THE NATURE OF RECORD AND THE INFORMATION MANAGEMENT CRISIS IN THE GOVERNMENT OF CANADA: A GROUNDED THEORY STUDY

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Abstract

Information is considered by the Government of Canada its "lifeblood" and its management is regulated by both law and government policy. Being part of information management, records and their management are required to facilitate "accountability, transparency, and collaboration", including "access to information and records". The right to access government records is granted by the Canadian Access to Information Act, which, since 1985, has been the main mechanism for the public to inquiry about the government's conduct and decision-making. The Office of the Information Commissioner was established to monitor the administration of the Act, including assessing government institutions' performances under the Act. In 2009, the Office reported that almost 60% of the institutions it assessed were rated with a below-average performance, based primarily on their delay in releasing requested records. The Office thus concluded that "The poor performance shown by institutions is symptomatic of what has become a major information management crisis".

This information management crisis motivated the present study, which aimed at finding explanations for it. Within the framework of the grounded theory methodology, data were collected from thirty government departments, including publications, emails, site observations, notes of conversations/teleconferences, and internal records released by Access to Information requests. These field data, along with relevant literature, were coded, memoed, and constantly compared for formulating the explanations, or discovering the substantive theory. At the center of the theory lies the core variable *record*

nature, which underlies ninety six concepts and the hypotheses based on the concepts.

According to the theory, when the understanding of record nature is *incomplete*, the

management of records is ineffective and unable to deliver any concrete results, causing

in departments the marginalization of the records management function, the

disappearance of records, and ultimately, the inability to perform basic yet critical tasks in

supporting government operation and accountability, that is, the *information management*

crisis.

The study contributes to archival science in general, and to records management in

particular, both theoretically and methodologically. It specifies the concept of record

nature, clarifies popular misconceptions, elaborates on records management principles,

and offers a records management work model conforming to the generated theory.

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Dedication

To my parents, Bing Zhong, Xie and Ping, Deng, who raised me to be me. I know I'm lucky to be your daughter. If there is a next life, let me please still be your daughter. And I promise, I will be a better one.

给我的父母谢炳忠和邓平：

是您们培育和成就了今天的我。我知道成为您们的女儿是我的幸运。如果有来世，请允许我继续做您们的女儿。我保证，我会做得更好。

1. Introduction

This introductory chapter presents basic information on the research setting (i.e., the environment where the research took place), the determination of the research interest, the research methodology, and the chapters that make up the dissertation.

1.1. The Research Setting

The research setting requires two areas of knowledge for it to be understood: one concerning the professional field called Records Management and the other concerning the Canadian public administration, in particular the Canadian Federal Government or the Government of Canada.

1.1.1. Record Management & Information Management

Record management (RM) is a field that focuses on the management of records. For the purpose of general introduction, the term "record" refers to "[a] document made or received in the course of a practical activity as an instrument or a by-product of such activity, and set aside for action or reference", and RM refers to "[t]he whole of the activities of a creator aimed at the creation, use and maintenance of records to meet its administrative, programmatic, legal, financial and historical needs and responsibilities".[1] It is necessary to point out that in the RM field, records and records management definitions vary widely, due to the variety of sources, including archival legislation,

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[1] InterPARES, "Terminology Database: Record; Records Management," http://www.interpares.org/ip2/ip2_terminology_db.cfm (accessed October 19, 2012).

national and local archival authorities (when legal definitions are not available), and international bodies. For example, the Library and Archives of Canada Act defines record as "any documentary material other than a publication, regardless of medium or form", and government record as "a record that is under the control of a government institution".[2] The ISO 15489 defines records as "information created, received, and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business",[3] and RM as "[the] field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including the processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records".[4] *The understanding of records and RM, therefore, is context specific*.

The meanings of information and Information Management (IM), like records and RM, also vary according to context. Unlike records or RM, though, information and IM do not appear to have definitions that are provided by authoritative sources comparable to the law or to an international standards body that is widely recognized. Their meanings are specific to the local environment where the terms are utilized, *such as the Government of Canada*.

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[2] Canada, "Library and Archives of Canada Act. S.C. 2004, c. 11, s. 2," http://laws-lois.justice.gc.ca/eng/acts/L-7.7/FullText.html (accessed October 19, 2012).

[3] International Organization for Standardization, *ISO 15489-1: Information and documentation – Records management. Part 1: General* (Geneva: ISO. 2001), s.3.15.

[4] Ibid., s. 3.16.

1.1.2. Government of Canada

The Government of Canada (GC) is Canada's national government, also frequently termed as the Federal Government, due to the Canadian federalism. In the federalism context, the Government of Canada operates at the national level as the first order of government, collaborating with the second order of government, that is, the ten provinces and the three territories.[5] The powers of the Government of Canada are derived from the Canadian Constitution Acts, which defines the areas over which the Federal Government and the provincial/territorial governments have either exclusive or concurrent authorities. Constitutionally, the Federal Government has the power "to make laws for the peace, order and good government of Canada," except for "subjects assigned exclusively to the legislatures of the provinces."[6] Within this framework, the Federal Government is responsible for such areas as foreign affairs and international trade, defence, the monetary system, criminal law, patents, bankruptcy/insolvency, financial services, and telecommunications. The provincial legislatures have powers over, for example, direct taxation, natural resources, health care, municipal affairs, securities regulation, and education. In some areas, such as agriculture, immigration, and pensions, power is shared between the Federal and the provincial governments. *The area of records management or information management is governed by the two orders of government separately*.

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[5] Privy Council Office, "Canadian Federalism," http://www.pco-bcp.gc.ca/aia/index.asp?lang=eng&page=federal (accessed October 19, 2012).

[6] Government of Canada, "Constitution Acts 1867 to 1982," http://laws.justice.gc.ca/en/const/index.html (accessed October 19, 2012).

In a country based on a constitutional monarchy, the Government of Canada is a parliamentary government, with a Governor General representing the Queen, an appointed Upper House (the Senate), and an elected Lower House (the House of Commons). The Governor General governs through the Cabinet, headed by a Prime Minister and functioning as the government's Executive Branch. The Prime Minister chooses the other Ministers of Cabinet and recommends them to the Governor General for formal appointment. The Cabinet Ministers are responsible for particular departments and agencies, typically described as Ministers' "portfolios".[7] These portfolios have different focuses, some in the area of public policy, for instance, the Treasury Board of Canada, while others in service delivery, for instance, the Department of Public Works and Government Services Canada. Individual Ministers are accountable to the House of Commons or the legislature for their portfolio departments, and, as a whole, they are answerable collectively to the House of Commons or the legislature for the policies and conducts of the entire Cabinet. The Privy Council Office is the hub of public service, supporting the Prime Minister, the Cabinet, and its decision-making structures.[8] A complete list of departments and agencies can be found on the GC's website,[9] *thirty of*

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[7] Eugene Forsey, "Parliament of Canada,"
http://www.parl.gc.ca/information/library/idb/forsey/index-e.asp (accessed October 19, 2012).

[8] Privy Council Office, "About Us,"
http://www.pco-bcp.gc.ca/index.asp?lang=eng&page=about-apropos (accessed October 19, 2012).

[9] Government of Canada, "Departments and Agencies,"
http://www.canada.gc.ca/depts/major/depind-eng.html (accessed October 19, 2012).

which emerged in the research process of the present study as relevant to the study.

There are two other branches within the Federal Government, namely, its Legislative Branch and its Judicial Branch. The Legislative Branch is responsible for constructing and debating parliament legislation and the Judicial Branch is responsible for interpreting such legislation in courts at both government levels. Parliament legislation establishes departments/agencies and enacts public laws.[10] For example, the Financial Administration Act (FAA) establishes the Treasury Board of Canada and assigns it responsibilities for the GC's general administration, which includes *records management in GC departments and agencies.*[11] The Access to Information Act provides the Canadian public right to information *under the control of* GC *departments and agencies.*[12] The Canadian judiciary enjoys complete independence from the other two branches, and all government actions are subject to the scrutiny of the courts.[13]

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[10] The term "public law" is used here to refer to "Laws designed to safeguard the public interest, and those governing and regulating the interaction of government and the people". "Foundations of the Canadian Legal System," http://www.scribd.com/doc/11471228/Law-Text-Law-30 (accessed October 19, 2012)..

[11] Government of Canada, "Financial Administration Act," http://laws.justice.gc.ca/en/F-11/text.html (accessed October 19, 2012).

[12] Government of Canada, "Access to Information Act," http://laws.justice.gc.ca/en/A-1/ (accessed October 19, 2012).

[13] Government of Canada, "Structure of the Government of Canada," http://www.canada.gc.ca/aboutgov-ausujetgouv/structure-eng.html (accessed October 19, 2012).

1.1.3. Records Management & Information Management in the Government of Canada

Records management in the Government of Canada is currently part of information management, as records as well as "documents, data, library services, information architecture, etc.," are all "encompass[ed]" by information management.[14] Information management in the GC is defined 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".[15]

In this RM-as-part-of-IM context, "records are information created, received, and maintained by an organization or person for business purposes, legal obligations, or both, regardless of medium or form".[16] Records management, termed recordkeeping, refers to "A framework of accountability and stewardship in which records are created, captured, and managed as a vital business asset and knowledge resource to support effective decision making and achieve results for Canadians".[17]

The expression IM(RM) is therefore used to refer to the IM-including-RM-as-a-part situation in GC, *when IM is discussed as a whole yet it is necessary to make RM visible.*

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[14] Treasury Board of Canada Secretariat, "Policy on Information Management," http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?section=text&id=12742 (accessed October 19, 2012).

[15] Ibid.

[16] Ibid.

[17] Ibid.

The expression RM(IM) is used to refer to the RM-as-part-of-IM situation in GC, *when RM is indeed the real/sole focus yet it is necessary to point out its GC context*. The expression IM/RM is used to refer to the indiscriminating manner by which some GC sources discuss IM and RM.

1.2. Determining the Area of Interest

The research started with an interest on the relationship between electronic/digital records management, currently a major component of records management, and the development of electronic government (eGov), which refers to the governmental utilization of digital technologies – in particular the Internet – for providing information and services online.[18] This interest was inspired by one of the research focuses of the second phase of the InterPARES (International Research on Permanent Authentic Records in Electronic Systems) project, namely, its Focus 3, Electronic Government. The InterPARES project had centered on electronic/digital records and their management, including long-term preservation, for more than a decade, and this corresponded to the research interest of this author.[19] Digital/electronic records management was thus identified as the major area for the dissertation project. The eGov movement contributed to the InterPARES research

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[18] With regard to both electronic records management and electronic government, the term digital is more accurate than the term electronic as both refer to digital technologies represented by computers and the Internet. Electronic records and eGovernment are used in this dissertation due to their predominant usages in their early development histories. Digital records and digital records management are also used when there is the need to make the distinction.

[19] This author was a Graduate Research Assistant for the InterPARES project from 2004 to 2007 and an InterPARES researcher from 2008-2012.

eight case studies in various governmental settings. In carrying out the case studies, this author observed the apparent impact of the processes and technologies employed by the eGov projects on the creation, usage, and maintenance of digital records, which presented the eGov movement as an interesting field for studying digital records management. Therefore, the eGov movement, including its origin, developmental history, achievements, as well as the research efforts treating it as an independent field, was determined to be the minor area of study for the dissertation research. The study revealed that the Government of Canada was a worldwide leader in developing electronic/digital government, and this prompted the further choice of the Federal Government as the research setting, which, in turn, led to the comprehensive study of eGov development in the Government of Canada. *The information management crisis in the Government of Canada surfaced during this process*.

1.2.1. Information Management Crisis by the Information Commissioner of Canada

The expression "information management crisis" appeared in 2009 in the speech entitled "A Dire Diagnosis for Access to Information in Canada" by the then Information Commissioner of Canada, Robert Marleau. Considering it one of the systemic issues, the Information Commissioner stated that "The poor performance shown by institutions[20] is

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[20] The term institution is used in the context of the Access to Information Act, referring to the departments and crown corporations that are subject to the Access to Information Act. See s. 3.

symptomatic of what has become a **major information management crisis**".[21]

In specific terms, the information management crisis means that "There is currently no universal and horizontal approach to managing or accessing information within government. Some institutions don't even know exactly what information they are holding".[22] "But in today's digital environment", the Information Commissioner continued, "outmoded 'paper' practices, inconsistencies, overlapping or duplication of information have serious ramifications. Such unsound practices slow down the retrieval process, lead to unsuccessful or repeated searches, and generate huge amounts of pages to review. This in turn translates into unacceptable delays in responding to information requests".[23] This crisis, according to the Information Commissioner, "is only exacerbated with the pace of technological developments"; "*Access to information has become hostage to this crisis and is about to become its victim*".[24]

1.2.2. Information Management Crisis in Statistics

The information management crisis pointed out in the Information Commissioner's speech was revealed by the assessments of the performances of GC departments and

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[21] Robert Marleau, "A Dire Diagnosis for Access to Information in Canada," Speech at the news conference on the tabling of the 2007-2008 Report Cards. http://www.oic-ci.gc.ca/eng/med-roo-sal-med_spe-dis_2009_4.aspx (accessed October 19, 2012).

[22] Ibid.

[23] Ibid.

[24] Ibid. Italics added.

agencies under the Canadian Access to Information Act (ATI), conducted by the Office of the Information Commissioner of Canada (OIC). The Canadian Access to Information Act is the equivalent of the freedom of information legislation in other jurisdictions, including the Canadian provinces. This Act was enacted to extend the rights in existing Federal laws of Canada that provide access to information under the control of the Government, and, for the purpose of administration, established the Office of the Information Commissioner. The Information Commissioner ranks as a deputy head of a department, has all the powers of a deputy head, and engages exclusively in the duties of the office of Information Commissioner.[25] The Information Commissioner

> may, at any time, make a special report to Parliament referring to and commenting on any matter within the scope of the powers, duties and functions of the Commissioner where, in the opinion of the Commissioner, the matter is of such urgency or importance that a report thereon should not be deferred until the time provided for transmission of the next annual report of the Commissioner.[26]

The "special reports to Parliament", alternatively called report cards, are issued by the OIC to show *"how well federal institutions have met their responsibilities under the ATI [Act]"*.[27]

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[25] Government of Canada, "Access to Information Act. R.S.C., 1985, c. A-1," s. 55. (1). http://laws-lois.justice.gc.ca/eng/acts/A-1/FullText.html (accessed October 19, 2012).

[26] Ibid., s. 39. (1).

[27] OIC, "Report Cards," http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren.aspx.

The report cards process started in 1998 and, by 2010, a total of twenty-seven institutions had been assessed. In April 2010, the year this author started to collect field data, a special report was submitted to Parliament containing assessments on institutions' ATI performances for the fiscal year 2008-2009. *This report has "timeliness as its chief focus".*[28] Timeliness in this context has three indicators: average completion time with reference to the 30-day statutory timeframe for providing access to public records, deemed refusal rate (i.e., the percentage of requests that have exceeded statutory deadlines[29]), and the number of requests responded to after statutory deadlines have been missed.[30] The *deemed-refusal rate* was the main base by which institutions' ATI performances were assessed.[31] The OIC selects institutions for assessment using the criterion that at least five delay-related complaints against the institution were filed to it

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Italics added (accessed October 19, 2012).

[28] OIC, "Out of Time. Special Report to Parliament 2008–2009 Systemic Issues Affecting Access to Information in Canada,"
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_2.aspx (accessed October 19, 2012).

[29] Statutory deadlines include those that are extended by citing statutory justifications.

[30] OIC. "Out of Time,"

[31] There are other factors such as whether or not notices under subsection 9(2) were sent to the Information Commissioner, but the deemed-refusal ratio is the main one. See Appendix B of the report cards for how the OIC determined the rating for each institution.
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_37.aspx (accessed October 19, 2012).

during the assessment time period.[32] An overall rating was given to each institution

indicating their performance, which could be Outstanding (A), Above Average (B),

Average (C), Below Average (D), or Unsatisfactory (F).[33]

In the 2010 special report, twenty-four institutions were assessed, including ten that were

assessed in the fiscal year 2007-2008 and re-assessed in the fiscal year 2008-2009. This

assessment was thereby considered "unprecedented in scope" in terms of the number of

the institutions assessed. The OIC considered the twenty-four institutions to represent

statistically the overall ATI performance of the Federal Government as the requests these

departments received accounted for eighty-eight percent of the access requests submitted

to all of the two hundred and forty one federal institutions subject to the Access to

Information Act in 2008–2009 (i.e., 29,845 out of 34,041).[34] These two years'

assessments are used to statistically illustrate the IM crisis. See Table 1 below.

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[32] Ibid., "Executive Summary,"
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_2.aspx (accessed
October 19, 2012).

[33] OIC, "Out of Time: Appendix B,"
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_37.aspx (accessed
October 19, 2012).

[34] OIC, "Out of Time,"

Table 1 Information Management Crisis in Statistics

Year of Assessment	% of OIC ATI Rating < C	% of IM or RM Problematic
2007-2008	6/10 = 60%	8/10 = 80%
2008-2009[35]	13/23 = 57%	14/(24 - LAC[36]) = 61%

1.2.3. Relationship between the Information Management Crisis and Records Management

The information management crisis (hereafter the IM crisis) in the Government of Canada is in fact the crisis of RM, not only because the Government considers RM one constituent part of IM, but also because the problems revealed by the OIC are specifically about records retrieval. The relationship between access to information and RM is articulated by the OIC as follows:

> "access to information relies heavily on sound **records management**. Institutions that are unable to effectively manage information requested under the Act face time-consuming retrieval of records, uncertain, incomplete or unsuccessful searches,

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[35] For this year, there were two institutions rated as Outstanding (A), three as Above Average (B), and five as Average (C).

[36] LAC, i.e., Library and Archives of Canada, was excluded due to the fact that the ATI requests it processes are mainly about records of other GC institutions, i.e., not about its own operational records.

as well as the risk of substantial delays and complaints".[37]

1.2.4. Rationale for Determining the RM(IM) Crisis as Area of Interest

The surfacing of the IM crisis made this author change her research interest from the relationship between electronic records management and electronic government to the IM crisis. This section presents the rationale that supported the decision for the change.

1.2.4.1. Significance of Researching the Information Management Crisis

The significance of researching the IM crisis derives from the importance of administering the Access to Information Act, due fundamentally to its relationships with the transparency and accountability of the operations of the Federal Government and, ultimately, with democracy of Canada as a country. In government operations, records document the decisions that have been made and witness the actions that have been taken; the releasing of them thus becomes the most direct channel that enables the public to inquiry about the government's operation and decision making. Without the existence or accessibility of records, transparency, accountability, and democracy would be difficult – if not entirely impossible – to be realized. As evident in both the words of the Information Commissioner (section 1.2.1.) and the IM statistics (section 1.2.2.), the issues surrounding IM in the Government are grave. An academic investigation – which did not exist – was thus considered warranted.

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[37] OIC. "Out of Time," http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_2.aspx (accessed October 19, 2012). (Emphasis original).

1.2.4.2. Feasibility of the Original Research Interest

In addition to the seriousness it displayed, the IM crisis raised questions about the feasibility of pursuing this author's original research interest, due to the complexity of the eGov environment.

Electronic government is at this time the most advanced development of governments' utilization (i.e., configuration and deployment) of digital technologies; it has thus caused dramatic changes to operational infrastructures and processes. As a result, the impact that the eGov movement has on RM is unprecedented and the associated challenges are much more complex than the RM practices established in the non-eGov environment, which could be considered basic.[38] The 1985 Access to Information Act permits the production of a record that "does not exist but can, …, be produced from a machine readable record",[39] yet the environment of the "machine readable record" did not possess the same level of complexity of the eGov development, which started, in the case of GC, in 1999.[40] Moreover, such records "need not be produced where the production thereof would

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[38] Sherry L. Xie, "Electronic Records Management: The Missing Player in the eGov Movement", in *Proceedings of the 4th International Conference on eGovernment* (Melbourne, Australia: RMIT University, 2008), 481-489.

[39] Government of Canada, "Access to Information Act," ss. 4. (3).

[40] Governor General of Canada, "1999 Speech from the Throne to Open the Second Session of the Thirty-Sixth Parliament of Canada," http://www.pco-bcp.gc.ca/index.asp?lang=eng&page=information&sub=publications&doc=aarch ives/sft-ddt/1999-eng.htm (accessed October 19, 2012).

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unreasonably interfere with the operations of the institution".[41] Therefore, the complex

records associated with the eGov development are highly unlikely to be the records that

are mostly requested under the Access to Information Act. The RM issues revealed by the

IM crisis thus fall into the realm of basic RM. It was deduced that it would be more

appropriate to investigate the basic RM issues than the more complex ones, as the former

is the foundation of the latter and the latter can only be researched on the basis of the

former. *The area of interest was thus determined to be the IM crisis*, *with a goal to find*

explanations for it.

1.3. Selecting Research Methodology

The research methodology selected for the study is grounded theory. Grounded theory is

one type of social science research method that focuses on the generation of theory, either

substantive (i.e., developed for an empirical area) or formal (i.e., developed for a

conceptual area).[42] It features for researchers the requirement of theoretical sensitivity,

the principles of no literature review and all-is-data (including literature relevant to the

research interest), the process of open, selective, and theoretical coding, and the

techniques of theoretic sampling, memoing, and sorting as well as constant comparative

analysis. This self-contained system allows the generation of a theory (i.e.,

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[41] Government of Canada, "Access to Information Regulations SOR/83-507," s. 3.
http://laws-lois.justice.gc.ca/eng/regulations/SOR-83-507/FullText.html (accessed October 19,
2012).

[42] Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for
Qualitative Research*, 2nd. (Mill Valley, Ca.: Sociology Press, 1999), 32.

concepts/categories and hypotheses) to be able to explain the social phenomenon or process for which it was developed. As the theory is grounded in empirical data relevant to the particular/substantive area, it is believed that it will "fit the situation being researched and work when put into use".[43] The focus and strength of this methodology thus correspond to the goal of the research, which, as stated in the previous section, is to discover explanations for the IM crisis.

In the process of searching background information on the IM crisis, it was found that at the time when the research interest was being formed, there was no published academic research on this subject (i.e., the IM crisis in GC). This observation added significance to the research on the one hand and on the other hand, permitted ready bypass of the program requirement on literature review. Not reviewing relevant literature for the purpose of conceiving a research framework with specific research questions prior to embarking on research is one of the foundational principles of grounded theory, although it goes against the standard procedure of traditional social science research. The non-existence of scholarly literature centering on the area of interest overcame the difficulty of satisfying program requirements of traditional social science research while, at the same time, following the principle of the methodology.[44] This section introduces

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[43] Ibid., 3. Here, "fit" refers to that "the categories must be readily (not forcibly) applicable to and indicated by the data under study" and "work" refers to that "they must be meaningfully relevant to and be able to explain the behavior under study".

