary locations, and will close seven libraries. Human Resources and Skills Development Canada will close its two libraries as of 31 March 2013. Natural Resources Canada will close six of its 14 libraries by 31 March 2013, with one more to close in 2014. The Transportation Safety Board will significantly reduce, and potentially close, its library. Public Works and Government Services Canada closed its library on 31 May 2012.

Transport Canada will close its library by 31 March 2013.” (CLA 2012, based on data from House of Commons Sessional Paper No. 8555-411-785)

The federal government prides itself on being a knowledge organization. Although librarians are valued for their skills and for what they bring to IM, federal libraries as information repositories and librarians as knowledge professionals, however, are being marginalized at best.

5. Some Practical Challenges

5.1. Finding and Using Information

Feldman and Sherman (2004) noted that 40% of corporate users reported that they cannot find the information they need to do their jobs on their intranets.

“While the costs of not finding information are enormous, they are hidden within the enterprise, and therefore they are rarely perceived as having an impact on the bottom line. Decisions are usually information problems.” (Feldman & Sherman, 2004)

Participants were asked to provide some impediments to finding and using information as well as unproductive activity because the required information was not found or because of other reasons. The number of respondents for each category is shown in Table 2 and the actual responses are in Tables 3 and 4.

Table 2: Impediments to Finding and Using information

Q3. What are some of the major impediments to finding and using information? e.g. warehouses of boxes, multiple repositories			
Q4. Please describe how much and what kind of unproductive activity (work redone/duplicated, too much time spent searching, etc.) is undertaken because the required information was not found or....?			
Category	Q3 respondents	Q4 respondents	*Total respondents
Business Processes: Ambiguity, Inconsistency	11	9	12
Difficulty Finding Information	7	6	11
Business Processes: Multiple repositories	8	0	8
Silos	7	0	7
Lack of Resources	6	1	6
IT, Google predominance	5	0	5
Leadership, Change management	3	1	4

*Total unique respondents (n=20)

Individual responses to question 3 (impediments in finding and using information) and question 4 (unproductive activity because information not found...) are listed in tables 3 and 4 respectively. Note that these themes also appear throughout the interview responses, e.g. in responses to the question on the recordkeeping directive (Table 5).

Table 3. Impediments to finding and using information (interview responses)

Q3. What are some of the major impediments to finding and using information? e.g. warehouses of boxes, multiple repositories	
Category	Responses*
Business Processes: Ambiguity, Inconsistency	<ul style="list-style-type: none">procedures and practices vary, all use tools differently; is several organizations in onebiggest white elephant is emails, which don't point to RDIMS

	<ul style="list-style-type: none"> • must understand when it is a transitory record • IM analyst role not well enough defined in the GC - role has too little or too much responsibility, e.g. retention decisions downloaded when should be made at higher level • shared drives • lack guidance applying file plan, ambiguous nature of documents, exponentially subject to error. Even records people don't agree. • some groups file records, others share only as needed • some types of administrative records are not easy to share, also exacerbated because shared drives are silo'd • not using RDIMS because tags are self-defined so it's difficult to find information; also RDIMS used to crash • finding a final resting place. Sharing could be quicker – layers, e.g. figure out who has authority to give information, who is willing. • hard to get continuity especially in regional offices • they don't think about IM, don't send stuff to Library • don't have knowledge to describe appropriately even though they have naming conventions etc., e.g. what's a good title. Paper v.s. electronic • tries to get staff to be records managers but gets resistance. Most of the time clients don't file correctly. • hard to get disposition because person responsible won't make sign off decisions because they weren't there when it happened, so document stays longer than it should and is subject to ATIP • naming conventions, spelling • lack of dialogue, people don't tell anyone when they deposit a document e.g. on shared drive • no consequences for sharing or losing information • lack of process/processes not documented, e.g. can't pin them down as to which is the copy of record • common myth that we can manage our information by making everyone responsible - designated people would resolve a number of issues
Difficulty Finding Information	<ul style="list-style-type: none"> • telephone directory poor, out-dated, so cobbles one together • team's products not catalogued in library • information is sensitive so impeded access, must make sure information on desktop is secure • shared drives are not searchable • shared drives are hidden • can't always find information; better if truly tagged • consultant reports probably kept by the group commissioning them
IT, Google predominance	<ul style="list-style-type: none"> • too much reliance on electronics, so there is a devaluation of printed material and library expertise, e.g. CBEC, LAC closed. • GC puts IT first and money is wasted, • IT limits what one can access, e.g. latest version, Delicious • huge disconnect between IT dept. and rest of organization; Library

	<p>catalogue software is not available to staff over the network</p> <ul style="list-style-type: none"> • EDRMS/RDIMS • the “mindset that everything worthwhile is available through Google. People don’t think they need training.” • biggest impediment is IT – too expensive, e.g. a protected B server costs \$250,000 • IT thinks they’re IM, have a lot of pull
Lack of Resources	<ul style="list-style-type: none"> • people & funds & IT infrastructure • no capacity for library to deal with primary research • major impediment is that they’re a small team • can’t afford many database licenses • not enough staff • lack of storage space. With Work Force Adjustment (WFA) there are not enough people to remove staples for archival requirement
Leadership, Change management	<ul style="list-style-type: none"> • lack of leadership to implement change • perpetual reorganization and renewal • high transition of staff including DGs, no one stays more than 3 years. New leaders feel they have to put their stamp on things so they make changes for this reason. It takes 6 months for a new DG to ramp up.