[44] The non-existence of scholarly literature on the area of interest does not solve completely the problem presented by the need to satisfy traditional research requirements for doctoral students while at the same time following the grounded theory principles. When literature review is a mandatory requirement, it must be conducted even though there is no published scholarly

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the origin of the methodology, the different versions of it, the rationale for the selected version, and the illustration of the process of the selected version.

1.3.1.   Origin of Grounded Theory Methodology

The grounded theory methodology was first articulated by two sociologists, Barney Glaser and Anselm Strauss, in their book, *The Discovery of Grounded Theory: Strategies for Qualitative Research,* in 1967.[45] The book was a response to readers' inquiry about the methodology employed in their study on dying patients, which received tremendous attention.[46] The method attracted attention due mainly to its emphasis on inductive theory generation, an idea that was the opposite of the then predominant deductive theory verification method.

The two originators of the grounded theory methodology, Glaser and Strauss, have distinctive academic training in social science research methodology. Glaser received his PhD in the Department of Sociology of Columbia University where he was trained as a

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research directly on the subject: the search for relevant literature can be extended and the criteria for relevance can be modified. For a discussion on this problem see Sherry L. Xie, "Striking a Balance between Program Requirements and Grounded Theory Principles: Writing a compromised Grounded Theory proposal," *The Grounded Theory Review, An International Journal,* 8 (2), 2009: 35-47.

[45] Barney G. Glaser and Anselm L. Strauss. *The Discovery of Grounded Theory: Strategies for Qualitative Research*, 2nd, 1999.

[46] The study was published as a book, *Awareness of Dying* (Chicago: Aldine Publishing Co., 1965).

quantitative researcher. Strauss studied and worked at the University of Chicago – a place famous for its qualitative approach – where he was influenced by interactionist and pragmatist writings.[47] Their research collaboration started soon after Glaser's arrival at the University of Chicago, where the stage for the development and testing of the new methodology was set. *Discovery* does not reveal in any details how the ideas of the grounded theory methodology were conceived and how the methodological training of the authors contributed to its formation. Some details were offered in their later separate publications. According to Strauss in 1987, what contributed to the development of the grounded theory methodology were two streams of thought: the general thrust in American Pragmatism and the Chicago Sociology tradition. American Pragmatism brought in the melding its emphases on action and problematic situation and the Chicago tradition added to it its extensive use of field observations and interviews as data-collection techniques. Strauss also pointed out that both streams placed social interaction and social processes at the center of attention and the Chicago Sociology tradition especially stressed the importance of understanding social phenomena from the

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[47] Interactionism is a theoretical perspective in sociology and social psychology that views social interaction as taking place in terms of the meanings actors attach to action and things. Alan Bryman. *Social Research Methods*. 2nd ed. (Oxford University Press, UK., 2004), 544. Pragmatism is a philosophy of US origin which treats values and knowledge as means to practical human ends. Concepts and values are regarded as true for so long as they prove useful. Knowledge and social life itself are therefore fluid, changing, human creations. Tony Bilton et al., *Introductory Sociology*, 3rd ed. (London, Macmillan, 1996), 667.

actors' viewpoints.[48] In 1990, Strauss again traced the origin of the grounded theory methodology, describing briefly Glaser's input:

> "Glaser especially saw the need for a well thought out, explicitly formulated, and systematic set of procedures for both coding and testing hypotheses generated during the research process. The Columbia tradition also emphasized empirical research in conjunction with the development of theory".[49]

Glaser's version of their respective contributions was presented in a book published in 1998, in a chapter tracing the "roots of grounded theory". The chapter explains in detail the linkages between his quantitative research training and the corresponding aspects of the grounded theory methodology. In the last section, Glaser expressed his appreciation for learning symbolic interaction from Strauss, and his excitement about analyzing qualitative data using quantitative ideas. In his view, the success of *Discovery* came directly from the melding of these two fundamental traditions.[50]

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[48] Anselm L. Strauss, *Qualitative Analysis for Social Scientists* (Cambridge University Press: Cambridge, 1987), 5-6.

[49] Anselm L. Strauss and Juliet Corbin, *Basics of qualitative research: Grounded theory procedures and techniques* (Newbury Park, CA: Sage, 1990), 24-25.

[50] Barney G. Glaser, *Doing Grounded Theory. Issues and Discussions* (Mill Valley, Ca.: Sociology Press, 1998), 21-33.

1.3.2. Versions of Grounded Theory Methodology

After its initial development, grounded theory methodology has developed into three versions: Glaserian (or the classic grounded theory), Straussian, and constructivism. Their major differences need to be elucidated to clarify the choices made to conduct the research for this thesis.

As an introductory book on a new methodology, *Discovery* focuses on presenting the grounded theory ideas at a general level. Many of its chapters serve primarily the purposes of comparing it with other qualitative methods and of justifying the new method's credibility. As a result, detailed procedures of conducting a grounded theory research are left out, and this, in turn, resulted in an urgent request for publications that specify procedures and clarify confusions.

The publications following such call were written separately by Glaser and Strauss, and revealed major, irreconcilable differences. Despite the two originators' earlier close collaboration in research and the successful combination of their distinctive methodological trainings in *Discovery*, Glaser and Strauss never worked together again. They were both active in the grounded theory field but took different directions. In 1990, Strauss published his book, *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*,[51] to which Glaser replied with the book *Basics of Grounded Theory Analysis: Emergence vs. Forcing*, criticizing the content of Strauss' book chapter

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[51] Anselm L. Strauss and Juliet Corbin, *Basics of qualitative research: Grounded theory procedures and techniques*.

by chapter.[52] The following two excerpts, from Strauss and Glaser respectively, clearly

show the differences:

> "[with respect to the separate publications after the *Discovery*]…some of the
>
> terminology and specific recommended procedures are not always identical. Mainly,
>
> this is because of the additional reflection but also because of different experiences
>
> resting both on teaching and our specific research projects."[53]

> "Gone in Strauss' method was our initial clear approach in *Discovery of Grounded*
>
> *Theory* to the systematic generation of theory from data! Strauss' techniques are
>
> fractured, detailed, cumbersome and over-self-conscious. They interfere with the
>
> emergence and discovery which comes from the constant comparative method of
>
> coding and analysis."[54]

Although with different tones,[55] they both believe that the major difference between their

approaches lies in "procedures" (Strauss) or "techniques" (Glaser), that is, how to execute

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[52] Barney G. Glaser, *Basics of Grounded Theory Analysis* (Mill Valley, Ca.: Sociology Press, 1992).

[53] Anselm L. Strauss and Juliet Corbin, *Basics of Qualitative Research*, 8.

[54] Barney G. Glaser, *Basics of Grounded Theory Analysis*, 60.

[55] "Glaser and Strauss remained very close friends … and had daily contact until Strauss died in 1996. During meetings and conversations the two friends discussed their differences. It became obvious that Strauss had no strong feelings as to the direction his and Corbin's 'interpretation' of Grounded Theory developed." From Eli Haugen Bunch, "Commentary on the Application of Grounded Theory and Symbolic Interactionism," *Nordic College of Caring Sciences,* 18,

a grounded theory study. As the first author of *Discovery* who wrote most of the chapters,[56] Glaser views Strauss-Corbin's *Basics* as the result of Strauss' failure of grasping the methodology in the first place.[57] Although in Glaser's view the method presented by Strauss and Corbin is no longer grounded theory,[58] practitioners have classified it as the Straussian grounded theory, while labeling Glaser's ideas the Glaserian/classic grounded theory.

The development of the constructivist version of grounded theory is tied to the criticism to the method. Criticism has accompanied the methodology since its birth, coming from different camps in different time periods. As a combination of quantitative and qualitative research, the methodology can be attacked from both sides as it does not fully adhere to either side. As summarized by Lars Mjoset, grounded theory was criticized as being "extreme inductivism", "adhockery", or "excessive conceptualization", because it "escapes the testing of theory" and is "unextended".[59] This type of criticism, however, does not appear to have been influential and seems to be fading away with the widespread

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(2004): 441.

[56] Barney G. Glaser, *Doing Grounded Theory: Issues and Discussion*, 22

[57] Anselm L. Strauss and Juliet Corbin, *Basics of Grounded Theory Analysis*, 2.

[58] Glaser asks in his rebuttal book, "You wrote a whole different method, so why call it 'grounded theory'?. Barney G. Glaser, *Basics of Grounded Theory Analysis*, 2.

[59] Lars Mjoset, "Challenges to Grounded Theory,"
     http://www.scasss.uu.se/IIS2005/total_webb/tot_html/papers/challenges_to_grounded_theory.
     pdf (accessed October 19, 2012).

application of grounded theory as one additional method for social science research and with the end of the "war" between quantitative and qualitative research.

The more influential criticism of the methodology arose from the insiders of the grounded theory field, most noticeably, Kathy Charmaz. Her criticism mainly points to the positivist root of the two versions. She does not distinguish the two versions and collectively addresses both as objectivist grounded thoery.[60] In her view,

> "A constructivist approach necessitates a relationship with respondents in which they can cast their stories in their terms. It means listening to their stories with openness to feeling and experience."[61]

> "A constructivist grounded theory recognizes that the viewer creates the data and ensures analysis through interaction with the viewed. Data do not provide a window on reality. Rather, the 'discovered' reality arises from the interactive process and its temporal, cultural, and structural contexts."

Glaser responded to the constructivism grounded theory method by stating that the criticism mixes the grounded theory analysis with techniques from other types of qualitative data analysis, such as preconceived categories, establishing data accuracy,

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[60] Kathy Charmaz, "Grounded Theory: Objectivist and Constructivisit Methods," in *Handbook of Qualitative Research*. 2nd. ed. Norman K. Denzin and Yvonna S. Lincoln (Thousand Oaks, Sage, 2000), 524; Kathy Charmaz, *Construction Grounded Theory: A Practical Guide Through Qualitative Analysis* (London, Sage, 2006), 129 -132.

[61] Kathy Charmaz, "Grounded Theory: Objectivist and Constructivisit Methods," 525.

thick description, etc. He is very much concerned about the "Qualitative Data Analysis (QDA)'s numerous remodelings of [grounded theory] and the subsequent eroding impact."[62] He views the mixing of QDA and grounded theory methodologies as having the effect of downgrading and eroding the grounded theory goal of generating conceptual theories.

> "I have said over and over again that GT is not findings, not accurate facts and not description. It is just straightforward conceptualization integrated into theory – a set of plausible, grounded hypothesis. It is just that – no more – and it is readily modifiable as new data come from whatever sources – literature, new data, collegial comments, etc."[63]

Despite Glaser's suggestion that it is not grounded theory, Charmaz's constructivism grounded theory method has been categorized by practitioners as the third version. This may be due to two reasons. The first is associated with the influence of postmodernism, which fundamentally rejects the notion of the existence of an objective external world that can be discovered and explained through scientific methods. Consequently, the generation of a universal theory for a given substantive area – as promoted by the original grounded theory – is both ontologically and epistemologically impossible. With the pervasive influence of postmodernism in today's social science world, a version of

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[62] Barney G. Glaser (with the assistance of Judith Holton), "Remodeling Grounded Theory". http://www.qualitative-research.net/index.php/fqs/article/view/607/1315 (access October 19, 2012).

[63] Ibid.

grounded theory subscribing to constructivism perspective – which claims the social world is a pure social construction – certainly has its own audience. Secondly, as Charmaz has been working with her version for more than twenty years, with the publication of both guidance books and practical examples, she has established the framework and techniques for conducting constructivism grounded theory.

As a consequence of the fact that there are different versions of grounded theory with distinctive philosophical roots and methodological requirements, grounded theory researchers face the challenge of having to study all three methodological approaches in order to decide which to use. *This author selected the classic grounded theory methodology for her research.*

1.3.3. Rationale for Selecting Classic Grounded Theory Methodology

The classic grounded theory (hereafter GT) methodology was selected based on this author's understandings of the three versions of the methodology. It was clear that the methodology's ability to generate plausible theories in the social world comes solely from its combination of positivism and symbolic interactionism – the originating sources of the methodology. The positivistic thinking gives the methodology its belief in theory generation and its systematic analysis, and the symbolic interactionism influences its emphasis on field data as the main source of theory generation. In contrast, the Strauss-Corbin book "introduces a completely different process of coding and theorizing data, including a new type of coding, axial coding, and a new tool, the conditional matrix". The axial coding "does not rely on constant comparing of incidents to generate

categories",[64] and the utilization of the "coding paradigm" and the "diagram" of the conditional matrix imposes in effect a fairly strict coding framework.[65] As a result, the process of theory emergence becomes one that forces data into categories. As Glaser puts it,

> "Thus the outright choice of any one code is clearly the beginning of forcing the theory and derailing its grounded character. The analyst would not know beforehand which to choose. But Strauss 'knows' beforehand and exhorts the reader to always show conditions and consequences." [66]

The Strauss-Corbin coding approach thus reduces the power of interactionism, thereby undermining the methodology's ability of generating theories/explanations that are "grounded".

Constructivism GT limits the ability of generating theory with explanatory powers as well, but in a different manner. As this version rejects positivistic thinking, it over-emphasizes the interpretive, constructive nature of the social world, and ignores entirely the systematic measures in the classic GT that are designed to address the interpretive nature of social reality. Although one could argue that everything relating to language and communication in the social world is subject to interpretation, this

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[64] Barney G. Glaser, *The Grounded Theory Perspective, Conceptualizing Contrasted with Descriptions* (Mill Valley, CA: Sociology Press, 2001), 152.

[65] Barney G. Glaser, *Basics of Grounded Theory Analysis*, 62.

[66] Ibid.

argument should not be used to dismiss the generation of theories that can be applied to an environment that is not the one under examination. Instead, the interpretive, constructive nature of the social world should be consciously recognized by researchers as a possible source of bias, which requires handling mechanisms. The classic GT's constant comparative analysis is a mechanism that addresses the interactive, constructive feature at a sufficient level. This author believes that concepts and hypotheses can be abstracted from empirical data regardless of how the data were interpreted by individuals in the first place. Moreover, theories with sufficient levels of abstraction that can be modified in the face of new incidents have a much higher level of practical significance than those comprising only interpretations or descriptions constructed by researchers. For these reasons, the classic GT was determined to be the research methodology of the present research. Figure 1 below demonstrates the classic GT process that the author followed to conduct her research, followed by a list of definitions or explanations of the key techniques displayed in the illustration.

Figure 1 The Grounded Theory Process
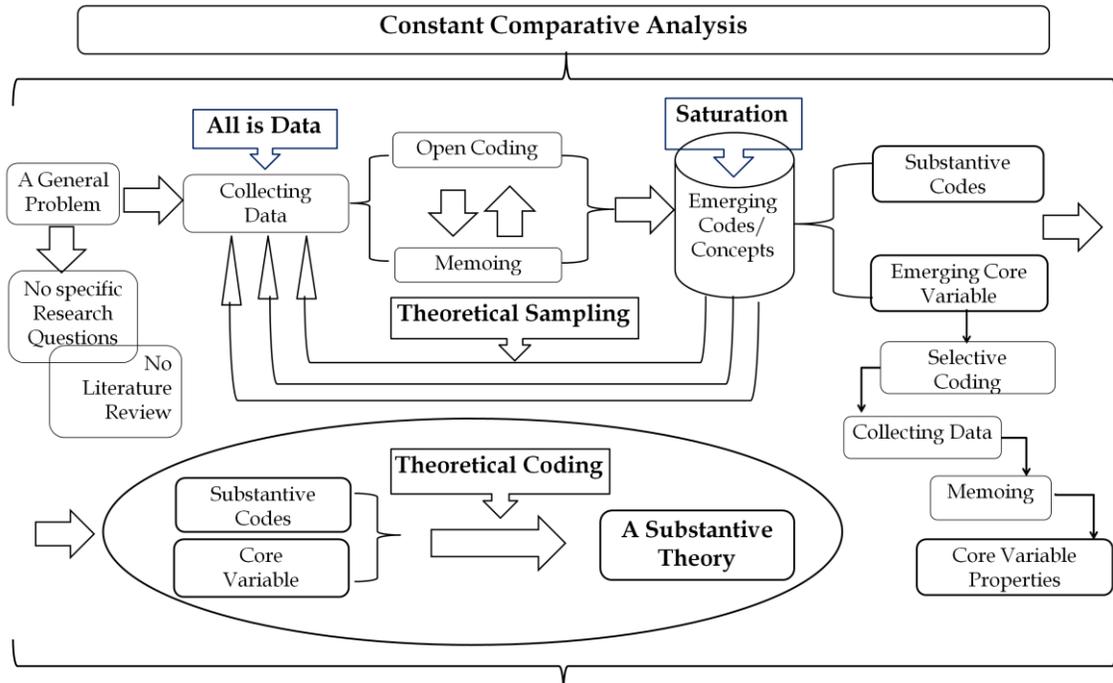
- Coding: Conceptualizing data by constant comparison of incident with incident, and incident with concept to emerge more categories and their properties;[67]

  - Coding includes substantive coding and theoretical coding, and substantive coding includes open coding and selective coding;[68]

  - Substantive codes conceptualize the empirical substance of the area of

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[67] Barney G. Glaser, *Emergence vs. Forcing*: *Basics of Grounded Theory Analysis* (Sociology Press. Mill Valley, CA, USA. 1992), 39.

[68] Barney G. Glaser, *Theoretical Sensitivity*, 55-73.

research;[69]

     o A category stands by itself as a conceptual element of the theory. A property, in turn, is a conceptual aspect or element of a category;[70]

- Open coding: the initial stage of constant comparative analysis, before delimiting the coding to a core category and its properties or selective coding. The analyst starts with no preconceived code and remains entirely open; [71]

     o Selective coding: To selectively code means to cease open coding and to delimit coding to only those variables that relate to the core variable, insufficiently significant ways to be used in a parsimonious theory;[72]

     o Core variable: a core category [that] accounts for most of the variation in a pattern of behavior;[73]

- Constant Comparative Coding: Fundamental operation in the constant comparative method of analysis. The analyst codes incidents for categories and their properties and the theoretical codes that connect them;[74]

- Memoing: Memos are the theorizing write-up of ideas about codes and their

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[69] Barney G. Glaser, *Theoretical Sensitivity*, 55.

[70] Ibid., 153.

[71] Barney G. Glaser, *Emergence vs. Forcing*: *Basics of Grounded Theory Analysis*, 39.

[72] Barney G. Glaser, *Theoretic Sensitivity*, 61.

[73] Ibid., 93.

[74] Barney G. Glaser, *Emergence vs. Forcing*: *Basics of Grounded Theory Analysis*, 39.

relationships as they strike the analyst while coding. Memos lead, naturally to abstraction or ideation. Memoing is a constant process that begins when first coding data, and continues through reading memos or literature, sorting and writing papers or monograph to the very end;[75]

- Theoretical sampling: is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges;[76]

- Theoretical Coding: A property of coding and constant comparative analysis that yields the conceptual relationship between categories and their properties as they emerge;[77]

  o Theoretical codes are conceptual connectors to be used implicitly and explicitly in the way and style in which the analyst writes.[78]

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[75] Barney G. Glaser, *Theoretic Sensitivity*, 83.

[76] Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research*, 2nd. 1999, 45.

[77] Barney G. Glaser, *Emergence vs. Forcing*: *Basics of Grounded Theory Analysis*, 39.

[78] Ibid., 39.

1.4. Chapter Organization

This dissertation includes five chapters: Chapter 1 Introduction (the present chapter); Chapter 2 Conducting the Grounded Theory Study, which presents the research process, the emergent core variable, and substantive codes/categories; Chapter 3 Formulating the Grounded Theory, which presents the emerging theory in the formats of conceptual building blocks and hypotheses, Chapter 4 Explaining the Information Management Crisis, which presents explanations of the information management crisis in the Government of Canada utilizing the discovered theory; and Chapter 5 Prediction, Future Studies, and Conclusion, which presents the prediction on the outcomes of the latest attempt of improving the IM situation in the Government of Canada, identification of future studies, and contributions of the research.

2. Conducting the Grounded Theory Study

The first step in grounded theory is to enter the substantive field for research without knowing the problem.[79] The problem will emerge.[80]

2.1. The Starting Group of Institutions

Guided by the IM crisis, the general questions of *what exactly does IM mean in departments* and *how is it performing* were used to direct the selection of institutions for the first round of data collection, that is, the starting group of institutions. The determination of this group relied on the 2008-09 report cards produced by the Office of the Information Commissioner, which were the latest available in 2010, the year when this author started data collection.

As introduced in the previous chapter, the 2008-09 report cards assessed twenty-four institutions, including ten assessed in 2007-08 that were reassessed in 08-09.[81] Library and Archives Canada (LAC) was excluded from the group identification process due to the fact that most of the Access to Information (ATI) requests the institution receives are for transferred records of other government institutions, rather than for its own business

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[79] Barney G. Glaser, *Doing Grounded Theory: Issues and Discussions* (Sociology Press. Mill Valley, CA, USA. 1998), 122.

[80] Ibid., 116.

[81] OIC, "Out of time".

records.[82] Describing the objectives of the creation, the enabling act of LAC reads that the institution is established "to be the permanent repository of … government and ministerial records that are of historical or archival value", which entails the transfer of records.[83] LAC was later on included in the group of visited government institutions due to another objective of its creation: "to facilitate the management of information by government institutions".[84]

For the identification of the members of the starting group, twenty-three report cards were analyzed, relying on a criterion that combined the below average ATI performance ratings with the explicit indication of IM/RM as an adverse factor to the ATI performance, symbolized as OIC<C (Average) + IM/RM Adverse. The following text is an example of the indication of the adverse impact of IM/RM:

"Information management continues to be a challenge for Health Canada. Access officials noted that employees at all levels rely heavily on email and common drives

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[82] OIC, "Follow-up on an institution assessed in 2007–2008," http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_9.aspx (accessed October 19, 2012); and Ian E. Wilson, "Access and Preservation: Two Sides of the Same Coin," Speech delivered to the Access to Information: Managing Reform and Change Seminar on September 25, 2006. http://www.collectionscanada.gc.ca/about-us/012-214-e.html (accessed October 19, 2012).

[83] Government of Canada, "Library and Archives of Canada Act," s2 and s7. http://laws-lois.justice.gc.ca/eng/acts/L-7.7/FullText.html (accessed October 19, 2012).

[84] Ibid., s7.

to store documents, which makes locating relevant records difficult."[85]

Eight institutions qualified as members of the starting group, with IM/RM issues represented typically by records retrieval difficulties. Table 2 lists the institutions.

Table 2 The Starting Group (sG)

Selection Criterion		OIC<C (Average) + IM/RM Adverse
ATI Rating	Records Issue	Name of Institution
D	Yes	1. Canadian Food Inspection Agency (CFIA)
F	Yes	2. Canadian International Development Agency (CIDA)
D	Yes	3. Canada Revenue Agency (CRA)
F	Yes	4. Correctional Service of Canada (CSC)
F	Yes	5. Environment Canada (EC)
D	Yes	6. Health Canada (HCan)
D	Yes	7. National Defence (ND)
F	Yes	8. Canadian Heritage (PCH)

2.2. Investigating the Starting Group – Data Collection

In order to investigate the records issues in these institutions, it was necessary to obtain first an overall understanding of the RM(IM) function in the institutions. Within each institution, data revealing the RM(IM) function should be locatable in institutional records such as organizational charts, plans, policies, procedures, and reports. The data

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[85] OIC, "Institutions assessed in 2007-08 and reassessed in 2008-09," Health Canada. http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_14.aspx (accessed October 19, 2012).

collection process involved two complementary steps: first, searching for relevant publications on the websites of the eight institutions and, second, submitting ATI requests to the institutions for internal records that were unavailable online. The two steps generated two types of data and were labeled as *institution-specific data online* and *institution-specific data by ATI requests* (ATI data). The use of institution-specific as one of the two qualifiers for the two types of data was due to the existence of GC-wide data, which surfaced in the ATI request processes. For the purpose of clarity, the term *data* is used to designate either the actual data or the specific data container (i.e., government records and the records generated by the research process such as conversation notes), and the term *data source* is used to indicate the types of documentation (i.e., legislation) or the channels (e.g., conversation) from which the actual data were collected.

2.2.1. Institution-Specific Data Online

The search for data online was guided by this author's study on the government's electronic/digital government initiative, Government On-Line (GOL). According to the final report of the GOL project, one hundred and thirty departments and agencies had transformed their information provision and service delivery using the Internet.[86] The websites of the eight institutions, the Treasury Board Secretariat of Canada (TBS) (which hosts certain institutional documentation such as the departmental performance report), and the Government Electronic Directory Services (GEDS) were identified as relevant to online data collection. The data sources found on these websites included organizational

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[86] Government of Canada, *Government On-Line (GOL) Final Report*. (Ottawa. 2006).

charts, Reports on Plans and Priorities (RPP), Departmental Performance Reports (DPR), audit reports on IM/RM, and the assessment of institutions' management performance under the GC's Management Accountability Framework (MAF). Table 3 summarizes this type of data.

Table 3 Sources of Institution-Specific Data Online

Website	Source
Individual Institution	Organizational chart (high level)
	Report on Plans and Priorities (RPP) (recent years)
	Departmental Performance Report (DPR) (recent years)
	Audit report on IM/RM
TBS	TBS MAF assessment on IM(RM) (since 2006)
	Report on Plans and Priorities (RPP) (since 2006)
	Departmental Performance Report (DPR) (since 2006)
GEDS	IM/RM organizational chart (detailed)

All sources, except the MAF assessment, are self-explanatory as they are common to the establishment and operation of organizations regardless of type. The MAF assessment "is a key performance management tool that the federal government uses to [s]upport the management accountability of deputy heads [and to] improve management practices across departments and agencies".[87] Administered by TBS, this tool aims to

- clarify management expectations of deputy heads and support ongoing dialogue on management priorities with their executive team and the

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[87] TBS, "Management Accountability Framework,"
http://www.tbs-sct.gc.ca/maf-crg/index-eng.asp (accessed October 19, 2012).

Treasury Board Secretariat;

- provide a comprehensive perspective on the state of management practices and challenges in the federal government; and
- identify government-wide trends and general issues in order to help deputy heads set priorities and resolve issues.[88]

Among the "management practices and challenges" assessed by MAF is the area of IM(RM).[89]

2.2.2. Institution-Specific Data by ATI Requests: ATI Data

The decision to submit ATI requests for internal records was reached soon after the analysis of the collected online data had begun, due to two reasons. First, the insufficient information provided by the online data (e.g., there were no institutional IM policies online), and second, the difficulty of discerning RM among the online data, which typically focus on IM as a whole (e.g., the MAF assessments). The decision to submit ATI requests rather than to conduct invited interviews was due to the consideration that records represent the actions/decisions of the institution while interviews capture only the opinions of the interviewees, and that the focus of the research was institutional behavior, operation, and performance, rather than personal insights, perceptions, or observations. In

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[88] TBS, "MAF Objectives,"
http://www.tbs-sct.gc.ca/maf-crg/overview-apercu/objectives-objectifs-eng.asp (accessed October 19, 2012).

[89] TBS, "MAF Methodology,"
http://www.tbs-sct.gc.ca/maf-crg/indicators-indicateurs/2009/stewardship-gerance/stewardship-gerance-eng.asp (accessed October 19, 2012).

addition, to gather data by ATI requests allowed this author to experience the ATI

administrative process, which was the very channel that revealed the IM/RM crisis.

Because the ATI requests asked for records generated by the IM(RM) function, the

process also tested the effectiveness of the IM(RM) programs' own RM practices.

Interviews could still be conducted when the need arose (e.g., to clarify content of

released records) or the opportunity surfaced (e.g., voluntary interview), and the

generated data would serve as one additional type of data that can be compared with other

types of data (following the principle of the GT methodology "all is data"). For the

potential interviews, ethics review approval was obtained prior to the data collection

process.[90]

To prepare the submission of ATI requests, a component study[91] was conducted to

familiarize this author with the ATI administration in the government. The right and

procedures of obtaining government records were stipulated jointly by the Access to

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[90] Many conversations took place during the data collection process, which constituted the ATI
request handling process. As such, these conversations did not require invitations for interview
(see data types of the ATI data later in this section). There was one voluntary interview conducted
with the Director of the IM program in the Privy Council Office, for which the interview
invitation was sent.

[91] A component study in the context of this project refers to a study, regardless of scale, that
emerged in the process of carrying out the main research activities (i.e., collecting, coding, and
memoing data) and was considered necessary because it contributed to the making of research
decisions and to the rigor of the study. The major difference between the main study and a
component study is that the data collected for the component study is not open coded in relation
to the general research question, i.e., what is going on with IM/RM in the Government of Canada.

Information Act[92] and the Access to Information Regulations.[93] Canadian citizens or permanent residents all have the right to access government records,[94] as long as they submit the Access to Information Request Form with "sufficient detail to enable the officer to identify the record".[95] To help applicants provide sufficient detail, the ATI Act requires the designated Minister (currently the President of the Treasury Board of Canada) to publish information on government institutions, including:

> (a) a description of the organization and responsibilities of each government institution, including details on the programs and functions of each division or branch of each government institution;

> (b) a description of all classes of records under the control of each government institution in sufficient detail to facilitate the exercise of the right of access under this Act;

> (c) a description of all manuals used by employees of each government

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[92] Government of Canada, "Access to Information Act. R.S.C., 1985, c. A-1,".

[93] Government of Canada, "Access to Information Regulations. SOR/83-507," http://laws-lois.justice.gc.ca/eng/regulations/SOR-83-507/page-1.html#h-4 (accessed October 19, 2012).

[94] Government of Canada, "Access to Information Act. R.S.C., 1985, c. A-1," s4. (1) Subject to this Act, but notwithstanding any other Act of Parliament, every person who is (*a*) a Canadian citizen, or (*b*) a permanent resident within the meaning of subsection 2(1) of the *Immigration and Refugee Protection Act*, has a right to and shall, on request, be given access to any record under the control of a government institution.

[95] Government of Canada, "Access to Information Regulations. SOR/83-507)," s4.

institution in administering or carrying out any of the programs or

activities of the government institution; and

(d)   the title and address of the appropriate officer for each government

institution to whom requests for access to records under this Act should

be sent.[96]

The publication that contains information regarding the categories (a), (b), and (c) is

called Info Source,[97] published annually online by TBS. The appropriate officers in (d),

addressed as ATI Coordinators[98] in government institutions, are listed on the TBS

website with contact information.[99]

The IM(RM) in GC is considered a function common to all institutions, and the records

generated by it are called Standard Classes of records, defined as "records created,

collected and maintained by most government institutions in support of common internal

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[96] Government of Canada, "Access to Information Act (R.S.C., 1985, c. A-1)," s5. Publication on government institutions. http://laws-lois.justice.gc.ca/eng/acts/A-1/page-3.html (accessed October 19, 2012).

[97] Government of Canada, "Info Source," http://www.infosource.gc.ca/emp/emp01-eng.asp (accessed October 19, 2012).

[98] It is in fact called ATIP Coordinator because the unit is typically also responsible for administering the GC Privacy Act.

[99] TBS, "Access to Information and Privacy Coordinators," http://www.tbs-sct.gc.ca/atip-aiprp/apps/coords/index-eng.asp (accessed October 19, 2012).

functions, programs and activities".[100] In the Index of Standard Classes of Records, records created by the IM(RM) function were assigned a Record Number, PRN 944, and described as

> related to the cost-effective and efficient management of information under the control of the institution throughout its life-cycle and regardless of format. Also includes the acquisition, control and disposal of library and other information products, items kept for reference purposes, and the provision of information management services to employees. May also include records related to the management, use and maintenance of an automated document, records and information management system. This type of system is used to capture and manage documents, records (including e-mail) and information created, collected or received by the institution in support of its business functions, programs and activities.[101]

The ATI requests to the eight institutions were drafted based on this general description and on the analysis of the online data, which had helped identify the records needed. The requests were identical, with only two variations: the time period for certain records and the technology used for managing information/records in a particular institution. The specific time period for each institution was suggested by the institution's ATI performance assessment history, that is, from the year when the institution was first

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[100] TBS, "Glossary of Terms," http://www.infosource.gc.ca/emp/emp01-eng.asp (accessed October 19, 2012).

[101] TBS, "Info Source," http://www.infosource.gc.ca/emp/emp02-eng.asp#prn944 (accessed October 19, 2012).

assessed by the OIC to the present year. For example, the time period was "since 1998" for the Department of Health Canada and "since 2008" for the Department of Environment Canada, because 1998 and 2008 were the years when the departments were first assessed for their ATI performances by the OIC, respectively. To gain knowledge of the technology used for managing information/records in these institutions, a component study was conducted regarding the developmental history of such technology in GC, which revealed (1) the name of the technological system, that is, RDIMS (Records, Document and Information Management System), which was established as a GC-wide shared service, and (2) the department responsible for the deployment of the system, that is, the Department of Public Works and Government Services Canada (PWGSC). PWGSC is the department "responsible for providing and managing services to the Government of Canada, Canadians, and internally to the department",[102] and the supply of RDIMS (i.e., system configuration and licence issuing) is one type of service provided.[103] To confirm whether the eight institutions had indeed implemented the RDIMS, an ATI request was submitted to PWGSC to obtain institution names and the numbers of user licences, which revealed that not all of the institutions had implemented the system and numbers of user licences varied greatly. With this information, the ATI request template was constructed as follows:

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[102] PWGSC, "Organization," http://www.tpsgc-pwgsc.gc.ca/apropos-about/rgnstnnll-rgnztnal-eng.html (accessed October 19, 2012).

[103] PWGSC, "Shared Services Integration," http://www.tpsgc-pwgsc.gc.ca/isp-ssi/index-eng.html (accessed October 19, 2012).

Please provide, with reference to PRN 944, meeting minutes or resolutions regarding the establishment of the IM/RM program; detailed organizational charts for the IM/RM function, job descriptions for IM/RM positions, and the numbers of IM/RM personnel since [the year when the institution was first assessed by the OIC]; IM/RM policies and procedures since [the year when the institution was first assessed by the OIC]; IM/RM operation and performance reports (e.g., annual reports and/or any audit reports unavailable online) since [the year when the institution was first assessed by the OIC]; budgetary information including both annual and special budgets since [the year when the institution was first assessed by the OIC]; reports on significant IM/RM projects since [the year when the institution was first assessed by the OIC] and here "significant" means that the project either had an impact on the entire organization or was reported to the TBS in MAF assessment; copies of all editions of records classification systems/schemes; and copies of user manuals or guide for RDIMS [or the technological system used for managing information/records in the institution that did not have RDIMS implemented].

Data generated in this process were categorized as three types: request handling data (ATI-RH Data), ATI process responsive Data (ATI-PR Data), and ATI disclosed records data (ATI-DR Data). The ATI-RH data refer to those that emerged in the process of the institution processing the request, in particular the step called request clarification. Data sources include phone conversations and email exchanges between this author and the ATI analyst(s) assigned with the requests. Data generated by this step reflected, in an indirect manner, the operation of the IM(RM) function. The ATI-PR data refer to those emerged during the same stage of request clarification and directly responsive to the

inquiry on the IM/RM function. Data sources include phone conversations, teleconferences, and email exchanges with IM(RM) personnel in the institutions. The ATI-DR data are internal records considered pertinent to the requests by the institutions and were released to the requestor after they were processed in accordance with the ATI Act (i.e., reviewing, reduction, and withholding). The ATI-DR data include the records released from PWGSC on the RDIMS. Table 4 summarizes the three ATI data types.

Table 4 Summary of ATI Data Type

Type	Source	Data
ATI-RH Data	• Phone conversations • Email exchanges with ATI Analyst(s)	• Notes • Emails
ATI-PR Data	• Phone conversations • Teleconferences • Email exchanges with IM(RM) personnel	• Notes • Emails
ATI-DR Data	IM/RM Internal records	• Departmental IM policy; IM strategic plan; IM business case; RDIMS implementation report; … • Observations of disclosed records (i.e., their creation and management quality)

2.2.3. GC-Wide Data

As stated at the beginning of section 2.2, the ATI request processes revealed the existence

of GC-wide data. GC-wide data refer to the policies, directives, standards, etc. on IM(RM)

at the government level, that is, they were developed and issued by the central agency

TBS. The TBS IM(RM) responsibility was stipulated by the Financial Administration Act

(FAA), the law that established the agency. The TBS IM policy instruments (i.e., policy,

directive, and standard) were referenced by the IM personnel and/or the ATI analysts in

some of the institutions when discussing with this author the ATI requests. The key

message was that their institutions followed the TBS policy instruments for planning and

operating their IM(RM) functions. Therefore, TBS policy instruments became necessary

for understanding the IM(RM) functions in these institutions. In other words, they were

relevant data. For other institutions in the starting group, a component study was decided

needing to be conducted to determine whether or not they were subject to the TBS policy

instruments. All TBS IM(RM) policy instruments state that they are applicable only to

institutions possessing a department status established in accordance to section 2 of the

FAA.[104] The examination of the ATI Act, on the other hand, revealed that the act

encompasses more institutions than the FAA, indicating that not all of the institutions

subject to the ATI Act (among which the eight institutions were selected) respond to the

FAA definition for department (to which, the TBS IM policy instruments were issued).

The component study established that all of the eight members of the starting group

qualified as departments according to the FAA definition, thus were all subject to the

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[104] TBS, "Policy on Information Management," s2.1.

TBS IM(RM) policy instruments. Also due to this component study, the terms institution and department will be used as synonyms in the rest of the dissertation.

The TBS site was then systematically searched for all relevant policy instruments, and so were the sites of LAC, the Canada School of Public Services (CSPS), and PWGSC for information relevant to IM/RM, as these three institutions were identified in the TBS Policy on Information Management as relevant institutions. The CSPS is part of the Treasury Board Portfolio and was established to, among other things, "formulate and provide training, orientation and development programs for public sector managers and employees, particularly for those in the public service" and to "assist deputy heads in meeting the learning needs of their organization, including by way of delivering training and development programs".[105] The training programs include courses on IM. This systematic search examined the entire list of TBS policies and followed "Related Instruments" and "Related Links" for legislation, policy, directives, and standards.[106] The search results were filtered first by an apparent IM/RM relevance (i.e., IM or RM in the title or objectives of the policy instrument) and then by their currency. The issuing year was particularly noticed due to the consideration that it would take time for departments to implement the policies, and this, as a result, became relevant to the coding of institutional data (which may or may not reflect the most recent policies).

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[105] Government of Canada, "Canada School of Public Service Act," s4, ss(e), (f). http://laws-lois.justice.gc.ca/eng/acts/C-10.13/FullText.html (accessed October 19, 2012).

[106] TBS, "Policy Instruments Approved to Date," http://www.tbs-sct.gc.ca/prp-pep/psri-irp-eng.asp (accessed October 19, 2012).

In order to understand the authority of and relationships between these policy instruments, a component study was conducted to examine the Foundation Framework for Treasury Board Policies. According to this framework, policies, directives, and standards are instruments of a mandatory nature while guidelines are of a voluntary nature.[107] All selected TBS policy instruments, LAC tools and guidelines, and information on CSPS IM courses and PWGSC shared services were grouped under the category GC-wide data, summarized in Table 5.

Table 5 GC-Wide Data

Data Source	Data
TBS	Mandatory Instruments
	1. Policy on Information Management, 2007
	2. Directive on Information Management Roles and Responsibilities, 2007
	3. Directive on Recordkeeping, 2009
	4. Standard for Electronic Documents and Records Management Solutions (EDRMS), 2010
	5. Standard on Metadata, 2010
	Voluntary Instrument
	1. Guideline for Employees of the Government of Canada: Information Management (IM) Basics, 2009

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[107] TBS, "Foundation Framework for Treasury Board Policies 2008,"
http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13616&section=text (accessed October 19, 2012).

Data Source	Data
LAC[108]	1. The Legacy Business Records Toolkit, 2006[109] 2. Information Management (IM) Capacity Check, 2006 3. Records and Information Life Cycle Management, 2006 4. Email Management in the Government of Canada, 2006 5. Email Management Guideline, 2008 6. Business Activity Structure Classification System (BASCS) Guidance, 2010 7. Retention Guidelines for Common Administrative Records of the Government of Canada, 2011 8. Multi-Institutional Disposition Authorities (MIDA), 2012
PWGSC[110]	1. Delivering Government of Canada IT Shared Services

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[108] LAC, "Government. Products and Services,"
http://www.collectionscanada.gc.ca/government/products-services/index-e.html (accessed October 19, 2012).

[109] All dates are based on the year of website modification, which may not accurately reflect the dates of document creation. Accurate dates were unavailable on the sites.

[110] PWGSC, "Delivering Government of Canada IT Shared Services,"
http://www.tpsgc-pwgsc.gc.ca/apropos-about/fi-fs/its-sct-eng.html (accessed October 19, 2012).

Data Source	Data
CSPS[111]	2. Information Management: Environment and Vision in the Government of Canada (I110) 3. Information Management: Legal and Policy Framework (I120) 4. Information Management: Assessment and Evaluation (I210) 5. Managing Government Information Throughout its Life Cycle (I220) 6. Information Management-Personal Awareness and Capacity Test (IM-PACT) (I004E) 7. Records Management (I001) 8. Fundamentals of Recordkeeping (I003E)

2.3. Expanding the Starting Group – Data Collection by Site Visit

Three institutions, TBS, LAC, and PWGSC, were added to the starting group due to their unique roles in the GC IM/RM landscape. They were identified as suitable for a site visit for the same reason. Before the site visit, ATI requests were sent to these departments utilizing the same template developed for the departments of the starting group. The generated ATI data followed the same categorization. Table 6 summarizes only the field data generated by the site visit.

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[111] CSPS, "Courses," http://www.csps-efpc.gc.ca/cat/index-eng.asp (accessed October 19, 2012).

Table 6 Types of Site Visit Data

Institution	Data Source	Data
TBS	• Meeting with IM/RM personnel • RDIMS demo	• Notes • Observations
LAC		
PWGSC		

These data constituted part of the data coded for investigating the institutions in the starting group.

2.4. Investigating the Starting Group – Data Analysis – Constant Comparison

The term data analysis is used to encompass all the methodological steps that include "open coding of the data soon after collection of research data, theoretical sampling, generating many memos with as much saturation as possible and emergence of core … problems and processes, which then become the basis for more selective theoretical sampling, coding and memoing as the analyst focuses on the core".[112] As introduced in 1.3.3. Rationale for Selecting Classic Grounded Theory Methodology, these steps are analytical techniques, the effective application of which ensures the emerging of concepts. The techniques of theoretical sampling and memoing need to be applied for multiple steps: data collection, open coding, substantive coding, theoretical coding, etc., as directed by the needs of the research. The method of constant comparative analysis is used throughout the entire process of analysis.

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[112] Barney G. Glaser, *Theoretic Sensitivity*, 16.

2.4.1. Substantive-Open Coding & Memoing

The open coding, along with memoing, of the institutional online data, the ATI data, the GC-wide data, and the site visit data was conducted both sequentially and simultaneously. As introduced in the section of data collection, the institutional online data were first analyzed, which led to the collection of the other types of data. This analysis was not a line-by-line coding but a quick digest for determining whether the data were sufficient for understanding the IM(RM) function in these institutions.

As processing times for the ATI requests varied, the times of receiving the disclosed records varied accordingly. When this author began writing this dissertation, the requested records of the departments of Environment Canada and National Defence had not yet arrived, due to the complaints filed by this author against the ATI request handling procedures of the two institutions. The open coding therefore followed the availability of data at the time, as well as emerging questions, such as how the RM performance was evaluated. The GC-wide data were coded before the ATI disclosed responsive data but together with the ATI request handling data and the process responsive data. Within the GC-wide data, the TBS data were coded first, due to its central-managing role in GC-wide IM, and those of LAC documentation followed for its central-guiding role in GC-wide IM. Some data were coded multiple times due to their different usages for answering questions. Moreover, as directed by the constant comparative analysis method, many data and sometimes one entire type of data were re-coded when new data became available and/or when comparisons generated new questions or ideas. The institutional online data were re-coded in a more systematic manner (i.e., line-by-line coding) after the

coding of the GC-wide data, and this led to the recoding of some of the ATI disclosed responsive data, those arrived and coded before the systematic coding of the GC-wide data, the institutional online data, and the site visit data. The site visit data were constantly compared with those of the other institutions in both the processes of coding and memoing. As illustrated by the GT methodology, the entire theory-discovery process "is a process composed of a set of *double-back steps* [:] as one moves forward, one constantly goes back to previous steps".[113] Re-coding consists of re-thinking/memoing about the generated codes in light of newly emerging codes and of discovering codes from the same data that did not emerge previously.