*Responses about silos and multiple repositories are covered in other sections of this document

Table 4: Unproductive activity because required information not found (interview responses)

Q4. Please describe how much and what kind of unproductive activity (work redone/duplicated, too much time spent searching, etc.) is undertaken because the required information was not found or....?	
Category	7. Responses
Business Processes: Ambiguity, Inconsistency	<ul style="list-style-type: none"> • shared tool is just a filing system, no retention information • not documented enough to introduce workflows and consistency of operations; version confusion in email, SharePoint • clients cite print over electronic because of linkrot, therefore they spend a huge amount of time tracking down print versions • SharePoint - people ask where? How do you use it? They don’t understand taxonomy to use structure. • hard to validate regional offices’ content on public website • no central database for consultant reports, not mandated to deposit, so they aren’t catalogued; project to deposit consultants’ reports isn’t moving because of protected information, problem in EDRMS and lack of funds • hard to save other people’s stuff properly • what version of what draft • everyone should do IM to a certain extent. People don’t let IM know about movement of official files, e.g. given to someone else etc. • lack protocols in RM, e.g. just starting document naming protocols in many units • countless hours spent looking for original, trying to determine whether version on their drive is final one

Difficulty finding information	<ul style="list-style-type: none"> • too much time spent trying to figure out who is responsible for what • poor client search skills, they don't come for help soon enough • spend a lot of time searching for information, e.g. a lot of noise (mostly emails) is generated around finding a file • anecdotal – can't find documents mentioned in their reports or public website • some website information removed by Communications
Leadership, Change management	<ul style="list-style-type: none"> • communicate value of IM - they struggle with it • executive director has put IM at forefront of everything, e.g. part of her strategic plan every year. Managers inherit IM responsibilities. • don't hear of direction/vision • real problems with change management • inappropriate purchases, lack of e-skills, no electronic material • SharePoint not mandated • hard to get people to use EDRMS, some because managers don't require it

*Responses about silos and multiple repositories are covered in other sections of this document

Tables 3 and 4 show some of the impediments to finding and using information as well as examples of unproductive activity related to these tasks. Except for responses about silos and multiple repositories which are covered elsewhere, all responses are included regardless of whether they relate to the questions asked. (The questions could perhaps have been more neutral and a suggestion for future studies is to ask what works well, and also to provide a list of impediments to be ranked by participants, therefore giving a clearer picture of the barriers encountered.)

5.2. Directive on Recordkeeping

When asked whether their department follows the Recordkeeping Directive, 11 out of 17 responses were positive (n=17, four responses from same unit counted as one). Some respondents don't have to follow the Directive but do so regardless and some didn't know or said it didn't apply to them. One respondent said the IT department is very keen to follow, though it is not mandated. Referring to her department's efforts to follow the RK Directive and other IM policies, one interviewee stated emphatically that "this department is really trying." Summarized responses are listed in Table 5 below.

Table 5: "Is your department following the Recordkeeping Directive?" (interview responses)

Follow RK Directive?	Responses
Yes	Yes
Yes	Are exempt from it legally but voluntarily follow it
Yes	Have IM strategy and follow intent of Recordkeeping (RK) Directive (going more electronic). Determine service copy and final copy. Not subject to ATIP or LAC
Yes	Early adopter but moving slowly. LAC's "records of business value" not defined

Yes	Signed it and try to follow. Follow MIDA. No one understands what to do, how to implement. There are no benchmarks.
Yes	Librarian: No, but will be compliant [counted as Yes, see next comment] RM person: "Yes, sure we are"
Yes	Yes. Working towards it, using RK Directive tool to help assess. TBS has an IM Plan which has RK Implementation Plan - they looked at these thoroughly and developed multi-year plans that included yearly plans.
Yes	Yes. Responsibilities blurring LAC is helping them identify records of enduring value. Out of 303 federal departments 147 fall under the TB RK Directive. Project to ascertain information resources of business value. Did focus groups, captured information before business units shut down.
Yes	Yes
Yes	Yes. MAF - different ways to fulfill the RK Directive, muddly
Yes	Yes. Very hard to determine what 'compliance' means Lack of process, processes not documented, e.g. which is <i>copy of record</i> . "I always have trouble with the expression 'capturing corporate memory'... sounds like you can find it... most of it is captured in a way that is not retrievable."
Don't know	Yes, maybe, talk about it a lot, CIO (IT) obsessed with it
No	Not formally, arm's length; "best practices"
No reply or N/A	[4 responses]

n = 17 (four responses from same unit counted as one)

One respondent's comments about the RK Directive are notable:

- *"it is very hard to determine what 'compliance' means", e.g. the RK Directive says we need a classification system. Does that mean just a system? Also, what percent of holdings need to be classified under that system in order to be compliant? Many people think this should be 100% of assets in order to be compliant, which is not realistic.*
- *the MAF has 12 points, all self-evaluative. This is "akin to students giving themselves their own marks on their papers".*

An IM consultant who works closely with the federal government reported that:

- *about 15% of departments comply to the Recordkeeping Directive. TBS has no stick and no measuring – the RK assessment tool helps somewhat but better evaluation metrics are needed. Currently MAF just requires you to show progress.*

As seen from the comments on the Directive on Recordkeeping, there is confusion about compliance and the directive is open to interpretation. For example, the MAF requires that "Progress has been made towards integrating recordkeeping practices into day-to-day activities" (TBS 2012). The extent of its uptake varies from department to department (interviews, conversation with IM Consultant). It is not an easy task for departments to determine records of business value and of

enduring value. Though LAC offers training and some departments are hiring consultants to help them comply with the Directive, there appears to be a large variation in understanding and practice of the directive. Nevertheless, it is still early days and much effort is going into training and trying to meet the requirements of the recordkeeping directive.