Appendixes 1 to 3 are samples of the interrelated coding and memoing process, presented in the form of coding tables.

2.4.2. Emerging Substantive Categories

Lower level categories emerge rather quickly during the early phases of data collection. Higher level, overriding and integrating, conceptualizations-and the properties that elaborate them-tend to come later during the joint collection, coding and analysis of the data.[114]

The substantive categories/codes first emerged in association with their characterizations or status in the government, as presented in section 2.4.2.1 (with the characterizations in italics). Subsequently, the analyzing process went through the abstracting exercise that

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[113] Barney G. Glaser, *Theoretic Sensitivity,*16.

[114] Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory*, 36.

distilled the specific characterizations into general properties (P) and sub-properties (sP), as presented in section 2.4.2.2.

Table 7 Substantive Categories with GC Specific Characterization

GC Indicator	Substantive Category
Clearly outlined	IM(RM) Governance-Accountability Structure
Much emphasized	IM(RM)Whole-of-Government Approach
High	IM(RM) Expectation
Much emphasized	IM(RM) as a Single Discipline
Much emphasized	IM(RM) as Internal Service
Much emphasized	IM(RM) as Resource Management Function
Much emphasized	Integration of IM(RM) Requirements with Business Needs
Much emphasized	Notion of IM(RM) Shared Responsibility
Much emphasized	Employee IM(RM) Responsibility
Much emphasized	IM Awareness of Employees
Much emphasized	IM Communication with Employees
Much emphasized	IM Training for Employees
Inadequate	Conceptual Framework IM(RM) • *Inadequate = definitions are unclear* • *Inadequate = there are no definitions* • *Inadequate = lack elaborations of conceptual relationships*
Confusing	IM(RM) Concept Application • *Confusing = different concepts were used without*

GC Indicator	Substantive Category
	differentiation
	• *Confusing = concepts were used not in accordance with their definitions*
Unclear	IM(RM) Policy Requirements on IM Specialists • *Unclear = requires only what-to-do without how-to-do*
Less emphasized	IM Specialist IM Responsibility
Unclear	TBS IM(RM) Guidance • *Unclear = there are no details regarding the IM constituent parts*
Confusing	LAC IM(RM) Guidance • *Confusing = guidance is insufficient for application*
Limited execution of	IM(RM) Policy Requirements
Non-execution of	IM(RM) Policy Requirements
Reversed	IM(RM)/IT Relationship • *Reversed = much stronger presence of IT than IM(RM)*
Unsatisfactory	IM(RM) Performance
Lingering unsatisfactory	RM(IM) Performance • *Lingering = IM(RM) problems long revealed by the OIC, the Auditor General, and departmental internal audits*
Insufficient specifics in	IM(RM) Evaluation
IT-centered	IM(RM) Audit
Limited GC IM framework in	IM(RM) Audit

GC Indicator	Substantive Category
Lack of specifics in	IM(RM) Strategic Plan
Non-existence of	IM(RM) Strategic Plan
Lack of specifics in	IM(RM) Strategic Plan Implementation
Non-existence of	IM(RM) Strategic Plan Implementation
Less emphasized	RM(IM) Practice • *Less emphasized = the fact that IM practice was not evaluated by MAF until the most recent round (round VIII)*
Passive	IM(RM) Work Model • *Passive = provides only policies, guidelines, and trainings* • *Passive = waiting for employee inquiries*
Non-existence of	RM-ATI Relationship
Non-existence of	RM-Business Activity Integration
Non-existence of	RM Practice Work
Low level of demonstration of	RM(IM) Value
Weak	Record Presence in departments • In departments = in departmental organizational structures; performance reports; audit reports
Non-	Record Presence in departments
Weak	RM Presence in departments
Non-	RM Presence in departments
Extremely limited	Electronic Record Presence
Extremely weak	RM(IM) Control

GC Indicator	Substantive Category
	Extremely weak =
	• *Records retrieval relies on employees: their experiences and memories*
	• *Records retrieval relies on their currency: whether or not they are created recently*
	• *Unsatisfactory RDIMS Implementation, including leading agencies TBS, PWGSC and the particularly worse case, LAC*
Technology-driven	IM(RM) Solution • *Technology-driven = the focus is on replacing existing technologies with new ones*
Ineffective	LAC-Institution Relationship • *Ineffective = LAC's extremely limited assistance to departmental IM(RM)*
Most problematic	IM Practice • *Most problematic = when compared to IM Governance and IM Strategic Planning* • *Most problematic = difficult in finding relevant records*
Inadequate	RM(IM) Ability • *Inadequate = insufficient for demonstrating IM(RM) value* • *Inadequate = insufficient for improving the unsatisfactory IM(RM) performance*

Table 8 Substantive Categories with General Properties

Substantive Code	General Properties
Deputy Head IM(RM) Responsibility	• P. Establishment • P. Fulfillment
Classification	• P. Characterization • P. Development • P. Implementation • P. Effectiveness
Disposition	▪ P. Characterization ▪ P. Establishment ▪ P. Effectiveness
Document	▪ Presence ▪ Characterization
Electronic Document	▪ P. Presence ▪ P. Characterization
Electronic Records	▪ P. Presence ▪ P. Characterization
Electronic System	▪ P. Presence ▪ P. Role
Electronic Records Management	▪ P. Presence ▪ P. Characterization
Employee IM(RM) Responsibility	▪ P. Establishment ▪ P. Fulfillment
Employee IM(RM)	▪ P. Presence ▪ P. Effectiveness
Information	▪ P. Presence ▪ P. Characterization
Information Lifecycle	▪ P. Presence

Substantive Code	General Properties
	▪ P. Characterization
Information Management	▪ P. Presence
	▪ P. Characterization
Information Resource	▪ P. Presence
	▪ P. Characterization
Information Resource of Business Value	▪ P. Presence
	▪ P. Characterization
IM(RM) Ability	▪ P. Presence
	▪ P. Characterization
IM As a Whole	▪ P. Presence
	▪ P. Impact
IM(RM) Practice Work ▪	▪ P. Establishment
	▪ P. Effectiveness
IM(RM) as Resource Management Function	▪ P. Presence
	▪ P. Impact
IM(RM) as Service	▪ P. Presence
	▪ P. Impact
IM(RM) Audit	▪ P. Methodology
	▪ P. Effectiveness
IM(RM) Functional Specialist	▪ P. Presence
	▪ P. Characterization
IM(RM) Requirement-Business Need Integration	▪ P. Presence
	▪ P. Effectiveness
IM(RM) Capacity	▪ P. Presence
	▪ P. Characterization
IM(RM) Compliance Requirement	▪ P. Establishment
	▪ P. Execution

Substantive Code	General Properties

IM(RM) Conceptual Framework	▪ P. Development
	   ❖ sP. Method
	   ❖ sP. Quality
	      ❖ sP. Precision
	      ❖ sP. Comprehensiveness
	      ❖ sP. Coherence
	▪ P. Application
	   ❖ sP. Accuracy
	   ❖ sP. Clarity

IM(RM) Directional Work	▪ P. Characterization ▪ P. Effectiveness
IM(RM) Expectation	▪ P. Presence ▪ P. Characterization

IM(RM) Guidance	▪ P. Development
	   ❖ sP. Sufficiency
	      ❖ sP. Quality
	         ❖ sP. Precision
	         ❖ sP. Comprehensiveness
	▪ P. Application
	   ❖ sP. Existence
	   ❖ sP. Effectiveness

IM(RM) Governance Structure	▪ P. Presence ▪ P. Effectiveness
IM(RM) Performance Evaluation	▪ P. Methodology ▪ P. Effectiveness
IM(RM) Specialist Responsibility	▪ P. Establishment ▪ P. Fulfillment
IM Specificity	▪ P. Presence

Substantive Code	General Properties
	▪ P. Impact
IM(RM) Strategy Plan	▪ P. Existence ▪ P. Effectiveness
IM(RM) Whole-of-Government Approach	▪ P. Presence ▪ P. Effectiveness
Improvement Mechanism	▪ P. Development ▪ P. Effectiveness
IM(RM)/IT Relationship	▪ P. Presence ▪ P. Characterization
IM(RM Role Model	▪ P. Presence ▪ P. Impact
Information Technology (IT)	▪ P. Presence ▪ P. Characterization
Institutional RM(IM)	▪ P. Presence ▪ P. Effectiveness
LAC IM(RM) Responsibility	▪ P. Establishment ▪ P. Fulfillment
Local RM	▪ P. Presence ▪ P. Impact
Manager IM(RM) Responsibility	▪ P. Establishment ▪ P. Fulfillment
Publication	▪ P. Presence ▪ P. Characterization

RDIMS	▪ P. Presence
	▪ P. Characterization
	▪ P. Implementation
	   ❖ sP. Condition
	   ❖ sP. Effectiveness

Substantive Code	General Properties
Record(s)	▪ P. Presence ▪ P. Characterization
Recordkeeping	▪ P. Presence ▪ P. Characterization
Record Retrieval	▪ P. Method ▪ P. Effectiveness
Records Management	▪ P. Presence ▪ P. Characterization ▪ P. Performance
Records Transfer	▪ P. Presence ▪ P. Effectiveness
Retention	▪ P. Presence ▪ P. Effectiveness
RM Decentralization	▪ P. Presence ▪ P. Impact
IM(RM) Responsibility	▪ P. Establishment ▪ P. Fulfilment

2.5. Saturating the Emergent Categories

As indicated by the method of formulating the starting group, the above data collection

and analysis focused on the group of GC institutions whose IM/RM performance was

considered having adverse impact on the administration of the ATI Act. The categories

generated from this process were thus limited to the situation where IM/RM is adverse

and the ATI performance is unsatisfactory. In order to investigate the overall RM(IM)

situation in the government, it was necessary to collect more data outside the starting

group; or, in the terminology of the GT methodology, to saturate the emerging categories.

A saturated category is indicated by the fact that "no additional data are being found whereby the [researcher] can develop properties of the category, [a]s he sees similar instances over and over again". At this moment, the researcher "becomes empirically confident" with the category generated.[115]

The process of saturating emergent categories serves also the purposes of category verification, modification, and/or correction, actions that are carried on inherently by the method of open coding, which features line-by-line analysis.[116]

2.5.1. Formulating Groups of Institutions by Theoretical Sampling

Two methods were employed to sample groups for more data collection and analysis:

- Selecting all departments that the OIC report cards discussed with regard to their IM/RM programs and
  - grouping these departments by their IM/RM program being
    - ❖ adverse (i.e., identified by the OIC as adversely contributing to the administering of the ATI Act), or
    - ❖ positive (i.e., reported by institutions as positively contributing to the administering of the ATI Act or at least not an issue), and
- Selecting all departments whose performance was assessed by the TBS MAF

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[115] Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research*, 61.

[116] Barney G. Glaser, *Theoretic Sensitivity,* 50; 60.

VII (the most recent round at the time of data collection) and

- grouping these departments by their IM(RM) performance being

  ❖ unsatisfactory (i.e., rated as Opportunity For Improvement or
    Attention Required in either 12.1 IM Governance or 12.2 IM
    Strategy Planning and Implementation) or

  ❖ satisfactory (i.e., rated as Strong in either 12.1 IM Governance or
    12.2 IM Strategy Planning and Implementation).

For the second method, the MAF middle-point rating, Acceptable, was not used for
grouping departments, because it was expected that the results of its use would be
encompassed by the two ends of the rating scale. Four groups were thus identified as
follows:

- Theoretical Sampling Group 1: IM/RM Adverse to ATI by OIC Report Cards,
  including

  - Aboriginal Affairs and Northern Development Canada (AANDC)[117]

  - Canada Border Services Agency (CBSA)

  - Citizenship and Immigration Canada (CIC)

  - Fisheries and Oceans Canada (DFO[118])

  - Industry Canada (IC)

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[117] Previously called Indian and Northern Affairs Canada. The name was changed on May 18,
2011.

[118] DFO standards for Department of Fisheries and Oceans and is used by the Department.

- Public Safety Canada (PS)

- Theoretical Sampling Group 2: Unsatisfactory IM Performance by MAF VII, including

    - Canada Border Services Agency (CBSA)

    - Canadian Food Inspection Agency (CFIA)

    - Canadian Security Intelligence Service (CSIS)

    - Health Canada (HCan)

    - Human Resources and Social Development Canada (HRSDC)

    - Royal Canadian Mounted Policy (RCMP)

- Theoretical Sampling Group 3: IM/RM Positive to ATI by Institutions in OIC Report Cards, including

    - Canadian Security Intelligence Service (CSIS)

    - Natural Resources Canada (NRCan)

    - Privy Council Office (PCO)

- Theoretical Sampling Group 4: Strong IM Performance by MAF VII, including

    - Aboriginal Affairs and Northern Development Canada (AANDC)

    - Canada Revenue Agency (CRA)

    - Department of Fisheries and Oceans (DFO)

    - Foreign Affairs and International Trade Canada (FAITC)

    - Natural Resources Canada (NRCan)

- Public Safety Canada (PS)

An additional group, i.e., theoretical sampling group 5, emerged when MAF VIII became available in late 2011. Although the coding process at that time was reaching its end, the theoretical sampling process identified the potential that this new document may have for the research, due to the fact that MAF VIII assessed IM practices, a new element of IM performance, which was evaluated for the first time. The formulation of this group thus focused on this new element and identified the following institutions based on their ratings as Strong:

- Canadian Security Intelligence Service
- Transport Canada

2.5.2. Analyzing the Theoretical Sampling Group Formulation

Observations emerged in the process of formulating the theoretical sampling groups (tsG), that is, before the open coding of the institutional data. They were included as part of the analysis process due to the high relevance they possessed. The following tables demonstrated the analyses.

2.5.2.1. Relationship: Adverse IM/RM and ATI Performance

Table 9 Comparing Records Issue with ATI Performance in tsG1

Department	Records Issue	OIC ATI Rating
AANDC	Yes	C (Average)
CBSA	Yes	B (Above Average)
CIC	Yes	A (Outstanding)
DFO	Yes	C (Average)
IC	Yes	B (Above Average)
PS	Yes	C (Average)

The comparison between the columns of Records Issue and OIC ATI Rating demonstrated that the correlation between records issues and ATI performance as indicated by the starting group did not exist here. In order to find an explanation, the report cards of the six institutions were open coded, which showed that there were other reasons accounting for the acceptable or satisfactory ATI performances, despite the fact that records issues were present. These reasons included: strong leadership, [119] added resources,[120] streamlined ATI procedures (or reliance on extension rules),[121] and the

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[119] For example, CBSA and DFO. OIC. CBSA.
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_11.aspx (accessed October 19, 2012); DFO.
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_29.aspx (accessed October 19, 2012).

[120] For example, DFO.

[121] For example, AANDC and IC. OIC. INAC (AANDC).
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_31.aspx (accessed

characteristics of record types. The case of the Department of Citizenship and

Immigration Canada (CIC) demonstrated that the type of records could make a major

difference in the ATI performance. Typical CIC records were case files regarding

individuals and were organized according to the names of individuals, which made the

retrieval of records simple and easy. Because it is this type of records that was mostly

requested,[122] the CIC ATI performed exceptionally well. This observation indicated that:

- Institutions' ATI performance could be improved by mechanisms other than
  effective RM;

- Yet, *the improvement would be limited when records issues do exist* (i.e., the
  outstanding ATI performance could only be achieved when records retrieval
  was not a problem);

- In addition, *unsatisfactory ATI performance is only one indicator of poor
  RM*.

The last point further confirmed the need to analyze the assessment of TBS MAF on

IM(RM).

October 19, 2012); IC.
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_32.aspx (accessed
October 19, 2012). PS is the example of relying on extension rules to reduce the rate of delay.

[122] OIC, CIC.
http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_26.aspx (accessed
October 19, 2012).

2.5.2.2. Relationship: Elements of Unsatisfactory IM Performance

Table 10 Comparing IM(RM) Performance Elements in tsG2

Institution	MAF VII	
	12.1 Governance	12.2 Strategy Planning & Implementation
	Unsatisfactory Information Management	
CBSA	OFI	Attention Required
CFIA	(Acceptable)	Opportunity for Improvement
CSIS	(Acceptable)	Opportunity for Improvement
HCan	(Acceptable)	Opportunity for Improvement
HRSDC	(Acceptable)	Opportunity for Improvement
RCMP	(Acceptable)	Opportunity for Improvement

The comparison between 12.1 and 12.2 demonstrated that the percentage of Acceptable was much higher for the requirement of Governance than that for the IM Strategy Planning and Implementation. In other words, *the requirement of IM Governance was much easier to satisfy*. This confirmed the observation generated with the starting group, where all eight institutions had an Acceptable or a Strong rating for 12.1, yet not all of them had an Acceptable rating for 12.2 (see Appendix .2).

2.5.2.3. Relationship: Strong IM/RM and ATI Performance

Table 11 Comparing Strong IM/RM by Institutions and ATI Performance by OIC in tsG3

Name	Strong IM/RM	OIC ATI Rating
Canadian Security Intelligence Service (CSIS)	"CSIS has a strong information management structure";[123]	D (Below Average)
Natural Resources Canada (NRCan)	"NRCan reports that its information management structure is strong, allowing for ease of records retrieval";[124]	F (Unsatisfactory)
Privy Council Office (PCO)	PCO "has a disciplined and localized information management capacity, which enhances its efficiency in responding to requests";[125]	D (Below Average)

The most obvious result of this comparison was the non-existence of a correlation

between a strong IM/RM program and satisfactory ATI performance. The open coding of

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[123] OIC, CSIS.

http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_25.aspx (accessed October 19, 2012).

[124] OIC, NRCan.

http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_16.aspx (accessed October 19, 2012).

[125] OIC, PCO.

http://www.oic-ci.gc.ca/eng/rp-pr_spe-rep_rap-spe_rep-car_fic-ren_2008-2009_17.aspx (accessed October 19, 2012).

the report cards of the three institutions demonstrated that there were three common

factors other than the IM/RM impact that accounted for the poor ATI performance:

"staffing instability/large turnover", "lengthy consultation", and "delegation of authority".

Together with the observation from 2.5.2.1, which indicated that unsatisfactory ATI

performance is only one indicator of poor RM, this result suggested that, despite the

inherent relationship between information and the ATI Act, *the fields of IM/RM and ATI*

administration remain distinct, and each requires unique conditions for success.

2.5.2.4. Relationship: Elements of Strong IM(RM) Performance

Table 12 Comparing IM(RM) Performance Elements in tsG4

Institution Name	MAF VII	
	12.1 Governance	12.2 Strategy Planning and Implementation
AANDC	Strong	(Acceptable)
CRA	Strong	(Acceptable)
DFO	Strong	(Acceptable)
FAITC	Strong	Strong
NRCan	Strong	Strong
PS	(Acceptable)	Strong

The comparison between 12.1 and 12.2 indicated that, again, *it was easier to obtain a*

better rate for 12.1 than for 12.2 (with PS as the only exception), which confirmed the

result of the comparison conducted in 2.5.2.2 as well as the result by the starting group

(see Appendix 2).[126]

2.5.2.5. Relationship: IM(RM) Performance by MAF and OIC

The comparison between the respective IM(RM) performances by MAF VII and OIC report cards was directed by the inconsistency displayed in the two sources for some institutions. All institutions were then systematically compared. Tables 11 and 12 present the results.

Table13 Comparing Unsatisfactory IM(RM) Performance by MAF and OIC

Total No.	tsG2 (MAF VII) No. = 6	tsG1 (OIC) No. = 6	sG (OIC) No.= 8	Result
1.		AANDC		MAF ≠ OIC
2.	CBSA	CBSA		MAF = OIC
3.		CIC		MAF ≠ OIC
4.	CFIA		CFIA	MAF = OIC
5.			CIDA	MAF ≠ OIC
6.			CRA	MAF ≠ OIC
7.			CSC	MAF ≠ OIC
8.	CSIS			MAF ≠ OIC
9.		DFO		MAF ≠ OIC
10.			EC	MAF ≠ OIC
11.	HCan		HCan	MAF = OIC

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[126] This is an example of how one code was saturated. All these comparisons here (by 3 groups) saturated the category insufficient/lack of specifics in IM plan and work (i.e., it is difficult to specify the IM program in institutions) first generated by the starting group.

Total No.	tsG2 (MAF VII)	tsG1 (OIC)	sG (OIC)	Result
	No. = 6	No. = 6	No.= 8	
12.	HRSDC			MAF ≠ OIC
13.		IC		MAF ≠ OIC
14.			ND	MAF ≠ OIC
15.			PCH	MAF ≠ OIC
16.		PS		MAF ≠ OIC
17.	RCMP			MAF ≠ OIC
No. of Institution where MAF = OIC				3

Table14 Comparing Strong IM(RM) Performance by MAF and OIC

Total No	tsG4 (MAF VII)	tsG3 (Institution in OIC Report Card)	Result
	No. = 6	No. = 3	
1.	AANDC		MAF ≠ OIC
2.	CRA		MAF ≠ OIC
3.		CSIS	MAF ≠ OIC
4.	DFO		MAF ≠ OIC
5.	FAITC		MAF ≠ OIC
6.	NRCan	NRCan	MAF = OIC
7.		PCO	MAF ≠ OIC
8.	PS		MAF ≠ OIC
No. of Institution where MAF = OIC			1

It was apparent that, in the above two comparisons, only a small number of institutions (namely, 3 among 17 and 1 among 8, respectively) had received consistent evaluation results from TBS MAF and OIC report cards. *This inconsistence led to a comparison*

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between the methodologies employed by TBS and OIC, presented in the following Table.

Table15 Comparing Methodologies of TBS MAF and OIC Report Cards on IM

Method	Source	Criteria
OIC Report Card	Answers provided by institutions to Part C of OIC ATI Assessment Questionnaire: Contributing Factors[127]	Whether "Difficulties to retrieve records" was a significant issue that affected the institution's ability to respond to access to information requests in a timely manner (within 30 days and/or statutory timelines)
TBS MAF	Reports with supporting documents submitted by institutions[128]	12.1 IM Governance: The IM governance structure effectively supports the organization's business lines and participation in setting government-wide strategic directions for IM;
		12.2 IM Strategic Planning & Implementation: The organization's IM strategy supports the effective management of information and records to meet program and service outcomes, operational needs and accountabilities.

The comparison demonstrated that the TBS and OIC approaches toward IM/RM had

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[127] OIC, "Questionnaires,"
http://www.oic-ci.gc.ca/eng/rep-pub-spec_rep-rap_spec-quest-2008-2009_questionnaires.aspx
(accessed October 19, 2012).

[128] TBS, "MAF Methodology for 2009,"
http://www.tbs-sct.gc.ca/maf-crg/indicators-indicateurs/2009/stewardship-gerance/stewardship-gerance-eng.asp (accessed October 19, 2012).

different focuses. The OIC report cards focused on a very specific aspect of IM/RM, that is, records retrieval, yet the TBS MAF methodology focused on high level aspects of IM(RM), with general criteria. This result confirmed the observations made when analyzing the starting group (see Appendix 2): *MAF evaluation on IM(RM) was insufficient* (i.e., it focuses only on high level aspects) and *ineffective* (i.e., it is unable to reveal specific issues).

2.5.2.6. Relationship: Elements of Strong IM(RM) Performance by MAF VIII

MAF VIII (i.e., for the year 2010-11) assessed IM Practice (12.3) in addition to IM Governance (12.1) and IM Strategy Planning and Implementation (12.2). The assessment of 12.3 IM Practice focused on "information repositories, recordkeeping practices, retention, and disposition activities".[129] The following table presents the relationships between these elements as indicated by the ratings of the thirty departments to which the author had sent ATI requests.[130] Eight of the thirty departments were not assessed by

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[129] TBS, "MAF VIII Methodology. Area of Management 12: Information Management: Lines of Evidence,"
http://www.tbs-sct.gc.ca/maf-crg/indicators-indicateurs/2010/elements-elements-eng.asp#toc12
(accessed October 19, 2012).

[130] The total number of departments that released records on their IM(RM) functions includes: the starting group (8), the theoretical sampling groups (13), TBS, LAC, OIC, OAG (the Office of the Auditor General of Canada), and the group of institutions that were assessed in 2006, including the Department of Agriculture and Agri-Food Canada (AAFC), the Department of Finance, the Department of Justice, and the Immigration and Refugee Board of Canada. The records that were not open coded were used to verify the generated codes. In addition, AAFC was visited for the purpose of experiencing its RDIMS.

MAF VIII, reducing the number of comparable departments to twenty two.

Table16 Comparing IM Performance Elements in MAF III

IM Performance Elements	MAF VIII Rating	
	Strong	Opportunity for Improvement or Attention Required
12.1 IM Governance	9/22 = 41%	2/22 = 9%
12.2 IM Strategy Planning & Implementation	4/22 = 18%	8/22 = 36%
12.3 IM Practice	2/22 = 9%	15/22 = 68%

The comparison demonstrated that the requirement that was most difficult to satisfy was 12.3 IM Practice, as 68% of the institutions assessed were rated lower than acceptable and only 9% were rated strong. This result confirms the OIC experience that, *when it comes to specific IM(RM) practices*, *the IM performance has become worse*. This comparison confirmed also the previous observation that the element 12.1 IM Governance was the easiest one to achieve, as it possessed the highest percentage of the rating Strong and, accordingly, the lowest percentage of the rating Opportunity for Improvement including Attention Required.

2.5.3. Investigating the Theoretical Sampling Groups – Data Collection

The data collection process for all the theoretical sampling groups followed the same process of the starting group, except the parts relating to the GC-wide data and the site visit data. The search for GC-wide data was considered systematic and comprehensive,

and the data so collected, as well as those collected by visiting TBS, LAC, and PWGSC, were all applicable to the theoretic sampling groups. For institution-specific data, both online and ATI data were sought, the organization of which followed the same typology. The ATI requests sent to the departments of the theoretical sampling groups followed the same template developed for the departments of the starting group.

2.5.4. Investigating the Theoretical Sampling Groups – Data Analysis – Constant Comparison

Data of all theoretical sampling groups were open-coded, memoed, and constantly compared with the emerging categories established by the starting group data. The results were characterized as *confirming*, *additional to*, and *new to* the existent categories.

2.5.4.1. Category Confirmation

The tsG coding and comparing process confirmed overwhelmingly the starting group categories: all of them were supported by tsG data. Moreover, for a large number of categories such as IM(RM) Conceptual Framework, IM as a Whole, IM(RM) Guidance, IM(RM) as Service, IM(RM)/IT Relationship, IM Specificity, etc., not only was the confirmation universal for each theoretical sampling group but also consistent with many indicators in one institution.

2.5.4.2. Additional Indicators for Categories

Table 15 lists exemplar indicators by the tsG data coded as additional to the emergent sG categories. "Additional" here refers to the indicators that are similar to those suggested by

the sG data. The list is not exhaustive as many institutions offered data for more than one category.

Table 17 Additional Indicators for Categories

Indicators by tsG Data	Emergent Categories by sG Data
AANDC • 5470.00 CND search fee estimated for the ATI request (= more than 500 hours GC work time)	• Record Retrieval - Effectiveness
CBSA • IM Skills = attending training courses offered by the Canada School of Public Service	• IM(RM) Capacity - Characterization
CIC • Retention schedules as means to identify records	• Records Retention – Presence • Records Retention – Characterization
DFO • RDIMS implementation considered having negative impact on business effectiveness	• RDIMS Implementation - Effectiveness
IC • A Business-based Classification Structure to be developed over a 36 month period with an estimated $3.2M budget; LAC developed methodology BASCS was not referenced	• Record Classification - Development • IM(RM) Guidance - Application: Existence
PS • Electronic documents representing RDIMS	• Electronic Document(s) - Presence

Indicators by tsG Data	Emergent Categories by sG Data
HRSDC • Guidelines on Managing Electronic Information, Mail and Documents • Stronger encouragement than GC requirements	• Electronic Document(s): Presence • Electronic Record(s) - Presence • Employee "RM" – Presence
NRCan • Quick achievement of developing an IM Policy and of designating an IM departmental senior officer	• IM(RM) Compliance Requirement – Execution
PCO • Employee high turnover	• Employee "RM" – Effectiveness • Institutional RM – Effectiveness
DFAIT • Identical set up of institutional IM policy instruments as with that of TBS • Clean-ups for various drives mostly welcomed • Frozen shard drives for RDIMS take-up • Longer finding/searching time with more documents in RDIMS • Abandoned/orphan documents in RDIMS	• IM(RM) Compliance Requirement – Execution • RM Practice Work – Effectiveness • RDIMS Implementation – Condition • RDIMS Implementation - Effectiveness
TC • Strong focus on awareness and training • Close work relationship with IT • Active participation in GC IM	• IM(RM) Directional Work – Performance • IM(RM)/IT Relationship – Characterization • IM(RM) Whole-of-Government Approach – Presence

2.5.4.3. New Indictors for Categories

A small number of indicators offered by the tsG data were new to some of the sG

emergent categories – yet still encompassed by the categories. Table 16 lists all of them.

Table 18 New Indictors for Categories

Indicators by tsG Data	Emergent Categories by sG Data
CBSA • Difficulty caused by changing compliance requirements	• IM(RM) Compliance Requirement – Execution
CIC • Resources are in place	• Senior Officer IM(RM) Responsibility – Fulfilment • IM(RM) Capacity - Characterization
IC • electronic records = records in employee personal folders	• Electronic Records - Characterization
PS • After implementation required shared drives to be blocked and training must be attained; • ATIP unit has access to implemented RDIMS	• RDIMS Implementation – Condition • RDIMS Implementation – Effectiveness
CSIS • classifying each and every record, including emails	• Record Retrieval - Effectiveness
HRSDC • long time period for departmental IM strategy approval	• IM(RM) Directional Work – Establishment

Indicators by tsG Data	Emergent Categories by sG Data
NRCan • a wiki and Google environment to lessen user and manager burden • fewer responsibilities for employees and managers • difficult to find all responsive records	• Improvement Mechanism – Development • Improvement Mechanism – Effectiveness
PCO • Identified responsive records were comprehensive • capturing records into RDIMS done by RM officers • A stronger focus on RM actual work • Retention schedules used as reasons for not releasing certain records • No records documenting the disposition	• Record Retrieval – Effectiveness • RDIMS Implementation - Condition • RDIMS Implementation - effectiveness • RM Actual Work – Completion • Records Retention – Presence • Records Disposition - Effectiveness

2.5.5. Ending Open Coding

[Researchers] look for patterns so that a pattern of many similar incidents can be given a conceptual name as a category, and dissimilar incidents can be given a name as a property of a category, and the compared incidents can be seen as interchangeable indices for the same concept. And when [researchers] get many interchangeable incidents [the categories] get saturation. That is, it is unnecessary to keep collecting more incidents which keep indicating the same pattern and no new properties of it.[131]

As the categories/codes were considered saturated and the core variable emerged, the

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[131] Barney G. Glaser, *Emergence vs. Forcing*: *Basics of Grounded Theory Analysis*, 40.

open coding process ended.

2.6. Emerging Core Concept: Record Nature

The open coding process pointed strongly to the significance of the code IM(RM) Conceptual Framework, as its GC characterization, inadequacy, was indicated by all types of data and at both GC-wide and institution-specific levels. The indicators include:

- Imprecise definition for key concepts (e.g. information lifecycle);

- Lack of definitions for key concepts (e.g., information and document);

- Inconsistent definition/characterization for the concept of record;

- Inconsistent definitions for the concept of recordkeeping;

- Lack of relationship deliberations for key concepts, in particular

  o document and record in digital technological environment;

  o information and information resource; and

  o record and information resource of business value.

Among these indicators, the inadequate and inconsistent information surrounding the concept of record appeared to be most problematic. This observation led to the emerging of the question: *"what is the nature of a record in the context of GC IM?"* or *"how is a record fundamentally different from other IM constituent parts?"*. The code *record nature* was used to capture this emergent question and was identified as the core variable entailing selective coding.

2.6.1. Substantive-Selective Coding of Record Nature

The data collection for the selective coding relied on information on record(s) provided by three types of sources: IM/RM relevant legislation in the GC setting, TBS IM/RM policies, and representative RM literature.

2.6.1.1. Definition/Appearance of Record(s) in IM/RM Relevant Legislation

The coding of the first type of data (T_1) included the following GC acts, identified by TBS IM policies as key to IM/RM. They are listed below in chronological order:

- Financial Administration Act, R.S.C., 1985, c. F-11

- Access to Information Act, R.S.C., 1985, c. A-1

- Statistics Act, R.S.C., 1985, c. S-19

- Canada Evidence Act, R.S.C., 1985, c. C-5, amended 2000

- Library and Archives of Canada Act, S.C. 2004, c. 11

The analysis included two steps: first, coding the appearance/use and/or definition of record(s), including electronic or digital records (S1), and second, coding the appearance/use and definition of the terms information, document, information resource, information resource of business value. The indicators and memos (I&M) from the first step coding (labeled as T1-S1-I&M-#) are:

- T1-S1- I&M-1: record is defined by the Access to Information Act and the Library and Archives of Canada Act:
  - Both consider records as "any documentary material",

"regardless of medium or form", yet

- o The latter qualifies "any documentary material" as "other than a publication";

- T1-S1- I&M-2: The Canada Evidence Act defines record[132] in the context of the admissibility of business records as evidence in legal proceedings, and generally refers to it as any recorded information;

- T1-S1- I&M-3: Record(s) appears in all other acts, and is used

  - o in association with specific spheres of activity, e.g., "records of public property", "records of land management", or

  - o as synonym of document;

- T1-S1- I&M-4: Electronic record(s) or digital record(s) does not appear;

  - o The phrase "machine readable records" appears in the Access to Information Act. The term is not defined but machine readable records are qualified as being produced by "using computer hardware and software";

The indicators and memos generated by the second step (labeled as T1-S2-I&M-#) are:

- T1-S2-I&M-1: information is not defined by any of the acts;

- T1-S2-I&M-2: information is used

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[132] "record" includes the whole or any part of any book, document, paper, card, tape or other thing on or in which information is written, recorded, stored or reproduced, and, except for the purposes of subsections (3) and (4), any copy or transcript admitted in evidence under this section pursuant to subsection (3) or (4).

- o as a general term, or

- o in parallel with record, or

- o as being contained in record;

- T1-S2-I&M-3: document is not defined by any of the acts;

- T1-S2-I&M-4: document is used

  - o as a general term (with less frequency than information), or

  - o in parallel with "books, papers, and accounts" or

  - o in parallel with "records";

- T1-S2-I&M-5: electronic document is defined by the Canada Evidence

  Act, following the Personal Information Protection and Electronic

  Documents Act, PART II Electronic Documents, S.C. 2000, c. 5, as "data

  that is recorded or stored on any medium in or by a computer system or

  other similar device and that can be read or perceived by a person or a

  computer system or other similar device. It includes a display, printout

  or other output of that data";

  - o "data" means representations of information or of concepts, in

    any form;

- T1-S2-I&M-6: Information resource or information resource of business

  value has no appearance in any of the acts.

The overall results of the coding of the first type of data are:

- The legal definitions only partially answer the question of what a record

  is (i.e., any documentary material, other than a publication), and are

therefore unable to effectively distinguish record from information or document as all can possess both the characteristic of being documents and published;

- The terms information and document are commonly and extensively used, but are used without differentiation and in parallel with records as different entities;

- The inclusion of digital records in the definition of records is suggested by the phrase "regardless of medium or form", but being implicit as it is based on interpretation;

  - This inclusion is *not* made explicit in institutional IM/RM policies, plans, or tools either;

- The association of electronic documents with the computing environment is made clear; and

- No linkage is made between electronic documents and business records.

2.6.1.2. Definition/Appearance of Record(s) in TBS RM and IM Policies

The coding of the second type of data included the three predecessors of the current TBS Policy on Information Management (2007):

- Chapter 460 in TBS Administrative Policy Manual, Records Management, 1983;

- Policy on the Management of Government Information Holdings,

1994;[133]

- The Policy on Management of Government Information, 2003.

The coding of the policies issued in 1994 and 2003 was done by using the actual copies

of the policies, but for the one issued in 1983, the coding was done based on a surrogate,

that is, a review article on it published in Archivaria.[134] Efforts to gather a copy of the

1983 policy as well as a copy of the Records Management policy in the TBS

Administrative Policy Manual published in 1978 were made by contacting both TBS and

LAC. TBS does not keep rescinded policies and relied on LAC for long-term access. The

response from LAC indicated that administrative policies were kept but they would not

be open for access until 2013. As a result, the policy issued in 1978 was not coded; its

title, however, signaled that the focus of the policy was on records not information.

The coding of these policies yielded the following indicators and memos:

- T2-I&M-1: The policy changed its focus in 1994 from records (1978) and

  "information contained in records" (1983) to "information holdings" (1994) and

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[133] 1994 is the year of the last revision of the policy. A copy of the last revision can be retrieved at http://www.collectionscanada.gc.ca/eppp-archive/100/201/301/tbs-sct/tb_manual-ef/Pubs_pol/cio pubs/TB_GIH/CHAP3_1_e.html (accessed October 19, 2012). The issuing year of the policy is 1989. See Michael Nelson, *Federal Government Information Policy: An Introduction*. http://library2.usask.ca/gic/v1n3/nelson/nelson.html (accessed October 19, 2012).

[134] Unknown. "New Records Management Policy for the Government of Canada," *Archivaria*, 17 (1983-84): 339-341. http://journals.sfu.ca/archivar/index.php/archivaria/article/view/11063/11998 (accessed October 19, 2012).

"government information" (2003);

- o information holdings were defined as "all information under the control of a government institution, regardless of physical mode or medium in which such information may be stored";

- o government information was defined as "information created, received, used, and maintained regardless of physical form, and information prepared for or produced by the Government of Canada and deemed to be under its control in the conduct of government activities or in pursuance of legal obligations";

- T2-I&M-2: The 1994 policy did not define records but used the term in phrases such as "essential records", "records of enduring value", "historical records", "personnel records", and "ministerial records";

- T2-I&M-3: The 2003 policy considered records a related term to government information and provided a definition from the National Archives of Canada Act and the Access to Information Act:

- o Records: "Includes any correspondence, memorandum, book, plan, map, drawing, diagram, pictorial or graphic work, photograph, film, microform, sound recording, videotape, machine readable record, and any other documentary material, regardless of physical form or characteristics, and any copy thereof";

The overall findings of this coding process include:

- The existence of no intention or effort to distinguish records from "information

holdings" or "government information"; or, in other words, to make explicit the relationships among these terms;

- There is a tendency to use the term information in association with the operation of government institutions; and
  - o The use of the term record(s) was limited to
    - ▪ traditional (i.e., paper-dominant) RM;
    - ▪ the non-current-use stage of the records lifecycle, confirming the tendency discovered when coding LAC data;
  - o The term information resource, or information resource of business value, is not present in any of the policies.

2.6.1.3. Definition/Elaboration of Record(s) in Relevant Literature

As an established profession, RM produces literature regarding records and their management. As an established academic discipline, archival science studies records and their administration, and has generated a sizable body of scholarly literature. Due to the different development histories of RM and archival science in different countries and cultures, a universally accepted definition for the concept of record does not currently exist. What exist are numerous definitions offered by a variety of bodies such as legislatures, archival institutions, RM and archival educators, RM and archival professional associations, national and international standards, guidelines, glossaries and dictionaries, and research projects. For the selective coding, three sources were considered sufficiently representative of the relevant literature: the International Organization for Standardization (ISO) RM Standard 15489, the Association of Records

Managers and Administrator (ARMA) International, and the International Research on Permanent Authentic Records in Electronic Systems (InterPARES) project. ISO 15489 is the first and still current international standard dedicated to RM, ARMA International is the largest professional association in the RM field, and the InterPARES project is the largest research project on digital records, which had also run for the longest time period among similar projects. In addition, the project features the Canadian setting, involving several Canadian partners, including LAC. Although weak, all three sources had a presence in the GC IM landscape, at either the government or the institution level, and this was the other factor that guided their selection for analysis.

The three definitions are:

- ISO 15489: records [means] information created, received, and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business; "information" is not defined;[135]
- ARMA: [A] record [is] recorded information, regardless of medium or characteristics, made or received by an organization in pursuance of legal obligations or in the transaction of business; "recorded information" is not defined;[136]

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[135] ISO, "15489 – 1," http://www.javeriana.edu.co/archivo/07_eventos/preservaciondigital/memorias/index_archivos/norma/iso_15489-1.pdf (accessed October 19, 2012).

[136] ARMA, "Glossary of Records and Information Management Terms," http://www.arma.org/standards/glossary/index.cfm?id_term=369 (accessed October 19, 2012).

- InterPARES: [A] record [is] a document made or received in the course of a

  practical activity as an instrument or a by-product of such activity, and set aside

  for action or reference;

  - [a] "document" [is] an indivisible unit of information constituted by a

    message affixed to a medium (recorded) in a stable syntactic manner. A

    document has fixed form and stable content;

  - information [is] an assemblage of data intended for communication either

    through space or across time; and

  - data [are] the smallest meaningful units of information.[137]

The coding of the definitions yielded the following facets:

- Fixity

  - indicated by the term "recorded" in the ARMA definition;

  - indicated by the term "document" in the InterPARES definition and its

    definition provided by the project;

  - only the first type of information in the ISO definition presents this

    feature as indicated by the term "maintained"; the second type of

    information does not, because oral information, e.g., a phone call, may be

    able to make a transaction take place under certain circumstances;

- Relationship with an activity (that is part of the usual and ordinary operation of

  the organization or person); sub-categorized as association and connection:

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137   InterPARES 2, "Terminology Database,"

http://www.interpares.org/ip2/ip2_terminology_db.cfm (accessed October 19, 2012).

- o association: indicating the existence of a linkage

    - indicated by the phrase "in pursuance of legal obligations or in the transaction of business" in the ARMA definition;

    - indicated by the phrase "in the course of a practical activity" in the InterPARES definition;

    - only the second type of information in the ISO definition presents this feature as indicated by the phrase "pursuance of legal obligations or in the transaction of business"; the first type of information does not, as creating, receiving, and maintaining evidence can be an deliberate action that is not part of the usual and ordinary operation of an organization or a person but has simply for the purpose of producing evidence;

- o connection: indicating an explicit relationship

    - indicated only by the InterPARES definition as "an instrument or a by-product of such activity";

- Purpose of record creation

  - o as "evidence" for the first type of information in the ISO definition; the relationship of being associated with an activity can be considered the purpose of record creation for the second type of information;

  - o the relationship of being associated with an activity can be considered the purpose of record creation in the ARMA definition;

  - o as "an instrument or a by-product of such activity" in the InterPARES definition;

- Purpose of records maintenance

    o same as that for record creation in the ISO definition;

    o same as that for record creation in the ARMA definition;

    o "for action or reference" in the InterPARES definition.

As the InterPARES definition of record yielded more facets than the other two definitions, the tool developed by the project to dissect the definition of record called Diplomatic Analysis Template and the definition of activity were further coded.[138] The results include:

- There are relationships between records of the same activity;

- There are roles in the records creating process;

- There are roles in the records maintaining process;

- There are environmental factors impacting records creation;

- There are (hierarchical) relationships among action, activity, and function.[139]

Neither the ISO 15489 nor the ARMA Glossary provided definitions for activity or action. In the text of ISO 15489, activity and business activity are both used, and business

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[138] InterPARES, "Diplomatic Analysis Template," http://www.interpares.org/ip2/display_file.cfm?doc=ip2_book_appendix_07.pdf (accessed October 19, 2012).

[139] InterPARES 2, "Terminology Database," Action: The conscious exercise of will by a person aimed to create, maintain, modify or extinguish situations; Activity: A series of acts or actions aimed to one purpose; Function: All of the activities aimed to accomplish one purpose, considered abstractly.

activity is used mostly alongside function, transaction, and/or business process. In its section of Design and implementation methodology, however, the standard suggests that a hierarchical relationship should be established among function, activity, and transaction.[140] A further tracing was conducted for the term business process, or process, and the result was that neither the ISO 15489 nor the ARMA Glossary provide a definition for it, while the InterPARES project defines a process as "the series of motions, or activities in general, carried out to set oneself to work and go on towards each formal step of a procedure". The project further defines procedure as "the body of written and unwritten rules governing the conduct of a transaction, or the formal steps undertaken in carrying out a transaction". The ARMA Glossary also defines procedure as "instructions, exhibits, and/or other methodologies to follow in order to complete tasks in a predictable and orderly way".[141]

2.6.2. Record Nature Properties

By synthesizing the above coding in relation to the GC context (e.g., removing the parts relevant to personal activities), the concept of record nature can be described by three properties: creation, maintenance, and use, each with a number of specifications. Creation refers to the manner by which a record comes into existence, that is, it is created (made or received and set aside) as part of an operational activity, which entails the understanding of the characteristics of such activity and the implications of making, receiving, and

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[140] ISO, "15489-1," 10.