5.3. Technologies

The technologies used by respondents varied widely across this small sample, partially due to the varying nature of the units interviewed (large units, small ones, agencies; IM focus, library focus). Nevertheless, the variation illustrates the complexity that federal IM professionals face.

One shared information repository supported by the GC for managing records and other documents is RDIMS, the Records, Document and Information Management System (one type of RDIMS is the Electronic Document and Records Management System, EDRMS). An enterprise-wide information management service, RDIMS was launched in Sept. 2004 and, according to Public Works and Government Services Canada, is seen to be the first Shared Service offering (PWGSC 2006a).

RDIMS is defined as:

“an electronic enterprise records and document management solution that increases efficiency in organizing, structuring and sharing information in a corporate repository. RDIMS gives departments and agencies the ability to manage the information life cycle and fulfill their Information Management policy obligations” (TBS 2012b, Appendix A).

RDIMS uptake has been uneven across the GC. According to an IM consultant working closely with government departments, less than half of RDIMS licenses have been implemented and many RDIMS features are not used to their potential or are not present because the department hasn't upgraded. This consultant felt that different GC employees have varying levels of access in RDIMS when they should have the same. These observations are echoed in interview responses, for example:

- We had RDIMS but most staff tried to avoid it (and succeeded)
- Sections opt out of RDIMS – I think the DM should make RDIMS use mandatory
- RDIMS/EDRMS can handle full text but OCR not great
- We use RDIMS differently

The GC is now moving from RDIMS to GCDocs. Plans as of fall 2012 were for TBS to oversee the transformation and CIC staff to roll it out operationally (personal communication, GCDocs implementation employee). Some early adopters such as Health Canada have been chosen. A global upgrade to GCDocs from RDIMS across the GC is not feasible because of the range of versions and customizations (implementations) in RDIMS instances across different departments. Also, GCDocs is not simply a newer version of RDIMS.

There is much hope that GCDocs will make managing information smoother and, with its look being similar to that of shared drives, will facilitate uptake from government employees and migration of content from shared drives to GCDocs.

Another system worth noting is SharePoint which, according to some interviewees, is used in different ways and to varying degrees, for example:

- Repository for library's e-documents
- Track correspondence for their admin group
- Not used much here; one use is the new "e-office"
- Document repository
- Several isolated installations here

One of the GC's most common shared information repositories is the shared network drive (Park & Neal 2012). Other systems used to varying degrees for saving records and other documents are intranets, personal drives, GCPedia (a government-wide wiki for information of more general use) and the ubiquitous email, although the *Guideline for Employees of the Government of Canada: Information Management (IM) Basics* encourages staff to file emails elsewhere if they don't have access to RDIMS (TBS 2012b). As one study participant put it, the "biggest white elephant is email". LAC has sought to regulate e-mail, a particularly problematic area (LAC 2008; Brown 2012).

Coming down the pipe is social media. O'Dell and Hubert (2011) see promise in the potential of social tools to address some of the barriers to sharing, thereby facilitating information and knowledge management in organizations. Managing information from social media has its own challenges which are beyond the scope of this report. And not to forget, there are reams of paper documents, many waiting in warehouses to be scanned. As mentioned earlier, LAC will receive very few paper documents as of 2017.

As seen earlier, the Shared Services Canada initiative aims to consolidate government IT services, for example GCDocs use across departments. Shared Services Canada may also be looking at a common integrated library system (ILS), although it would be very time-consuming and costly for libraries that have recently purchased an ILS to then migrate to a new system. An example of two major libraries sharing their catalogue is the information delivery partnership between CISTI and the Canadian Agriculture Library, whose collection has been available for loan from the CISTI catalogue since 2010.

As mentioned earlier, the ADM Task Force on the Future of Federal Library Service recommended that public servants have seamless access to a "federal library service without borders" by 2015. Cross-government virtual repositories should be much easier in the libraries and published material realm than in the records area since the latter are subject to confidentiality and other restrictions. There have been initiatives to amalgamate library services across the government, e.g. the Federal Libraries Consortium, established in 1995, helps libraries buy products and services collectively. In 2007, Library and Archives Canada conducted a study on electronic readiness for a proposed federal e-Library - the sixteen participating libraries found the biggest three issues to be licensing, procurement and information technology support (LAC 2007).

Although a cross-government e-Library hasn't come about yet, the Strategic Alliance of Federal Science and Technology Libraries, which consists of six science-based departments/agencies, has been working towards a proposed federal science eLibrary. It is currently running a pilot project at three sites across Canada, giving 500 researchers access to 4 million journal articles on NRC-CISTI servers (SAFSTI 2012). It is yet to be seen how far these initiatives will go now that the GC is slashing libraries.

5.4. Multiple Repositories & Shared Drives

Several interviewees found multiple repositories to be an impediment to finding and using information, though two felt that multiple repositories were helpful for either locating information or as a backup in case their computer crashed. Responses where impediments related to multiple repositories and shared drives include:

- multiple repositories [a big one] - not all deployed to DMS
- multiple locations across Canada
- shared drives
- independent SharePoint, shared drives, regional KM Portals
- continuity with regional offices
- no central repository, former workplace much better
- multiple server farms for e-documents across Canada
- multiple repositories, where access is approached in a piece meal basis based on immediate need
- duplication, “RM system is a nightmare” - records are in 3 places: records software, shared drive and paper, e.g. HR can’t tell which is the copy of record

6. Cultural Challenges

6.1. Culture of Sharing

An issue that “pervades all aspects of information and knowledge management is the lack of history of working collaboratively” (Desouza 2009). One barrier to sharing is a lack of trust - to help overcome this barrier, organizations must change the mindset from “need to know” to “responsibility to provide”. There are many examples in the literature of information culture trumping IM. For example, Choo et al. (2006) found that information culture in a Canadian law firm significantly affected information use outcomes while the effects of IM were not as clear. Davenport (1997), in his book on information ecology, referred to information behaviour as “a vast untapped dimension of information management” and, out of the major factors influencing an organization’s information ecology - people’s behaviour and work processes, the firm’s culture, its politics and the technology - information behaviour and culture may matter most in creating a successful information environment. If an organisation “doesn’t change its information behaviour and culture then all the technical elegance in the world won’t solve an organization’s information problems” (Davenport 1997).