[141] ARMA, "Glossary of Records and Information Management Terms,".

setting aside (i.e. keeping) a record. An operational activity is an activity that is carried out as part of an organization's planned operations. It may consist of a series of procedures (steps or phases) or workflows (i.e., processes) or several sub-activities, each consisting of one or more procedures or processes, but it is at the lowest action level at which the work is being carried out. The procedures and/or processes may not be limited to one business unit or organization; depending on the need of the activity, it may develop across multiple administrative configurations. The specific acts and the relationships among activities, sub-activities, procedures and processes, their phases, and the acts that are part of them are determined by the organization, which designs all its activities in order to achieve its goals and objectives. The design of the activity reflects its operational environment, consisting of the juridical, administrative, and technological contexts,[142] where the juridical-administrative requirements may include those for the creation of records. As part of the design for execution and management purposes, each activity needs an owner and a number of players, which can be human beings or information systems[143] with assigned roles and responsibilities, including those for the creation of records. Records are created at specific steps as the byproducts of acts, and creation attaches to each record attributes derived from the operational environment that are definite and specific at that moment. For the design to enable consistent operation, all activities need to have clearly defined boundaries that delimit them as independent

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[142] Adapted from the five contexts in the InterPARES, Diplomatic Analysis Template.

[143] Strictly, an information system is not a player in acting as either a natural or juridical person. It is used as a player here with the implication that it functions in accordance with the requirements of a juridical person, that is, the records creation organization.

entities, despite the interrelations they may possess with each other. To facilitate automation, requirements and conditions stipulating the conduct of each activity, including records creation, need to be broken down as much as possible within each step. The activity that causes the creation of records is a records creating activity and for a particular record, there is always only one creating activity.

To be created encompasses two types of actions: to be made or received and to be saved to an aggregation of records, and the difference lies in the authoring of the record. To make a record is to produce a document (i.e., information affixed to a medium in a stable form) at a specific step of an activity and to follow record-making rules or documentary procedures. The specific step in question is a record-making step of the record creating activity. Record-making rules determine the documentary form[144] of the record being made, that is, the manner by which the content of a record, its administrative and documentary context, and its authority are communicated. [145] The development of record-making rules requires adequate understanding of the creating activity, including its operational environment and the RM principles ensuring that the resulting record both satisfies the need of the activity and fulfills legal requirements. Receiving a record takes

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[144] Documentary form consists of the rules of representation that allow for a message to be conveyed, and comprises extrinsic and intrinsic elements. Extrinsic elements constitute the external appearance of a record and intrinsic elements constitute the internal composition of the record, conveying the action in which the record participates and its immediate context. Luciana Duranti, "Chapter 5 The Form of Documents and Their Criticism," in *Diplomatics: New Uses for An Old Science* (Chicago, Ill.: SAA, ACA and Scarecrow Press, 1998), 133-150.

[145] InterPARES 2, "Terminology Database," Record-making.

place also at a specific step of an activity, but enters the records creation procedure from a different direction as the received record was made and issued by an entity external to the activity. Both the record-making and record-receiving steps are followed by the action of setting the record aside (or saving it to a records aggregation), which gives the record its archival bond[146] and establishes its record status within the organization's fonds. For digital records, setting aside needs to take place at the same time of saving (in the sense of computer science, i.e., affix it to a certain medium), which typically takes the form of assigning the records classification codes and placing them in the records maintenance system of the organization. For receiving a record, saving requires first downloading (e.g., from an email or a website) or uploading (e.g., from a removable memory device) the transmitted record, which may cause changes to the external appearance of the record if the technologies used to open/reassembly the record are different. RM procedures thus need to be developed to require the documentation of such changes, following the guidance of the concept of fixed documentary form.[147] It needs to be pointed out that digital records have become the predominant type of records in today's records creating organizations.

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[146] For a detailed discussion on the concept of archival bond, see Luciana Duranti, "The Archival Bond," *Archives and Museum Informatics* 11, 3-4 (1997): 213-218. For its application in digital records management, see InterPARES, Diplomatic Analysis Template, http://www.interpares.org/ip2/display_file.cfm?doc=ip2_book_appendix_07.pdf (accessed October 19, 2012).

[147] For a discussion on fixed documentary form with respect to digital records, see Luciana Duranti and Kenneth Thibodeau, "The Concept of Record in Interactive, Experiential and Dynamic Environments: the View of InterPARES," *Archival Science* 6, 1 (2006): 13-68

The property of maintenance emphasizes that maintaining records requires decision-making and conscious actions carried out for intended outcomes. A record needs to be maintained in order to continue its existence after creation and the quality of maintenance determines the quality of its existence, that is, the fact that the record is retrievable and usable. Record usability can be specified using the factor of time, and can be categorized as present and future[148] uses. Record present use refers to the use of it by its creating activity during the period that the activity is taking place. Although the usages may happen at different times and locations, they all happen within the boundaries of the activity. The activity therefore determines the maintenance of the record. Record future use refers to its use by a future activity, which takes place not only in different times and locations but also outside the activity, and this can, therefore, be termed reuse. As it is difficult to predict the occurrence of future activities, the taking of maintenance decision for future use requires multiple sources of input and takes a much more complicated path.

These properties collectively depict the nature of record and therefore, are capable of distinguishing records from document, information, publication, information resource, knowledge resource, and business asset, and of examining the IM(RM) function in the study setting.

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[148] The term future use is chosen to distinguish subsequent use, which, as an additional facet to present use, refers also to the use of records within the same activity.

Figure 2 below summarizes the research process:

Figure 2 The Research Process
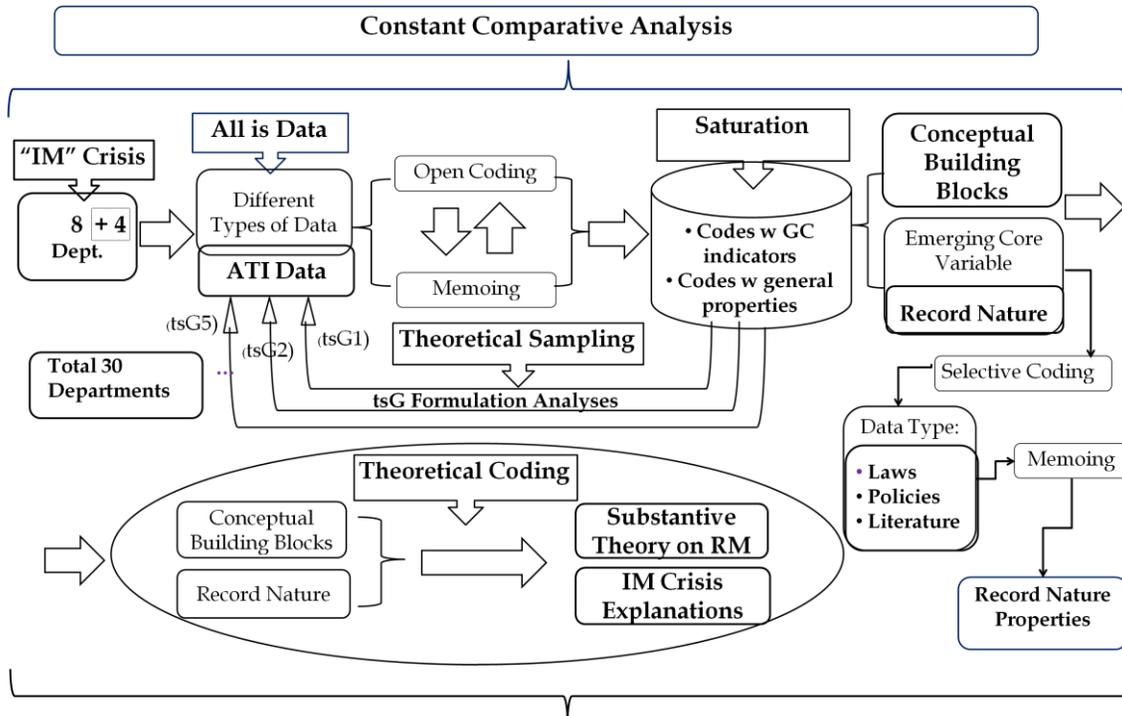
The next chapter presents the emergent grounded theory that utilized the grounded theory

mechanism of theoretical coding.

3. Discovering/Formulating the Grounded Theory

The essential relationship between data and theory is a conceptual code. [Theoretical] codes conceptualize how the substantive codes may relate to each other as hypotheses to be integrated into the theory. Thus, in generating a theory by developing the hypothetical relationships between conceptual codes (categories and their properties) which have been generated from the data as indicators, we "discover" a grounded theory.[149]

This chapter presents the grounded theory generated through theoretically coding the substantive categories. It emerged first in the form of conceptual building blocks and then hypotheses, which were formulated on the basis of the building blocks. The grounded theory centers on the core variable Record Nature and displays the relationships among concepts and hypotheses. The specifications of each concept are not intended to be universally applicable but relevant only to the study setting. In addition, the specifications are modifiable in the face of new data and/or new coding. The term record in this and subsequent chapters is synonymous with the term digital record, which is also used for the purpose of emphasis when needed. Both the building block concepts and the hypotheses are presented in an alternative form, which are listed as appendices to the dissertation.

3.1. Conceptual Building Blocks

The building block concepts, marked by capitalized first letters in this section and the rest of the dissertation, are described below utilizing properties that characterize them as

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[149] Barney G. Glaser, *Theoretic Sensitivity*, 55.

indicated by both the substantive and theoretical codes. The properties resulting from the substantive coding are mainly those of a descriptive nature, that is, they possess no relationships with other properties or concepts. For example, the property "An independent administrative configuration" of the concept Central RM, describes only an inward characteristic of the concept rather than pointing out any outward relationship with other building block concepts or their properties. In contrast, the properties resulting from the theoretical coding describe mainly relationships. For example, the property "Relies on dedicated RM Personnel for operation" of the same concept (i.e., Central RM) indicates that a dependent or conditional relationship exists between the concepts of Central RM and RM Personnel. These properties are called *specifications* in the presentation of the building block concepts, in conformance with the methodological guidance that "conceptual specification is the focus of grounded theory, not conceptual definition".[150] To further specify the relationship, or in other words, to functionally enable the usage of these concepts in formulating hypotheses, the property *measurement* is added to all concepts designating the requirement(s) associated with their practical applications, for example, to be timely, comprehensive, or adequate. These measurements are used to indicate the level of achievement of the activities involved in putting the concepts into practice and, when connected to the relationships captured by other properties, they reveal relationships among concepts, thus facilitating the formulation of

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[150] This is because the operational meaning of the concept derives from the use of its learned distinctions in the theory. In this way the meaning of a concept can be modified or added to-as indicators change-thereby changing the applicable distinctions. It is hard to keep changing a conceptual definition. Barney G. Glaser, *Theoretical Sensitivity*, 64.

hypotheses. For example, the effective operation of the Central RM (effectiveness is one measurement for Central RM) relies on adequate RM Capacity (adequacy is one measurement for RM Capacity). The other feature regarding measurements is that they are inheritable. When a concept is a compound one, that is, it contains component concepts, its measurements are inherited by the components. For example, the compound concept Organizational RM has two components, Central RM and Local RM, both of which inherit the measurement of effectiveness of operation established for Organizational RM. Although many component concepts have their own measurements, there are situations where component concepts have inherited measurement(s) but not their own, for example, the components constituting the concept Record Value. This group of component concepts inherits the measurement "Degree of recognition by organization" and "Degree of realization by Organizational RM" from its upper level concept and possesses no other measurements specific to them.

There are in total 96 building block concepts, all of which are traceable back to the concept Record Nature, either directly or indirectly. Their description in this section starts with the concepts that are in a direct manner derived from the core concept Record Nature, collectively termed the RM Foundational Concept (including the concept Record Nature). It then follows the thread as indicated by the relationships in properties, that is, the specifications and/or measurements. This order implies, in a loosely manner, the different degree of importance of the building block concepts in formulating the theory/explanations; however, it does not suggest any differences in their necessity or usefulness for presenting a coherent theory. In other words, all concepts are considered necessary for illustrating the situation as indicated by data in the study setting and for

identifying the cause of the problem being studied.

3.1.1. Record Value, RM Value & The Related

In addition to Record Nature, the RM Foundational Concept includes the concepts of Record(s) Purpose, Record Value, RM Nature, and RM Value. The concept Record(s) Purpose consists of two components, Record Creation Purpose and Record(s) Maintenance Purpose, [151] and is measured by the degree to which the two components are distinguished by the records creating organization. Record Creation Purpose emphasizes that records are created for, and only for, satisfying the needs of an Operational Activity, and the Operational Activity, correspondingly, is the sole reason that causes the creation of the record. An Operational Activity can be any activity that the organization determines to be necessary for its operation, the conduct of which typically requires resources allocation and records creation. This indicates that, within the context of conducting an Operational Activity, records must be created when needed, and must not be created when not needed, and the reasoning for creation is needed for each and every record, as creation is relevant only to individual records. This notion is well documented in archival literature and is also widely adopted by practitioners of both the

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[151] The use of the expression record(s) in relation to Maintenance Purpose is to emphasize that the action of maintenance needs to be performed at both individual and aggregation levels. This usage applies to all other instances where both levels are the concern. When only one level, either individual or aggregation, is considered, the expression record or records is used, such as in the case of Record Creation Purpose, which emphasizes that the purpose of creation must be understood in relation to individual records. Whenever a component concept is expressed using record(s), its upper level concept reflects it.

professions of archives administration and records management. Moreover, it is extensively elaborated by the InterPARES project in the context of digital records management and long-term preservation.[152] The guidance offered to practice by this notion is that the creation of records must be analyzed and determined when the Operational Activity is being conceived and designed, which was largely absent in the study setting. This analytic result prompted the codification of the concept Record Creation Purpose, which emphasizes the notion of record-creation-as-part-of-operational activity and differentiates it from the purpose of Record(s) Maintenance. The concept Record(s) Maintenance Purpose was codified as a response to the fact that information management policies excessively emphasize that information (including records) needs to be managed as "business assets" and "knowledge resources". Because no definition for these two terms could be found in all collected data, the understanding of their meaning relied on the analysis of relevant literature[153] in conjunction with indications offered by other data (e.g., the establishment of IM(RM) as a resource management function). As the analysis displayed, the term business asset or knowledge resource emphasizes the use of

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[152] See, for example, Luciana Duranti and Kenneth Thibodeau, "The Concept of Record in Interactive, Experiential and Dynamic Environments: the View of InterPARES," *Archival Science* 6, 1 (2006): 13-68; "Part Two Records Creation and Maintenance," in *Findings of InterPARES 2*, http://www.interpares.org/ip2/display_file.cfm?doc=ip2_book_part_2_domain1_task_force.pdf (accessed October 19, 2012); and "The Chain of Preservation Model," in *Findings of InterPARES 2*, in particular, the module Managing Records in a Record-Making System, http://www.interpares.org/ip2/display_file.cfm?doc=ip2_book_appendix_14.pdf (accessed October 19, 2012).

[153] The relevant literature consists of typically RM professional literature including RM consultants' publications.

records by activities that are different from the records creating activity, that is, records reuse or repurposing. Records do have the potential for being reused or repurposed as business assets and/or knowledge resources; however, it is critical to realize that records are not created (i.e. made or received and kept) in order to be business assets or knowledge resources, but may become such after having exhausted their usefulness for the activity that required their creation. This differentiation is of critical importance because:

- It guides the understanding of the different types of value that a record may possess to the different activities that create and reuse it. A record that is indispensable for an Operational Activity (e.g., an ATI request form) is however typically not considered as a business asset (in the sense of contributing to the generation of business intelligence) or a knowledge source (in the sense of contributing to organization's strategic planning or of becoming part of the archives that are significant to Canada);

- It indicates that the degree of knowledge of activities required for records creation and maintenance is different: for record creation, it is only the understanding of the creating activity that is required, while for enabling record(s) reuse, the understanding of as many future activities as possible is desired; and

- It points out that record creation is the foundation of record(s) maintenance, which relies on the creation quality.

Based on these distinctions, Record Creation Purpose is measured by the existence of a decision and justification for creation, which, when implemented, form part of the records

of the creating activity. Record(s) Maintenance Purpose is measured by the existence of a decision and justification for maintenance, which, when implemented, form part of the records of the activity of RM Appraisal. Decision and justification are separately measured as data indicate that either or both may be absent in institutions.

The concept Record Value includes two components: Record Instrumental Value and Record Reuse Value, and is measured by the degree of recognition, distinction, and realization by the organization and the Organizational RM. The concept Record Instrumental Value is tightly related to Record Creation Purpose and, as such, it is exclusive to the activity creating the records. It communicates the idea that a record required by the conduct of an Operational Activity possesses value to the activity, an idea that is conveyed by the term instrumental. This value is relevant to work productivity and effectiveness as the conduct of the activity relies on the quality and availability of the record. The degree of institutions' recognition of the Record-Instrumental Value impacts directly the recognition of the importance of Record Identification and the adequacy of the establishment of an Organizational RM. To ensure the Record-Instrumental Value, records must be identified one by one with content, documentary form, and metadata sufficient for enabling their lifecycle management. To facilitate Record Identification, a work relationship between the writer of the record content (i.e., employees designated to a particular Operational Activity), the originator of the extrinsic elements of the documentary form (i.e., the part of Organizational IT supporting the activity),[154] and the

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[154] The concepts of writer and originator are used here in conformance with digital diplomatics as developed by the InterPARES project.

RM Personnel dedicated to the activity must be administratively enabled. Dedicated RM Personnel and their continued work relationships with Organizational IT are required for ensuring the quality of records and their availability to the creating activity during its operating time. This implies that this type of work should not be temporary.[155] The demonstration of this type of value supports the RM Function Design, that is, the establishment of the RM Governance Structure, the RM Responsibility Arrangement, and the RM Activity.

As the Instrumental Value of a record is limited to its creating activity, it is irrelevant to the determination of Records Retention for future activities. In other words, the requirement for records maintenance/retention is defaulted by the need of their creating activity: the records exist for as long as the activity requires them. The extension of the retention period beyond the operation time of the activity is determined by Record Reuse Value.

Record Reuse Value, the other component of Record Value, follows, or is subsequent to, the Record-Instrumental Value. It consists of two sub-components, Record Immediate Value and Record Distant Value, both of which further include three sub-components: Record Accountability Value, Record Investigation Value, and Record Resource Value,[156]

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[155] The typical temporary personnel include consultants and students. This is not to diminish the reasonableness of having such temporary help under certain circumstances, but to emphasize the demand of dedicated attention to the work, which is necessary to realizing the record instrumental value.

[156] As the criteria used to categorize components are descriptive facets of the concepts, they serve as qualifiers in the names of the component concepts. For example, the full name of the

corresponding to the types of Operational Activity, which are Accountability-Related Activity, Investigation-Related Activity, and Business Activity. These three activities form the category Non-RM Activity, and together with the category RM Activity, constitute the Operational Activity. The relationship between the Non-RM Activity and RM Activity is not exclusive as the term may suggest, but instead, inclusive, that is, every type of Non-RM activity includes certain forms of RM Activity.[157] The use of Non-RM vs. RM is intended to highlight the differences in their primary purposes of establishment and, accordingly, the different kinds of knowledge needed for their respective operation.

To understand Record Reuse Value requires the introduction of the concept Activity Time Boundary, which categorizes Operational Activity as Past Activity (one that has been completed), Present Activity (one that is currently taking place), and Future Activity (one that will take place either according to design/plan or unexpectedly).[158] The time boundary of activity indicates that the ending point of a Present Activity changes it to a

sub-component concept Record(s) Accountability Value is Record(s) Reuse-Immediate-Accountability Value.

[157] This relationship is detailed in the specifications of the concept Organizational RM and its component Unit RM.

[158] It needs to be pointed out that this characterization is limited as it does not accommodate the possibility that activities may last for a very long time. When this is the case, accountability- and investigation-related activities may take place before the activity ends. This however does not invalidate the use of the time factor because it can be used *within* the long lasting activity to separate sub-activities or processes, which then can follow the past, present, and future categorization. A more important point is that the discussion on records creation and management must be rooted in the design and conduct of activity.

Past Activity and the starting time of a Future Activity marks it as a Present Activity. Time boundaries between activities assist the understanding of the transformative relationships between activities and the different types of Record Value associated with the transformation, in particular with regard to Record-Reuse Value. Being reusable by different activities is one characteristic of records: those created by a Past Activity can be reused by a Present Activity and those created by a Present Activity may be reused by a Future Activity. When a record is being created and used by an activity, this activity is its creating activity, which is also a Present Activity, and the record value for the activity is instrumental. When this activity ends, it becomes a Past Activity and its records need to be assessed for reuse by either identified or potential Future Activities. The assessment is typically conducted in two forms of appraisal: RM Appraisal and Archival Appraisal. RM appraisal assesses Record Reuse-Immediate Value in consideration of the institution's operations, which determines retention periods of records in the organization. Archival appraisal, in contrast, assesses Records Reuse-Distant Value, which determines the requirement for records to be transferred to an archival institution/unit/program where they can be permanently preserved and made accessible. Archival appraisal[159] requires as a foundation the quality work of the organizational RM program, including that of RM Appraisal.

When a Future Activity becomes present (i.e., starts to take place), the document reused

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[159] The specifications of the concept Archival Appraisal are limited to its relevance to the present study, including only its relationship with RM Activity (i.e., it requires RM work as a foundation) and the impact it has on the conduct of RM work (i.e., it needs to be conducted in a timely fashion and in supportive to the issuing of Disposition Authorities).

by it becomes its record and its reusable value becomes instrumental. It is critical to recognize that this change transforms the document (created by a Past Activity) into a *new*, *different* record, despite the fact that it may still maintain the same content and external appearance under certain circumstances.[160] The major difference lies in the archival bond that the two records possess: the archival bond of the record being reused as a document indicates its relationships with the Past Activity and the archival bond of the new/transformed record indicates its relationships with the Present Activity. These indications need to be made explicit and the typical RM Tool used for doing so is Records Classification Scheme (RCS). When logically designed, a RCS is capable of depicting a network of relationships weaved by linkages between individual records, between classes of records, and between records and activities. The reuse of the document by another activity does not change its archival bond with its creating activity, which makes of it a record of such activity (now a Past Activity), but causes the formulation of a new archival bond between the document and the reusing activity (a Present Activity), thereby producing a new record. This is easier to be understood with respect to paper records because the reuse of a paper record typically results in a production of a physical copy and it is this copy – not the original – that becomes the record of the reusing activity. This physical reproduction not only differentiates the two records by appearance (even if the reproduction is by photocopying) but also by the change of physical location (the copy is in a paper folder different from the one that keeps the original). In other words, both the

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[160] For example, in the context of a Present Activity B reusing a PDF document created by a Past Activity A, the PDF document may look like exactly as the same as the PDF record - when the software for both activities is the same.

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birth of the new record and the formulation of a new, different archival bond are visible.

It becomes much more difficult to understand the changes in archival bond when the

document is a digital one and managed in an electronic document management system

(EDMS) that lacks the functionality for managing records. An EDMS makes it possible

for one document to be reused/accessed by many activities without making duplicates of

the document itself [161] and without any location change. The relationships between the

record and all its reusing activities may only be documented in the audit trials of the

system, thus invisible to regular human users. For regular human users, there is only one

document in the system and can be accessed unlimited times (assuming compliance to

security rules are in place). This technological reality, however, does not diminish the

need of conceptually distinguishing records on the basis of their archival bond because

this understanding is the foundation on which consistent and effective digital records

management rests. A case in point is constituted by certified Electronic Records

Management System (ERMS)[162] which can be configured to allow access to audit trails

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[161] Making digital copies in the context of an electronic document management system is indeed discouraged. Accordingly, such system's functionality of providing multiple/unlimited access to a single instantiation of an electronic document is a highly praised advantage.

[162] The North American de facto standard for certifying ERMSs is the US Department of Defence (DoD) 5015.2 Electronic Records Management Software Applications Design Criteria Standard (2007), a product originally generated from the joint research of the UBC-MAS project and the DoD. http://www.dtic.mil/whs/directives/corres/pdf/501502std.pdf (accessed October 19, 2012). The NARA Functional Requirements and Attributes for Records Management Services (2005) is another example that applied the concept of archival bond. http://www.archives.gov/era/pdf/Functional-Requirements-and-Attributes-for-Dec07-2005.pdf (accessed October 19, 2012). In addition, MoReq (Model Requirements for the Management of Electronic Records) 2 discusses multiple classification codes, for example, Requirement 3.4.5.

not only to system administrators but also to RM personnel. The display of the "history" of a record to ordinary users by showing access information is useful to make evident the uses of the record by different types of activities. This design indeed imitates the RM practices that predates the time of photocopying documents for reuse, which required metadata (i.e., classification codes) to be added to the reused document to make it a new record without duplicating the document. Thus, all future uses of the document were explicit in corresponding classification codes, the accumulation of which tells the reuse history of the document. Lack of such understanding typically contributes to the chaotic status of records management in organizations.[163]

The facets immediate and distant are used to distinguish the environments where the reuse takes place. The term immediate designates the environment as the conduct of a Non-RM Activity of the records creating organization, which may involve other organizations that cooperate with the organization in question on the Non-RM Activity. These cooperating organizations are not an archival institution. In contrast, the term distant designates the environment as outside the boundaries of the records creating organization including its partners, indeed, an archival institution. The reuse activities that take place in the archival institution do not belong to the records creating institution. A record possesses Reuse-Immediate-Accountability Value when it is used by an

http://www.moreq2.eu/moreq2 (accessed October 19, 2012).

[163] For the relationship between the concept of archival bond and digital records management, see Sherry L. Xie, "Preserving Digital Records: InterPARES Findings and Developments," in Victoria Lemieux, ed. *Financial Analysis and Risk Management: Data Governance, Analytics and Life Cycle Management* (Springer, New York: 2012), 187-206, in particular, 190 and 198.

Accountability-Related Activity, that is, an activity that responds to inquiries from the public (i.e., ATI/FOI requests) and/or authorities (e.g., Parliament) in the form of disclosing records that account for the conduct of their creating activity (hence the term accountability). The value is of a reuse nature because the records used by the Accountability-Related Activity (which is a Present Activity) were created by a Past Activity (which is currently being inquired on). When Reuse-Immediate-Accountability Value is being assessed for maintenance/retention, the Accountability-Related Activity acts as a Future Activity. This type of Future Activity may be regular and expectable, and institutions can design procedures and workflows for its conduct even though the activity is initiated outside it. This value is characterized as not directly[164] relevant to institutions' operation but significant to their status of being public organizations in a democratic country. Associated with this value are thus the requirements for institutions to be legislatively compliant and operationally transparent. This value, however, cannot be assessed independently for retention decisions because the Access to Information Act and the Access to Information Regulations do not stipulate the time periods for records to exist in institutions.[165] When the inquiring activity (i.e., the sending of requests to institutions) takes place, the calculation of retention periods of potentially

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[164] The term directly is used to qualify the irrelevance due to the understanding that an unsatisfactory performance of accountability-related activities may very well impact the operation of the institution as it results in damages to its reputation and loss of public trust.

[165] This indicates that when there are legal or regulatory requirements existing that stipulate specific retention periods or appraisal criteria for establishing specific retention periods, this value can be independently assessed.

responsive/relevant records is suspended and the Reuse-Immediate-Accountability value becomes the sole value by which the retention period of the records can be determined. As the inquiring activity is now the present and the records creating activity, the Reuse-Immediate-Accountability Value has become Record-Instrumental Value and the retention periods for all records of the activity are defaulted by the completion of the ATI process. After completion, records need to be re-assessed for retention based on their reusable value. This indicates that, even though the requirements for being accountable, transparent, and compliant are widely used by organizational RM programs to build RM business cases, the recognition/advocacy of this value alone does not assist RM work in any concrete manner.

A record possesses Reuse-Immediate-Investigation Value when it is used by an Investigation-Related Activity, that is, an activity that requires records to be admissible in a court of law or an administrative tribunal for legal or administrative investigations regarding the records creating activity. The creating activity is now a Past Activity and the investigation activity is a Present Activity. As with the Reuse-Immediate-Accountability value, the Reuse-Immediate-Investigation value has the nature of reuse and is assessed in consideration of a Future Activity. It is not directly[166] relevant to institutions' operation, but may be significant to the protection of the rights and interest of the institutions. Associated with this value are thus the requirements for institutions to be legally compliant with, in particular, the order of electronic discovery

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[166] The term directly is used to qualify the sentence because the results of litigations may in fact affect the regular operation of the institution.

and to satisfy the digital evidence rules. The occurrence of this type of Future Activity is typically unpredictable, even though the handling procedures can be designed and established based on the known legal/juridical environment. As a result, this value cannot be independently assessed for retention decisions. When the investigating activity takes place and a litigation/legal hold is issued to suspend the calculation of established retention periods, the Reuse-Immediate-Investigation value becomes the sole value by which the retention period of the records can be determined. As the investigating activity is now the present record creating activity, the Reuse-Immediate-Investigation value has become Record-Instrumental Value and the retention period for all records of the activity becomes the time defaulted by the completion of the litigation process. After that, records need to be re-assessed for retention based on their reusable value. Therefore, emphasizing this value alone will be unable to demonstrate the value of RM activities.[167] Both Reuse-Immediate-Accountability value and Reuse-Immediate-Investigation value are embedded in, or co-exist with, Record Reuse-Immediate-Resource Value. A record possesses Record Reuse-Immediate-Resource Value when it is used by a Business Activity that is not its creating activity. The term resource in this context captures its meaning in the expressions of information resource, knowledge resource, and business asset, which is predominant in the study setting as well as in professional literature. The use of this term is intended to facilitate communication with practitioners. It is necessary to point out that, even when records are used as resources, they possess the unique characteristics of records (e.g., the archival bond) and are distinct from other types of

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[167] There are organizations where law suits can be frequent (e.g., investment banks), but this is not the typical situation in the study setting.

information such as publications, which can also serve as information/knowledge

resources or business assets for Operational Activities. . When a record is being reused by

a Business Activity, the activity is a Present activity (which is transforming the document

into its record) and the creating activity of the record becomes a Past Activity (which

produced a record with reusable resource value). A Business Activity is an activity

designed to achieve a specific, mandate-related institutional objective, thus, is not an

Accountability-related Activity or an Investigation-related Activity. As such, it serves as

the primary reason for records retention decisions. The assessment of this value can be

rather precise in terms of the determined retention periods when the design (including

modifications) of all Operational Activities of the organization is in place. The

realization[168] of the Reuse-Immediate-Resource value encompasses the realization of the

Record-Reuse-Accountability value (in cases where there are no retention periods

stipulated by legislation or regulations) and the realization of the

Record-Reuse-Investigation value. In other words, the need for records to be retained for

accountability- and investigation-related activities is subsumed by the need for records to

be retained for business activities, as the legal/juridical system permits approved

destructions of records that are based on justified business needs. A clearly identified and

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[168] The term realization was chosen for the coding because of its usage in the IT field, which
focuses on demonstrating the detailed benefits it can bring to the organization. The intention is to
emphasize that the RM profession should learn from other professions in particular IT in terms of
realizing value in a concrete manner. Examples of using the term from Accenture and IBM:
http://www.accenture.com/us-en/Pages/service-consulting-value-realization-summary.aspx
(accessed October 19, 2012) and http://www.redbooks.ibm.com/abstracts/sg247934.html?Open
(accessed October 19, 2012).

managed Record Reuse-Immediate-Resource Value therefore assists the institution's preparation for legal compliance. In this sense, it is justifiable to emphasize the significance of Record Reuse-Immediate-Resource Value. However, it must be recognized that the realization of Record-Reuse-Immediate-Resource Value requires as a foundation the recognition and realization of Record Instrumental Value, which is not present in the study setting. Because of this absence, policy requirements do not distinguish the types of value and the relationships among them, causing difficulties to the development of pertinent, specific mechanisms.

The concept Record-Reuse-Distant Value includes three components: Record Reuse-Distant-Accountability Value, Record Reuse-Distant-Investigation Value, and Record Reuse-Distant-Resource Value, corresponding largely to the components of the Record-Reuse-Immediate Value, except that their realization takes place in an archival institution rather than a records creating institution. Like Record-Reuse-Immediate Value, Record-Reuse-Distant Value follows Record-Instrumental Value, but unlike Record-Reuse-Immediate Value, Record-Reuse-Distant Value is assessed through the conduct of Archival Appraisal.

The concept RM Nature is specified as indispensable (i.e., the management of records is part of any Operational Activity including RM Activity), professional (i.e., it requires specialized knowledge and skills), managerial (i.e., it includes the administration of personnel and technology in addition to records), institutional (i.e., it is conducted on behalf of the institution), dedicated (i.e., it requires dedicated personnel and technology due to the volume and complexity of digital records), and centralized (i.e., it aims to

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control every record of the organization, regardless of its physical location). The concept is measured by the degree of recognition that the records creating organization possesses. The concept RM Value includes five components: RM Constant Value, RM Regular Value, RM Occasional Value, RM Recurrent Value, and RM Longer-Term Value, and is measured by the degree of recognition and distinction by the organization and the degree of demonstration by Organizational RM. Relationships exist between RM Value and Record Value. The RM Constant Value is demonstrable by realizing Record-Instrumental Value, the RM Regular Value is demonstrable by realizing Record Reuse-Immediate-Accountability value, the RM Occasional Value is demonstrable by realizing Record Reuse-Immediate-Investigation Value, the RM Recurrent Value is demonstrable by realizing Record Reuse-Immediate-Resource Value, and the RM Longer-Term Value is demonstrable by realizing Record Reuse-Distant Value.

3.1.2. RM Requirement-Oriented Knowledge & The Related

The understanding of RM Foundational Concept constitutes one specification of the concept RM Core Knowledge, which includes also understanding of the concepts RM Activity and RM Technology. RM Activity consists of RM Requirement-Oriented Work and RM Application-Oriented Work. RM Requirement-Oriented Work focuses on the development of requirements that impact the entire institution, including the design of RM Function, the construction of RM Policy Instrument, RM Procedure, RM Tool, Record Titling Guidelines, and RM Development Plan, the design of RM Performance Evaluation, and, as a prerequisite for developing these requirements, the codification of RM Conceptual Framework. RM Conceptual Framework consists of concepts, originated

from RM Requisite Knowledge & Skill, and relationships among these concepts, including interrelated (e.g., Record Purpose and Record Value), derivable (e.g., RM Nature from Record Nature), mutually exclusive (e.g., Reuse-Immediate Value vs. Reuse-Distant-Value), inclusive (e.g., Local RM = Unit RM + Employee RM + Technology RM), hierarchical (e.g., Operational Activity > RM Activity > Record(s) Maintaining Activity > Record Capture, multiple (e.g., Organizational RM > Local RM > = Unit RM > + Employee RM), and synonymous (e.g., Information Technology = Digital Technology). RM Requisite Knowledge & Skill encompasses RM Core Knowledge, RM Extended Knowledge (i.e., understandings of Non-RM Activity and Non-RM Technology), and RM Skill (i.e., the analytic, managerial, and technological techniques identified based on RM Core Knowledge and RM Extended Knowledge). The command of RM Requisite Knowledge & Skill enables an organization's RM Functioning Ability. RM Functioning Ability is measured by the degree of adequacy with respect to the conduct of RM Activity, and as such, it serves as the most foundational condition for the success of an Organizational RM program. RM Conceptual Framework focuses on articulation, and this distinguishes it from RM Requisite Knowledge & Skill, which emphasizes understanding. RM Conceptual Framework is measured by the degree of precision, comprehensiveness, and coherence, and it requires maintenance to be consistent with the advancement of RM Requisite Knowledge & Skill.

RM Function Design refers to the conception of RM Governance Structure, RM Responsibility Arrangement, and RM Activity, and is measured by design adequacy with respect to the establishment of Organizational RM. An adequate RM Governance Structure should establish the following administrative relationships:

- Reporting relationship between Unit[169] RM and Central RM;

- Reporting relationship between Employee RM and Unit RM;

- Reporting relationship between Technology RM and Unit RM;

- Reporting relationship between Unit RM and Business Activity;

- Reporting relationship between Unit RM and Accountability-Related Activity;

- Reporting relationship between Unit RM and Investigation-Related Activity; and

- Reporting relationship between Central RM and the highest level of decision making body in the organization.

In addition, the administrative relationship between the Central RM and all other operational activities should be one that requires a joint responsibility for the conduct of those activities. In this structure, Unit RM, Employee RM, and Technology RM constitute the Local RM and, together with Central RM, constitute Organizational RM. Central RM refers to the independent administrative configuration to which adequate authorities are assigned for its operation. It fulfills the responsibilities as outlined in the RM Responsibility Arrangement and operates the Central Digital Records Management System (CDRMS). A CDRMS is part of Record(s) Maintaining Technology (of RM Technology), an information system that manages the records of Central RM (i.e.,

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[169] The choice of the term unit is suggested by its usage in the study setting where it refers to the various kinds of administrative configurations, including department, directorate, division, office, and programs.

records created by RM Requirement-Oriented Work). A Unit RM is structurally part of the Organizational RM and also of a unit, an administrative configuration responsible for a Non-RM Activity.[170] It manages the creation and maintenance of records of the Non-RM Activity and also of the Local RM, that is, that of the RM Application-Oriented Work. It operates the Unit Digital Records Management System (UDRMS), which can be designed to have either a one-to-many[171] or many-to-one[172] relationship with the records creating activities. A UDRMS must be managerially, and is desirable to be technologically, integrated with the records creating activity, and UDRMSs must be managerially, and are desirable to be technologically, integrated with each other. Moreover, UDRMSs must be managerially, and are desirable to be technologically, integrated with the Central Digital Records Management System. Employee RM includes two types of work: one which refers to the creation of record content that is in a manner compliant with record-making rules and one which refers to the tasks of record maintenance, such as record capturing and titling, which can be quickly completed. The carrying out of Employee RM requires assistance from the Central RM in the form of a detailed RM Procedure, including templates and supervision from the Unit RM for the

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[170] A unit may be responsible for a portion of an activity or for a number of activities, depending on how the activities are designed and how the administrative structure is configured to accommodate the design. Here the situation where one unit is responsible for one activity is only one example and is used for illustration purpose only.

[171] An EDRMS is the typical example of this type.

[172] An example can be a complex activity that crosses the boundaries of many units or institutions.

purpose of quality control. Technology RM refers to the technological capacity that enables automation of the portion of RM Maintaining Activity (e.g., capturing, titling, and classifying records), which is identified to accommodate the digital records reality and to take advantage of the development of information technology. Like the conduct of Employee RM, the carrying out of Technology RM requires detailed RM Procedures, including templates issued by the Central RM and supervision from the Unit RM for quality control. With all components established, Organizational RM manages all records of the organization.[173] In concert with the Governance Structure, the RM Responsibility Arrangement should require that

- Central RM to be responsible for RM Requirement-Oriented Work;
- Local RM to be responsible for contributing (i.e., providing input) to RM Requirement-Oriented Work;
- Unit RM to be responsible for the conduct of RM Application-Oriented Work, including
  - The carrying out of all RM Activities assigned to it (e.g., Record Identification, Record Capture, Record Classification, Record Retrieval, etc.);
  - The ensuring of Employee RM quality; and
  - The ensuring of Technology RM quality
- Employee RM to be responsible for

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[173] This includes making decisions on not to manage certain records based on risk analysis, but no records should exist without any RM decisions.

- o Capturing records;

- o Titling records; and

- Technology RM to be responsible for

  - o Capturing records according to pre-determined workflow and rules (i.e., auto-capturing), which, when enabled, replaces saving records into designated space by Employee RM;

  - o Titling records according to pre-determined templates attached to pre-determined workflow and rules (i.e., auto-titling), an activity which, when enabled, replaces (fully or partially) titling by Employee RM; and

  - o Classifying records according to pre-determined workflow and rules (auto-classification), an activity which, when enabled, replaces classification by Unit RM.

The design of RM Function and, in particular, the establishment of Organizational RM, determines RM Capacity. The concept RM Capacity consists of two components RM Personnel and RM Technology, which are measured respectively by establishment adequacy (i.e., the sufficient number of dedicated RM positions) and design optimization (i.e., pertinence to the achievement of RM objectives). RM Personnel must be recognized by the organization as RM Professionals, who possess the RM Functioning Ability as a qualification. The RM Technology is one type of Information Technology (i.e., relating to computers and the Internet) and a component of Organizational Information Technology, including, as two sub-components, Record Creating Technology and Record(s) Maintaining Technology. The Record Creating Technology is part of the

Non-RM Technology that is directly relevant to the creation of record,[174] and the

Non-RM Technology is the other component of the Organizational Information

Technology, referring to the technologies utilized by Non-RM Activities, that is, the

Business Activity, Accountability-related Activity, and Investigation-related Activity.

The Record(s) Maintaining Technology is the technology utilized by the Record(s)

Maintaining Activity, including Business Process Management System (BPMS),[175]

which is useful for Record Identification, and Digital Records Management System

(DRMS), which is needed for all the other Record(s) Maintaining Activities. The design

and implementation of the systems require an understanding of both Non-RM Activity

and RM Activity, a condition that facilitates technological optimization. The Digital

Records Management System can be integrated with the Record Creating Technology to

facilitate Record Capture. Depending on the configuration of the technologies, the DRMS

technology may cause changes to the records documentary form which was originally

determined by the Record Creating Technology, and this needs to be documented in the

conduct of RM Maintaining Activities as part of Record Metadata. As one type of IT, the

RM Technologies change in accordance with the changes in the IT field. RM

Technologies are necessary for managing records in particular digital records and can be

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[174] For example, a database designed for the marketing activity of an organization is by definition a type of Non-RM Technology because its primary purpose is to achieve the business goals set for the marketing activity. However, the function of the database that is designed to generate reports regarding the various transactions of the activity qualifies as Record Creating Technology.

[175] The type of software application specializes on the design and management of business processes. James. F. Chang. *Business Process Management Systems: Strategy and Implementation* (Auerbach Publications, Taylor & Francis Group, Boca Raton, FL, 2006), 49-69.

very complicated, depending on the types of records they aim to control. To be effective, the technologies have to be configured based on specific RM needs and the implementation has to fully enable RM Control. The advent of RM Technology for digital records creation and maintenance added new requirements to RM Professionals, who have to understand technologies in order to specify RM needs, communicate with the IT personnel, and operate Organizational Digital Records Management System.

The RM Policy Instrument refers to the mandatory policies, directives, and standards that regulate the RM Governance Structure and RM Responsibility Arrangement in the form of compliance requirements, with enforceable penalties for non-compliance. To be effective, they need to be comprehensive and clear. The RM Procedure transforms the mandatory compliance requirements into specific, executable work steps with instructions on when, how, and by whom they should be carried out. To be specific and executable, it requires input from RM Application-Oriented Work for development. Correspondingly, it is measured by the degree of executability with respect to the conduct of RM Application-Oriented Work. RM Tool consists of Records Classification Scheme (RCS), Records Retention (RR), and Records Disposition Authority (RDA). A RCS is developed to organize records by relationships and may contain or point to individual records, records classes, Record Metadata, and Records Class Metadata. The concept Record Metadata refers to recorded information about individual records that is intended for their identification, retrieval, and maintenance. Record Metadata take the form of discrete items and can be combined in accordance with defined rules to achieve a defined goal. Their development relies on the conduct of RM Application-Oriented Work, from Record Identification to Record(s) Disposition, indicating a continuous process of development.

When adequately developed, they facilitate the long-term preservation of records at item level.[176] The Records Class Metadata refers to recorded information that describes the records classes in a Records Classification Scheme. Like Record Metadata, Records Class Metadata takes the form of discrete items, which can be combined according to defined rules to structurally present the description. The development of metadata about a class relies on the metadata of the records in the class, in particular the portion that describes the records. Records Class Metadata facilitates the retrieval of records at the class level.