Cromity and de Stricker (2011) noted that the use of technologies and enterprise solutions to help foster collaboration are hindered by many technical and behavioural barriers. On sharing, they wrote:

In addition to the literature, many years of observations in the field confirm that challenges in knowledge sharing are not caused by technologies or tools or the skills applied to using them. Rather, the challenges arise in large part from the culture in which the knowledge workers find themselves.

When asked how they would characterize the culture in their organization with respect to inter-collegial sharing, seven interviewees responded that their organizational culture was good, seven said mixed, and three responded that it is poor (Table 6). The majority of those interviewed said that they had sufficient time to meet with colleagues. When asked whether there were tools such as expertise databases, most replied no, though some found this information in other venues (Table 6). This question could have been more focused as there was some confusion on the meaning of ‘sharing’, some participants referring to it as sharing with people, others as tools for sharing.

Table 6. Culture of Sharing

Question	Category	Number of Responses
How would you characterize the culture in your organization with respect to inter-collegial sharing?	Good:	7
	Mixed:	7 (inconsistencies in processes, between teams; reorganization; etc.)
	Poor:	3
Is there adequate time to meet with colleagues?	Yes:	11 (2 say time isn’t issue)
	No or limited:	6
Are there tools such as expertise databases?	Yes:	2 (but limited)
	No:	15 (use Intranet, SharePoint, directory, contacts, or don’t need this)

n=17 (merged 4 replies into one because same organization)

6.1.1. Silos

Silos were also the subtext of many participant's responses, for example "lack of dialogue, people don't tell anyone when they deposit a document, e.g. on shared drive". O'Dell and Hubert (2011), drawing upon their years in the field as well as case studies of several large organizations, purported this rather discouraging view:

"...knowledge and best practices exist in every organization, yet employees rarely share them. And even when they do share them, practices are not necessarily implemented."

Several interviewees mentioned or alluded to silos when asked about impediments to finding and using information:

- one office has an artificial division between structured and unstructured data
- think in terms of silos instead of cross-functional groupings, e.g. IM and IT have a lot in common but considered separate
- both vertical and horizontal (because of secrecy culture, but changing)
- silo'd
- silos, two teams tackle same thing
- IM people have issues with records, dealing with LAC and records centres
- huge disconnect between IT/CIO office and rest of the agency
- stovepipes, but this is changing

A segmented organizational culture points to the importance of senior management in overcoming silos and other barriers to effective management of information and use of libraries/librarians. The question is how to reach senior management to bring this about.

7. In an Ideal World

7.1. Future Roles of Information Managers (including Librarians)

People are the most valuable information asset in any organization (e.g. Davenport & Prusak 1993; LAC 2009; TBS 2006a) and this of course holds true for IM and libraries. A recent TBS survey¹ of government employees working in IM showed that there is a tremendous variation in professions, levels and extent of involvement in information management. An IM Functional Specialist is defined as:

“an employee who carries out roles and responsibilities that require function-specific knowledge, skills and attributes related to managing information such as those found in records and document management, library services, archiving, data management, content management, business intelligence and decision support, information access, information protection and information privacy.” (TBS 2007a)

The roles of an IM functional specialist in the government are described as follows:

The roles and responsibilities of information management functional specialists support departmental objectives and programs with planning, tools or services which provide accurate, reliable, current, and complete information to the appropriate people, in the appropriate format, at the appropriate time.” (TBS 2007a)

AIIM believes that the revolution in how business processes are conducted creates imperatives for organizations to digitize processes, embrace the mobile world, integrate social technologies and automate information governance. This revolution, they feel, requires a new type of information professional (Mancini 2012). On the gap between the growing amount of information and the new technologies to record, store and retrieve it, Park and Neil (2012) emphasize the need for information professionals:

“it is believed that information professionals can be regarded as key figures in bridging this gap and serving as the interface - the human face - between information itself and information technology.”

Regarding librarians, who are included in the government’s definition of IM functional specialists, much has been written on their roles and value to the organization. Librarians and other information professionals have the unique position of knowing the information needs of their clientele from their work in helping clients from all parts of their department or organization. The role of librarians in the GC is elegantly outlined by Elgee et al. (2012) as follows:

“In addition to collaborating on RIM projects, librarians may be asked to participate in initiatives in other areas of the department. They may be asked to serve as consultants or participants on projects that leverage their organizational skills, training experience, metadata expertise and departmental knowledge. Others take on client support and content management roles, particularly for social media and web 2.0 technologies. They are involved in the creation of web indexing terms and other thesauruses; in training and knowledge sharing as “super users” of

¹ The 2012 survey was conducted by the Service and GC2.0 Policy and Community Enablement Division, Chief Information Officer Branch, TBS, and is posted on GCPedia.

new databases; and in metadata analyses of the organization's file plan structure and naming conventions. In several federal departments, librarians are the custodians, trainers and organizational experts for departmental wikis and other social media and collaboration tools.” (Elgee et al, 2012)

Not only do librarians support decision-makers and anticipate their clients' information needs, they are subject experts for their organizations and know publishing industry practices. Librarians' training and experience include communications, understanding real client needs (the “reference interview”). They know how people currently find and use information and they know the best ways to make information accessible. With their overview of departmental information activities, librarians are well positioned to match client requests with authoritative information from respected sources - as opposed to “just any old” material from an ever-growing abundance of databases, wikis, books, journals, blogs, websites, etc. Librarians use research, business analysis and partnerships, for example with IT, to make information accessible and usable for their clients.

It is also important for librarians and other information managers to manage information for future needs as yet unknown. Moving closer to a shared government-wide catalogue of all library holdings would be a good start. It would be step ahead for the GC to assess how librarians fit with other public information services. For example, they could work with other IM professionals in knowledge management to providing services for the public (already a service in some GC libraries), manage results of ATIP requests and provide business analysis for their departments.

7.2. Initiatives and Innovation

Zeeman, Jones & Dysart (2011), in a study on assessing innovation in government and corporate libraries, interviewed 9 public sector and 9 corporate libraries. Interviews revealed that many libraries view their role as “stewards of content”, responsible for licensing and managing contracts for content and for developing and managing internally created digital content. The libraries interviewed preferred to deliver content digitally - many have implemented federated search and are embracing ebooks. “Interviewees confirmed that virtual services, ideally delivered via many channels (email, instant messaging, texting, VoIP, phone, Twitter, etc.) are preferred by all.”

The researchers also found that librarians are creating specialized e-resources and services for the unique needs of clients, e.g. on wikis and intranets, and are collaborating with content providers, digitizing documents and delivering digital content to employee devices. Most librarians interviewed saw Wi-Fi as critical for service delivery, though public sector libraries face “insurmountable walls of approvals for any technology enhancements.”

Some of the many examples of innovation in public sector libraries include (adapted from Zeeman, Jones & Dysart 2011):

- Embedding content into the workflow of users through portals
- Managing a content management system for federal publications
- Managing all internal electronic documents and business records, as well as copyright of internally produced content that is available for the public
- Aligning librarians with client teams, working collaboratively and providing consulting
- Online tools, learning aids and classroom training

- Using social computing and semantic computing to connect like-minded people and specific services with knowledge services
- Digitizing content for access and preservation
- Working with vendors to deliver content to BlackBerries and other mobile devices
- Testing ebooks
- Using technology to manage and direct service requests to specialists with the required expertise and availability, as mentioned in E-Services

Many of the initiatives shown above also relate to information management and functional specialists as defined in the *Policy on Information Management* (TBS 2007). An example of a public sector IM initiative is Industry Canada's creation of its own information classification methodology, known as Business-based Classification Structure (BCS), unique in that it is a function-based structure as opposed to a widely used subject-based structure (Park and Neal 2012).

When asked what additional practices their unit had adopted to be relevant to their department's needs, responses fell into seven broad categories and showed some of the creative and client-oriented approaches taken by their units, ranging from wiki content management to database design (Table 7).

Table 7: Additional practices adopted to be relevant to department's needs (interview responses)

Category	Responses
Business analysis, Intelligence	<ul style="list-style-type: none"> • Changed focus of library to knowledge management • Involved with business of department • Speak/embed language of business • Did analysis - found high use of library sources • Analyse user searches to prepare hot items for website. Adds terms used by public and media. • Moving to data analysis • Helping design database so management information is built into it • Gathers input on library policies, services and products from clients and others • Briefs senior officials on subjects of concern to them; Consults DGs on reviews • Used semantics technology to read data from shared drive and lift common themes. Then shut shared drive by migrating to RDIMS. A mirror file structure up front, RDIMS behind scenes, so staff adapt easier to transition.
Collaboration, Efficiencies	<ul style="list-style-type: none"> • Collaborates with other libraries to save money • Partners with IT to find out what's on their roadmap • Inserts library into IM/IT and KM initiatives; asks them for help in shaping library direction • Library keeps some copies of records • Pulled together records from 3 places, next is email • Reduce admin burden for clients, e.g. email aliases, canned training from vendors, meet service levels • Plugins to help clients in their work • Works with another GC department to learn technology

	<ul style="list-style-type: none"> • Outsourced some services • Looks for synergies with projects in other units • Uses a few free databases and buys articles and company information
Content management, Digitizing, Archiving	<ul style="list-style-type: none"> • Wrote business case for knowledge repository • Helped with content management of wiki • Digitizing
Emerging technologies	<ul style="list-style-type: none"> • Delicious – tagged; looking at wiki's, how deployed • Social media solutions • Ensure client iPads have related apps; embrace ebooks, ejournals, there at pilot • Supports mobile devices, e.g. Overdrive, portal
Marketing	<ul style="list-style-type: none"> • Put “services” in name • Deliberately called unit “Services” • Created list of key services, e.g. training, information organization and preservation • Directs staff to get out there, chat up clients, be proactive • Marketing, personal relationships, “getting invited to meeting”
Products, Services	<ul style="list-style-type: none"> • Site licenses • Develops products geared to client needs • Catalogue and make available digital copies of critical documents needed for business • Has focused collection, customized subject headings • Respond to purchase and service requests; provide rapid personalized service • Set up database of projects • Being strategic – purchasing policy says everything “must have a reader” so asks clients to recommend • Keep up and adjust, make sure people find what they want • Does projects for central data registry • Keep some records of enduring value even if in LAC • Customize services for clients
Training	<ul style="list-style-type: none"> • Taught RM admin to records managers • Teaches new hires • Training based on client needs • Records training fairly well embedded • Training • Set up new staff on day of arrival • Library/IM training included in organization's training • Training staff on e-skills • Train (on searching, on security considerations)

7.3. Collaboration

Libraries have a long history of collaboration as seen by Interlibrary Loans (ILL), document delivery, shared cataloguing (which gave birth to OCLC), digital repositories, joint procurement and much more.

The IM community is in its early stages when compared to libraries, but there is plenty of room for collaboration and, judging by interview responses, it is already happening.

Glimpses into the formal and informal networks can be seen in participants' views on the ease of access to information from other government departments (Table 8).

Table 8: "Is it easy to access information from other government departments?" (interview responses)

Category	Response
GC products, services	<ul style="list-style-type: none"> • Libraries closed – mindset "all on Google" • public info banks - hit and miss, either get answer right away or later/never • Yes, if it is on the Internet • It's going to get more difficult with libraries closing, e.g. for point-in-time information • Would like Library of Parliament to expose their catalogue • Departments may remove information to avoid compliance with Common Look and Feel (CLF) standards (library catalogues included). A great amount of government information is disappearing from websites. • LAC digital repository – don't submit religiously so doesn't work retrospectively • They consult several websites, some in which good classification is gone • Not easy because not standardized • GCPedia
ILL and other formal agreements	<ul style="list-style-type: none"> • Statistical data falls under formal data-sharing agreements so is available • public info banks - hit and miss, either get answer right away or later/never • Their library partners with a few other libraries • ILL good • Yes, up until now. ILL will decrease • Library works often with a larger library in department, e.g. ILL
Collaboration, Efficiencies	<ul style="list-style-type: none"> • Staff from other departments are fairly helpful • S/he works closely with two other departments - knows people so it is easier • Federal library colleagues have a really strong network • Access very easy because of CFLSN and other government libraries • Hard to find or know about; but staff at other libraries very helpful • Staff at other government department's publications and communications units not too helpful • Yes, because I'm a librarian and others are helpful • Unit deals with other units and they help each other a lot, share documents, work together. Most people are not hogging stuff, GC employees tend to see federal government as one big place and "if it can save you money, let's do it together". Will be much easier with GCDocs.

	<ul style="list-style-type: none"> • Gets information from Recordkeeping days, GCPedia, committees, indirectly from CIO days, IM listserv, personal contacts • Best and more efficient way is to rely on contacts • Personal contacts, e.g. through Canadian School of Public Service IM courses • Yes, has a strong network from leadership in committees etc. Networking has enabled this ease of access • Directors of IM are on email lists and know each other • No issue, has a professional network and works with other departments • Depends on level or classification of staff in other government department • Ease depends on rank of both people, e.g. easy for one DG to get information from another DG or a lower rank
N/A	<ul style="list-style-type: none"> • N/A for their unit • Unit's scope is external published information and internal records - don't provide service to access external records [of other units] • Clients are not very dependent on library for information. They usually deal directly with outside departments and only go through library if they need to buy something. • N/A • Rarely needs to

What is also evident from the above responses are some of the barriers to accessing information, such as: library closures, the disappearance of information from government websites and the reliance on personal contacts which vanish when the library closes, the unit is restructured or the person leaves.

7.4. Librarians and IM Professionals Teaming Up

When participants were asked to think of ways that IM and libraries team up and collaborate, their responses were divided into existing and potential approaches. Their responses about **existing** collaboration between IM and libraries are found in Table 9.

Table 9: Existing collaboration between IM and libraries (interview responses)

Category	Response
Cataloguing, Metadata, Taxonomies, File plans...	<ul style="list-style-type: none"> • share vocabulary of IM, have right taxonomy for right system
Content management, Digitizing, Archiving	<ul style="list-style-type: none"> • content management
Collaboration, Efficiencies	<ul style="list-style-type: none"> • Their reorganization really helped them do this, e.g. librarians must field RM questions, beef up IM and RM skills. Have functional classification system, content-type schemas. • Library considers itself part of IM unofficially. We are one side of the IM coin; records management is the other side. Head of library is on the government (TBS?) committee to revise IM policy and is adamant

	<p>to “make sure librarians are there”.</p> <ul style="list-style-type: none"> • traditional library department now looks after file-naming, document management, IM and library standards • Records and library are part of IM • Published and department information is mandated in Recordkeeping • already a team (sub in, help with IM hiring, share research on questions). Share knowledge, second opinion, teamwork • IM and library are both represented on the IM Committee. They’re both in the same division so administratively work together. • Our library and records joined to form new unit; IM is a big focus. • Libraries can be enablers and facilitators for many IM practices... I think it’s a good fit, e.g. their wiki was a radical shift in thinking to share across teams. • [IT - They’re also in the same section as IT which is helpful] • Share knowledge, second opinion, teamwork, e.g. a client goes through many sources/people
Training	<ul style="list-style-type: none"> • train, orient all new staff on their responsibility for, benefit from IM (both published, unpublished information) • Library client service staff now do IM training too (rewrote jobs) • Brown bag lunches; cross-training • SharePoint instructors

Participant responses about **potential** collaboration between IM and libraries are found in Table 10 below.

Table 10: Potential collaboration between IM and libraries (interview responses)

Category	Response
Business analysis, Intelligence	<ul style="list-style-type: none"> • business analysis, how organizations work -- to know how information flows, business acumen, speak their language • finance - greater financial skills, e.g. ROI, business cases, demonstrating value, cost of information, of running IM, business value of IM
Cataloguing, Metadata, Taxonomies, File plans...	<ul style="list-style-type: none"> • IM people figure out how information flows; IM analysts determine whose information it is, make legal decisions. We need librarians because they understand tacit searching ontologies. “we’re going to cloud, therefore need to enlist subject matter experts re taxonomies” • we have offered to manage the metadata on the Intranet when it is re-organized • librarians are classification specialists • librarians know semantic tools, context, technology
Collaboration, Efficiencies	<ul style="list-style-type: none"> • librarians won’t see IM/KM as important; need all kinds of KM tools because each organization does things differently (wikis, collaboration tools) • librarians should take management roles in RK, CIO • libraries need to be recognized as key players in IM, not just

	<p>organizers of print based publications</p> <ul style="list-style-type: none"> • Client doesn't care whether information is published or unpublished. People are largely satisfied with Google searches • IM people need to specify what's a corporate collection and what's reference/research material which should be organized by librarians. They then take a role as advisors. Searching information is corporate-wide. Library manages enterprise part of it. • libraries went along one path that diverged from the main IT direction. IM was lucky to hitch on the back of IT. • currently IM staff view libraries as quaint relics of bygone technology which is ridiculous and not based in reality. Simple respect would be a helpful starting point. • librarians don't show up at IM Day. They tend to look down on records managers and information managers. Librarians are "more polished", deal with fancier material. • it helps when leader (librarian) is passionate about IM
Collaboration, Efficiencies (Downside)	<ul style="list-style-type: none"> • it is unfortunate that the terms IM & IT were ever joined, IT usually being responsible for Records Management. It is like saying the people in financial branches should report to the telephony people because they use telephones. It would be much more beneficial if Records Information Management and Library Information Management were put together as they know content and clients. • the library gets forgotten in the other definition of IM (emails etc.). Better if library is not part of IM
Content management, Digitizing, Archiving	<ul style="list-style-type: none"> • librarians could manage the Intranet • librarians should be the organizers of any large repository of documents in any format • librarians can help units manage/organize reference and research material. Clients need help. "Library should be setting up drives with research life cycle."
Emerging Technologies	<ul style="list-style-type: none"> • library staff can be involved in social media
Training	<ul style="list-style-type: none"> • librarians have skills to teach people how to classify • records people need to specify what's a corporate collection then take a role as advisors

The above responses show examples of collaboration and blurring of responsibilities between IM and libraries (Table 9) and examples of areas where partnerships can grow (Table 10). There is some sentiment that librarians should take a stronger role in IM. Though not asked about collaboration with IT and other units, participant comments on tools and processes hint at partnerships with IT and other units, such as:

- Client relationship management system - tracks client requests, was used for RM and now librarians starting to use it to monitor research requests
- An in-house app (organic, unofficial, no tech support) is getting popular for sharing information because it has no IM governance and no bilingual rules
- They manage unstructured shared drives

As David Brown (personal communication) aptly puts it, “Potential modes of collaboration between libraries and IM should be reflected in organizational arrangements. A related question is, who should departmental libraries report to? Or, what should be their relationship to the departmental communications function?”.

7.5. Value of Librarians and Information Managers

Interviews with approximately 100 senior public service leaders from across Canada at all levels of government showed that “Innovation is being pursued without substantive collaboration or sharing of information across government bodies” (Macmillan et al. 2011). Wouters (2012) encouraged the government to “continue to pursue enterprise opportunities to standardize and consolidate business processes and systems”. Results of interviews with 20 senior managers at Leicestershire County Council indicated that “IM is beginning to move to the forefront of employees minds as shown in the interview analysis, where 85% of senior managers considered IM to be ‘critical’ in the achievement of organisational outcomes” (Steventon et al. 2012).

With rapid growth and diversification in emerging technologies as well as exponentially increasing stores of data and information, one would think that librarians and other information professionals would be needed more than ever. Nevertheless, one of the most critical issues plaguing librarians and IM professionals is demonstrating their value to the organization, particularly for librarians where there are cuts in library services across the GC.

“Information professionals, however, very much need to explain to potential employers how their qualifications are applicable to a gamut of roles, for example in client relations, marketing, policy analysis, and more.” (de Stricker 2011)

Librarians face the problem of limited TB policy relating to them, which sets them apart compared to records managers and other IM sub-groups. “They are barely part of the script, from an IM perspective, and there is no incentive for the IM script to link to the world of government communications, which is where the librarians were historically rooted” (David Brown, personal communication). With the merger of the National Library and the National Archives, librarians lost a voice at the DM level. Should there be a separate directive on libraries?

The evolving guideline for IM employees states “By properly managing information, we demonstrate that we understand our responsibility to both our colleagues and to Canadians and that we take this responsibility seriously” (TBS 2012b). Based on statements by participants, however, there is some doubt that the GC will be able to meet its obligations in the future unless there is renewed attention and investment in information management and its professionals as defined by the Policy on Information Management.

8. Conclusion

The government of Canada is to be commended for its widespread and substantive policy making in the area of information management and for its efforts in compliance and auditing. Unfortunately, if candid comments by interviewees are anything to go by, it would appear that IM practice does not bear out the policy. Documents are not getting filed, rules are not always understood and many departments

are "getting by". There is a lack of consistency, for example with ADM turnover, and hence a lack of control because the effects of any one ADM's decisions won't be felt until he or she is long gone.

A basic problem is the difficulty of a coherent approach to IM. The administration of information related policies such as IM, ATIP, Security and IT management is spread across Treasury Board's CIO branch. A different TBS branch holds the Communications policy centre, which is "even less integrated with the other information-oriented policies, with a consequent loss of synergies. This organizational dispersal at the centre of government both reflects and promotes an unfocused conceptual understanding of what constitutes IM in departments, adding to the constraints on the government's ability to act as a knowledge organization" (Brown 2012).

Another issue is that the definition of IM is skewed towards internal records and decision support, losing sight of libraries' external communications dimension and their relevance to a larger understanding of government information and its management. Some libraries also serve the public, providing them with departmental information. These are important roles and the government loses by not having them fully functional (David Brown, personal communication). Libraries have a lot to contribute towards policy units and a federal knowledge organization.

The GC is therefore at risk of losing memory and it appears that other priorities are taking precedence over libraries and information management practices. Libraries are being closed or drastically cut with their contents dispersed or discarded, archival units are being downsized, digitization staff are being let go, ILL is disappearing and so forth. The consequences in the long term cannot be predicted in detail but, based on the interview responses, it would not be surprising that the GC in future is without access to large parts of its institutional memory and leaders are without access to the information needed for strategic decision-making.

These findings are not surprising yet they point to opportunities for improvement. As long as excellence in IM is trumped by other priorities, the Canadian government will continue to experience situations described above. It is natural for large and complex organizations to experience challenges in IM, however there is a tremendous opportunity to leverage the skills of the wide range of IM professionals (information managers, librarians, records managers, archivists...) to set the path for the future. With enough political will and leadership these professionals are well positioned to help close the gap between information policy and practice. They are also well positioned to use their expertise to move forward towards more coordinated and integrated practices in information management and to make information accessible and usable for their clients. This will ultimately help the Canadian federal government in becoming a more effective knowledge organization.

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Annex 1: List of Abbreviations

ADM	Assistant Deputy Minister
AIIM	Association for Information and Image Management
AS	Administrative Services Group (public service employee group)
ATIP	Access to Information & Privacy
CAUT	Canadian Association of University Teachers
CFLSN	Canadian Federal Libraries Strategic Network
CIO	Chief Information Officer
CIP	Certified Information Professional (AIIM)
CLA	Canadian Library Association
CLF	Common Look and Feel
CR	Clerical and Regulatory Group (public service employee group)
CS	Computer Systems (public service employee group)
CSPS	Canada School of Public Service
DMS	Document Management System
EDRMS	Electronic Document and Records Management System
FAA	Financial Accountability Act
GC	Government of Canada
GCPedia	internal wiki used by the Government of Canada
GOL	Government Online
HRSDC	Human Resources and Skills Development Canada
ILL	Interlibrary Loans
IM	Information Management
IT	Information Technology
KM	Knowledge Management
LAC	Library and Archives Canada
MAF	Management Accountability Framework
MIDA	Multi-Institutional Disposition Authorities
PWGSC	Public Works and Government Services Canada
RDIMS	Records, Document and Information Management System or Records, Documents and Information Management System
RK	Recordkeeping
RM	Records Management
ROI	Return on Investment
WFA	Work Force Adjustment
TBS	Treasury Board of Canada Secretariat

Annex 2: Organizations Interviewed

Atlantic Canada Opportunities Agency
Bank of Canada
Canada Institute for Scientific and Technical Information
Canada Revenue Agency
Canadian Forces Grievance Board
Canadian Radio-television and Telecommunications Commission
Citizenship and Immigration Canada
Courts Administration Service
Department of National Defence
Export Development Corporation
Health Canada
Industry Canada
Public Prosecution Service of Canada
Natural Resources Canada
Statistics Canada
Supreme Court of Canada

Annex 3: Survey Instrument

Information Management in the Canadian Federal Government and the Role of Librarians and Information Managers

This is an investigation into information management in the public sector and the roles of librarians and information managers, now and in the future. **The following general questions are intended as a guide** to the interviews; however it is desirable for you to reflect as broadly as possible in conveying your impressions and views. Results will be aggregated and no replies will be attributed to any individual or department.

A. Your background

(results to be aggregated; participating departments listed in Appendix)

- What is your education and training?
- How long have you been working in this profession or a related one?
 - 0-5 years
 - 6-10 years
 - 11-15 years
 - 16-20 years
 - more than 20 years?
- How long have you been working with the federal government?
 - 0-5 years
 - 6-10 years
 - 11-15 years
 - 16-20 years
 - more than 20 years?
- In which federal department or agency do you work? Which unit?
- What is your job title?

B. Overall Organizational Approach

1. What are the standard practices and tools for capturing, accessing and protecting corporate memory in your department, e.g. RDIMS/GCDocs, Intranet, exit interviews?
 - Is your department following the Recordkeeping Directive?
2. How would you characterize the culture in your organization with respect to inter-collegial sharing?
 - Is there adequate time to meet with colleagues?
 - Are there tools such as expertise databases?

C. Typical scenarios –Internal information

3. What are some of the major impediments to finding and using information?
e.g. warehouses of boxes, multiple repositories

4. Please describe how much and what kind of unproductive activity (work redone/duplicated, too much time spent searching, etc.) is undertaken because the required information was not found or....?

D. Typical Scenarios – External Information

5. Does your department have a library or information centre?
 - If yes, who does it serve?
 - If no, how do employees access ejournals, databases and other library-type resources to get the information they need in time?
6. Is it easy to access information from other government departments?

E. Downsizing, relevance and collaboration

7. What additional practices has your unit adopted to be relevant to your department's needs?
 - Have these practices changed since government cutbacks were announced?
8. Can you think of ways that IM and libraries team up and collaborate?
e.g. IM Day; sharing ideas

F. New roles

9. Over the years, librarians and information managers have moved into non-traditional positions, e.g. content management, Intranets, etc.
 - Can you think of potential future roles for librarians/information managers in the federal government?
10. What do you consider to be the 3-5 main competencies required for your job?

G. Other comments?