The development of RCS needs to be integrated with Records Retentions, which facilitates the conduct of Records Disposition Activity. The relationships among records and records classes are determined by the design of Operational Activities; the structure of the RCS thus corresponds to the structure of the activity, which is generally hierarchical.[177] As it aims to capture individual records (either actually or through pointers to their locations), it

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[176] Long-term preservation of records at item level refers to the technological maintenance of records with respect to their existence and accessibility. Long-term preservation of digital objects, including records, is itself an independent field, encompassing more aspects, such as planning, issuing policies, building systems, etc., than technologically maintaining the existence and accessibility of digital objects. One example of a strategy comprehensively addressing the long-term preservation of records is offered by the InterPARES project's Chain of Preservation Model, and one example of focusing on preservation at the level of individual object can be the Library of Congress' PREMIS (Preservation Metadata: Implementation Strategies) project. http://www.loc.gov/standards/premis (accessed October 19, 2012).

[177] This does not suggest that hierarchy is the only type of relationship existing in the design of an Operational Activity. Other types of relationships, such as, parallel and conditional, may also exist. The emphasis here is the overall feature of the structure depicting the activity, that is, from general to specific.

relies on RM Application-Oriented Work for developing the lower level structure. In other words, the development of a RCS requires a joint effort from the Central RM and the Unit RM. As an indicator of Centralized RM, an Organizational RM has only one RCS. For a RCS to be effective, it needs to be comprehensive in terms of the coverage of Operational Activities or their records, to be accurate in representing the relationships between records and their creating activity, and to be current, that is, keeping abreast with the creation of records. The effectiveness of RCS relies on its implementation, which includes the deployment of the RCS using digital technology and the conduct of the activity of Record Classification (part of RM Application-Oriented Work). Utilizing digital technology for deploying a RCS is necessary due to the volume and complexity of digital records, and currently the most advanced technology for this purpose is the Electronic Document and Records Management System (EDRMS) or Electronic Records Management System (ERMS).[178]

The concept Records Retention consists of two aspects: scheduling, which is carried out as part of RM Requirement-Oriented Work by Central RM, and calculation, which is carried out as part of RM Application-Oriented Work by Local RM.[179] Based on the results of RM Appraisal (and of risk analysis when warranted), scheduling sets up time periods (i.e., retentions) for records maintenance. Records should be individually scheduled along with Record Identification, and the individual retentions in a record class collectively determine the retention period of the class. The establishment of retention periods entails a joint effort

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[178] ERMS and DRMS (Digital Records Management System) are used as synonyms.

[179] Retention calculation will be detailed when introducing the RM Application-Oriented Work.

by the Unit RM, which is responsible for individual scheduling, and the Central RM, which is responsible for synthesizing schedules for records aggregations and integrating retentions with the organizational RCS. Retention periods can be modified to respond to changes in appraisal decisions or to accommodate unusual events such as litigation. Like the RCS, retention rules need to be comprehensive, covering all identified records, and current, reflecting the present status of RM decisions. The concept Records Disposition Authority (RDA) is the mechanism employed by an Archival Institution to express authorization for records destruction and to prevent records loss. It is issued to records creating organizations based on Archival Appraisal; it is typical for one institution to have multiple RDAs. For RDAs to be effective, they need to be pertinent (i.e., respond to records types), comprehensive (i.e., cover all identified records), and up to date (i.e., stay current with records creation). This requires the existence of a current and comprehensive Records Classification System as a foundation. To obtain RDAs from the archival authority and to enable Archival Appraisal, records retention rules need to be established and integrated with the Records Classification System.

Record Titling Guidelines are developed to guide the construction of record titling templates, which are required to be in the format of structured place holders for content descriptive facets. The development relies on input from Record Identification, including knowledge of the technologies utilized by the creating activity. The concept RM Development Plan is specified by RM strategic plan and RM action plan. Their construction relies on the RM Conceptual Framework and the RM Application-Oriented Work, which jointly ensure the clarity and executability of the plans. The RM Performance Evaluation includes periodical review (e.g., annually) or on-demand audit (e.g., when

programs end or issues are discovered). The review or audit needs to be RM focused in terms of both design and conduct, that is, with scope and evaluation criteria centering on RM and RM Professionals as the reviewer or auditor.

3.1.3.   RM Application-Oriented Work & The Related

The completion of RM Requirement-Oriented Work with effectiveness requires the conduct of RM Application-Oriented Work (the other component of RM Activity) as a necessary condition. The concept RM Application-Oriented Work includes Record Identification, Record(s) Maintaining Activity, and Record Retrieval Activity. The concept Record Identification refers to the determination of content, documentary form, and metadata of each and every record of an Operational Activity, on the basis of the achievement of objectives set by both the activity and the Organizational RM.[180] The identification of metadata serves as a powerful mechanism for all subsequent RM Activities, including the management of vital records. When a vital status is identified in a record's metadata, it permits the cycling of the status as either being renewed or removed. Record Identification relies on the recognition of Record Creation Purpose and Record Instrumental Value as fundamental to the conduct of all other RM Activities and ultimately

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[180] The code Record Identification was inspired by one of the major research activities of the InterPARES project, namely, diplomatic analysis. This activity assessed digital entities' record status that the project investigated. Diplomatic analysis in the context of the InterPARES project is methodologically different from the Record Identification articulated in this section because first, it encompassed both the creation and maintenance environments of the digital entities being assessed and second, it was conducted in a retrospective manner as the digital entities were created before the research team started its investigation. As a core RM Activity here, Record Identification is advocated to be conducted along with activity design and project planning.

to the effective operation of the Operational Activity. The conduct of Record Identification

requires the establishment of Unit RM with sufficient and dedicated RM Personnel

participating in both the design and conduct of Operational Activities. The concept is

measured by the degree of importance recognition, identification comprehensiveness, and

identification quality.

The concept Record(s) Maintaining Activity consists of Record Capture, Record

Classification, Record Titling, RM Appraisal, calculation of Records Retentions, Record

Destruction, Records Transfer, Record(s) Long-Term Preservation, and operation of Unit

Digital Records Management System.[181] Record capture marks the beginning of record(s)

maintenance as it embodies the identified record content, documentary form, and metadata

in the form of a complete record. Record Capture is performed at the level of the individual

record and needs to be accompanied by Record Classification and Record Titling.

Capturing records can be managerial only, or both managerial and technological, and is

measured by the percentage of captured records against all identified records. To

managerially capture a record is to create (or associate it with pre-created) metadata about

the record in the Unit Digital Records Management System (i.e., to establish intellectual

control), where the identified record cannot be saved.[182] This implies that the identified

record exists physically in its originating technological environment with its archival bond

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[181] The operation of the UDRMS in fact includes the other activities. They are separately listed
for the purposes of explaining them individually and of emphasizing their status as key features of
the system.

[182] For example, a database or a large portion of a website.

identified in the Unit Digital Records Management System. The maintenance of such records would require the integration of a digital records management module (DRMM) with the Record Creating Technology for ensuring the records authenticity and permitting disposition. This way, Decentralized Records are RM centrally managed. To both managerially and technologically capture a record is to save the identified record and create (or associate it with pre-created) metadata for it in the Unit Digital Records Management System. This may result in two different scenarios, one which leaves a copy of the record in the record-making environment (e.g., Microsoft SharePoint) to allow local access, and one which leaves no copy of the record in the record-making environment and requires all subsequent accesses to take place in the Unit Digital Records Management System. Centralized Records are produced in the second scenario, which permits RM Maintaining Activities to be performed with efficiency and effectiveness. The issue with the first scenario is that the Reuse Immediate Value of the record is manifested in relation to the local access copy and not the record, and this requires the Unit RM to monitor the usage of the copy and add this information to the metadata of the record. Moreover, the Unit RM has to ensure that the copy is destroyed when the retention period for the record expires, regardless of the disposition decision for the record (i.e., destruction or transfer).

Except for the records created by RM Requirement-Oriented Work, Record Capture is carried out by Local RM and is desirable by Technology RM. To capture records by Technology RM involves auto-capturing, which requires foundational work by both the Organizational RM and IT. The captured records may be identical to or different from the copies in the record-making environment, depending on the complexity of the records, the different types of value they possess, and the RM solutions conceived to manage them. The

differences must be documented, which can be in either the form of records of the capture activity or of record(s) metadata. The capture itself creates metadata additional to those identified as necessary for the records when they were in their originating environments. Record Classification refers to the determination of the location of individual records in classes of a Records Classification Scheme and is measured by the percentage of classified records against all identified records, the degree of classifying timeliness, and the degree of accuracy. To ensure efficiency and effectiveness, classification needs to be completed by RM Personnel in Unit RM and/or Technology RM under the guidance of RM Procedure. To classify records by Technology RM implies auto-classification, which, like auto-capturing, requires foundational work on the part of both the Organizational RM and IT. Record Titling is part of records classification and can be carried out by employee RM and/or RMT RM, with quality assurance from the unit RM. The activity of titling is measured by the percentage of named records against all identified records, the degree of description sufficiency (i.e., how many facets), the degree of description accuracy (i.e., pertinence to the content), and the degree of titling consistence among similar records. Being at the lower or lowest levels of a RCS, this type of work cannot be completed without having the details on records creating activities. In fact, when a step-by-step activity design is absent, no RCSs can be developed that is truly functional, that is, able to follow the way activities are conducted (grouped into functions in a function-based scheme), thus achieving the goal of reducing the burden of records classification.

Although RM Appraisal is not needed for records existing within the period of their creating activities (i.e., when they possess Instrumental Value), it may be performed at this time to permit the design and implementation of the records long-term preservation

strategies.[183] Calculation of retention is typically planned, with specified triggers, but they can be suspended when needed (e.g., to respond to ATI requests or comply with e-discovery order). When retention periods expire, Records Disposition Activities then take place. The concept Records Disposition Activity includes two components: Records Destruction and Records Transfer. Records Destruction refers to the removing of records from the Organizational Digital Records Management System with the goal of disabling any possible recovery from the destructed records. Destruction relies on Records Disposition Authorities for authorization, which prevents loss of valuable records. Destruction is carried out at the level of records aggregation and is required to be carried out in a timely fashion. The effectiveness of destruction can be measured by the percentage of destroyed records against all records with expired retention periods that are not selected for transfer. The concept Records Transfer includes two aspects: Legal Transfer and Physical Transfer; in most cases, the two types of transfer are negotiated and take place together. Transfer refers to the moving of the custody of records from a records creating organization to an archival institution. Legal transfer involves the reassignment of the rights associated with records (e.g., ownership right, copyright, etc.) and physical transfer means the reassignment of storage location. The reassignments typically require legislative and legal support and can be effectively executed only with formal terms and conditions. Records Transfer should only be performed at the level of records aggregation, but the metadata regarding both records aggregation and individual records should be transferred. The concept Record(s) Long-Term Preservation—in the context of the creator—refers to

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[183] Long-term preservation takes place within the records creating instituting when records are needed for a time period longer than the life of the technology supporting the records' existence.

the situation where records are needed by their creating organization for a time period longer than the existence of the digital technologies that support their management and use. The conduct of Record(s) Long-Term Preservation aims at continuing the RM Control after technological changes (e.g., system upgrade) and, as such, is measured by the percentage of records with continued RM Control after the technological change against all controlled records before the technological change.

The Record(s) Retrieval Activity refers to the locating of a record or an aggregation of records including the obtaining of copies of records. It relies on Record(s) Retrievability and is conducted typically by Employee RM and Technology RM in compliance with access/security rules. When the retrieval by Employee RM or Technology RM is ineffective, Unit RM should provide assistance by locating the records being requested and forwarding the access information to the requester. The Record(s) Retrieval Activity is measured by the time needed for finding the record(s), the retrieval completeness, and the retrieval precision. The Record(s) Retrievability refers to the development of access points/descriptive facets for both individual and aggregation of records. The development of Record Retrievability relies on Record Metadata enabled by Record Identification, and the development of Records Class Retrievability relies on Records Class Metadata enabled by Records Classification System. For both Record and Records Class Retrievability, the information regarding the location of records in Organizational Digital Records Management System must be included.

3.1.4. RM Extended Knowledge & The Related

The concept RM Extended Knowledge consists of two components: Non-RM Activity Knowledge and Non-RM Technology Knowledge, and is specified as additional to the RM Core Knowledge but equally important to the conduct of RM Activities. The component Non-RM Activity Knowledge encompasses the knowledge of business activity, accountability-related activity, and investigation-related activity, each of which is further specified as Business Activity Design Knowledge and Business Activity Execution Knowledge. The understanding of activity design is necessary for record identification, which is obtainable through the Unit RM's participation in activity design. The scope of understanding is determined by the goal that the organization sets for the Organizational RM. For example, if the goal is to manage each and every record that the organization creates, then all activities need to be understood, and this, in turn, determines the level of understanding of the activity. When the goal is to manage each and every record, then the Unit RM needs to understand the activity to the level of each and every step at which records are created. As activities may change, the RM understanding of them needs to be renewed accordingly. The understanding of activity execution is necessary for the Unit RM to conduct RM Maintaining Activities and Record(s) Retrieval Activity including the supervision of Employee RM and Technology RM. Obtaining such understanding relies on the RM's participation in the execution of the activity, working side-by-side with the players of the activities. Like the understanding of activity design, the scope and level of the understanding of activity execution corresponds to the goal set by the organization for the Organizational RM.

To participate in activity design and execution requires the understanding of the digital

technologies employed by the activity, that is, it requires Non-RM Technology

Knowledge, because of the ubiquitous deployment of digital technologies in today's

organizations, and their impact on records creation and maintenance. This requirement

may seem to be difficult to satisfy due to the complexity of digital technology; it is,

however, necessary. The current situation with digital records management is that either

the RM Profession commits itself to command digital technologies as part of their

expertise, or the IT (or even the business) unit decides to take on the challenges of digital

records, while they may not choose to inherit the terms record or RM and indeed considers

it a "new" field/discipline.[184] The level of understanding of technologies is determined by

the goal set by the organization for the Organizational RM and is limited, in most cases,

to functionality (i.e., not the underlying coding of the software or the technical

architecture of an information system).[185]

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[184] The disappearing of records and RM in the Government of Canada serves as one (sad)
example of the latter scenario.

[185] It is necessary to recognize that, for certain records, the understanding of the technical
architecture of an information/data processing system is necessary for Record Identification. For
example, the understanding of data availability and the relationships among data fields permits
the determination of record content (i.e., which types and instantiations of data need to be
assembled) and documentary form (i.e., how the technology can make up the appearance of the
assembled data and affix them to a medium). The understanding is thus necessary for satisfying
both the business and RM requirements.

3.1.5. RM Control & The Related

The concrete results of RM Activities and the evidence-based demonstration of RM Value are both manifested in the achievement of RM Control. The concept RM Control refers to the existence of Record(s) Retrievability and Record Usability, and is measured by the percentage of controlled records against all identified records. The concept Record Usability encompasses the characteristics of records that are authentic, contextualized, and human readable. A record is authentic when, after creation, its content and documentary form remain unchanged,[186] which ensures its authority in reuse. A record is contextualized when its archival bond is explicit or identifiable, which ensures the accuracy of its interpretation. An authentic and contextualized record can only be useful when it is human readable, that is, it survives technological obsolescence. The percentage of useful records against all of the identified records reflects directly the performance of the Organizational RM and ultimately the performance of the organization.

Appendix 4 lists the concepts in alphabetic order and Appendix 5 groups them in relation to RM major tasks.

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[186] The documentary form of certain records can be changed as long as the changes are planned or expected and are traceable (i.e., known to the RM program). This type of changeable documentary form is considered still a fixed documentary form, and when the changes are documented in accordance with RM rules, the authenticity of the record is considered ensured. For an in-depth discussion on fixed documentary form, see Luciana Duranti and Kenneth Thibodeau, "The Concept of Record in Interactive, Experiential and Dynamic Environments: the View of InterPARES," *Archival Science* 6, 1 (2006): 13-68.

3.2. Hypotheses

This section presents the hypotheses formulated on the basis of the building block concepts, illustrating the relationships among the concepts. It starts with a list of high level propositions, which is then followed by narrative explanations.

3.2.1. High Level Propositions

- When Record Nature is *adequately understood* by the institution, the RM Functioning Ability, i.e., the command of RM Requisite Knowledge & Skill, can *adequately exists* →

- When the RM Requisite Knowledge & Skill adequately exists, the RM Conceptual Framework (part of RM Requirement-Oriented Work) can be *adequately codified* →

- When the RM Conceptual Framework is adequately articulated, the RM Function can be *adequately designed* →

- When the RM Governance Structure and RM Responsibility Arrangement are adequately designed, the Organizational RM can be *adequately established* →

- When the Organizational RM is adequately established, the RM Capacity can be *adequately determined* →

- When the RM Capacity is adequately determined, other RM Requirement-Oriented Work can be *effectively accomplished* →

- When the RM Requirement-Oriented Work is effectively accomplished, the RM Application-Oriented Work can be *effectively accomplished* →

- When Record Retrievability Activity is effectively accomplished and Record Usability is fully enabled, the RM Control, or the goal of the Organizational RM, is *fully achieved* →

- When the RM Control is fully achieved, all types of Record Value can be *fully* and *effectively* realized →

- When Record Value is fully and effectively realized, RM Value can be *fully* and c*oncretely* demonstrated →

- When RM Value is fully and concretely demonstrated, the justifications for RM Function Design can be confirmed.

3.2.2. Hypotheses in Narratives

Records have existed long in human society and are generally recognized as valuable to human conduct. Yet, their nature seems not to be understood as widely and thoroughly as one may think. The level of understanding of Record Nature directly impact the framework of their management – it is only by this understanding that a records creator can truly appreciate the different purposes of record creation and maintenance, the different types of use a record may have, and the different types of value a RM program can/should offer to the records creating organization. An organization can design its records management program based on this understanding rather than on influential technological trends.[187] An organization's understanding of the nature of record relies on the professionalism of its RM staff, which derives from its formal education in archival

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[187] The influence is evident with the government's focus on "information resources" and "business assets".

science. For an Organizational RM program to demonstrate its value, it must be equipped with RM Functioning Ability, that is, with RM Professionals. This will allow for the development of an accurate, comprehensive, and coherent RM Conceptual Framework, which illustrates both concepts and conceptual relationships, and acts as the foundation of all RM Activities.

The construction of the RM Conceptual Framework is of critical importance because, as a blueprint, it canvases the knowledge that is core to records management, as well as the extended knowledge related to handling digital records, and the skills necessary to implement the two types of knowledge. Guided by this framework, the RM Function can be designed with adequate authority (represented by the RM Governance Structure), logical division of work (represented by the RM Responsibility Arrangement), and specific job requirements (represented by RM Requirement-Oriented Work and RM Application-Oriented Work). Based on this design, a pervasive Organizational RM program can be established, one that is part of each and every Operational Activity, or acts wherever records exist. Due to the complexity of Record Creating Technologies in today's organizations and the lack of tools that are able to integrate Record Creating Technology and Record Maintaining Technology in a cost-effective way, digital records may need to be decentralized, i.e., exist physically[188] in the technological environments of Operational Activities as opposed to being within a Central Organizational Records Management System. Decentralization of records, however, does not imply decentralized RM. When Unit RM is in place, RM Application-Oriented Work (i.e., capturing,

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[188] This means that the servers and/or drives where the records are kept are in different units.

classifying, retrieving, etc.) can be either conducted or supervised by dedicated RM Personnel. As a Unit RM would be administratively part of the Organizational RM and the Unit Digital Records Management System under its control would be managerially (and perhaps also technologically) integrated with the Central Digital Records Management System, the management of decentralized records would be centralized.

Centralized RM aims at the control of individual records, not simply of the repository. To enable such centralized RM, RM Capacity needs to be determined with adequacy, that is, with sufficient number of personnel and necessary deployment of technologies. When adequate RM Capacity is in place, the design for RM Activities can be fully implemented. RM Requirement-Oriented Work can offer sufficient support to RM Application-Oriented Work, and RM Application-oriented Work can realize the goal of managing records at the item level and provide input to Central RM for refining the products of its RM Requirement-Oriented Work (i.e., the development of policies, standards, and tool). When RM Personnel assigned for RM Application-Oriented Work possess RM Functioning Ability, they are able to identify records among all kinds of information. The command of RM Core Knowledge allows conceptual recognition of records regardless of technological variations, and the grasp of RM Extended Knowledge permits clear, specific representations of record content, appearance, and metadata. The foundation laid by Record Identification then permits RM-assisted records creation and high quality conduct of RM Maintaining Activities. In cases where the necessity/benefits of Record Identification is not recognized at the stage of activity design,[189] retrospectively

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[189] The study indeed observed that the design of activities may be an issue in the studied

identifying digital records could be resource-intensive and time-consuming, especially

when the records exist in complex technological environments.[190] For organizations with

limited resources, retrospectively identifying records may be practically impossible.

Although risk analysis can be applied to such situations to determine the scope and level

of retrospective records identification, the decision not to identify records early on has

serious consequences for records maintenance. It is therefore critical for organizations to

understand that to identify records at the stage of activity design is both cost-effective in

terms of resources and performance-indispensable, as it facilitates the realization of

Record-Instrumental Value. To identify records at the stage of activity design eliminates

the need for change management with respect to digital records management. Change

management techniques may still be needed when the activity is being re-designed with

dramatic modifications. [191] However, they would be needed for the entire activity, not

separately for RM initiatives. As records identification would be conducted by Unit RM,

which administratively resides with the activity, the RM Personnel and other employees

would form one team and work side-by-side. This mutually-dependent relationship makes

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environment. Although the Treasury Board requires institutions to develop Program Activity
Architecture (PAA) for budget allocation, from the publically available information, the PAAs are
all at very high level, far higher than the level at which records are created. See TBS, The
Programs of the Secretariat, for an example.
http://www.tbs-sct.gc.ca/tbs-sct/abu-ans/tbs-sct/paa-aap-eng.asp (accessed October 19, 2012).

[190] Many InterPARES case studies demonstrate the difficulties of retrospectively identifying
digital records. www.interpares.org (accessed October 19, 2012).

[191] Many IT initiated projects failed due to the lack of recognition of the necessity of change
management.

buy-in from either side a non-issue.

With records being identified at the item level, RM Tools and Procedures can all be developed at a level of detail that would allow for a comprehensive representation and step-by-step execution. The design of a Records Classification Scheme can be truly functional – more accurately, activity-compliant – and systematic, presenting individual records and aggregations of records in metadata-assisted contexts, thus forming a coherent whole. Such a structure not only captures the relationships that records possess but also facilitates record(s) retrieval by search or navigation. All descriptive facets in the names of the aggregations and records could be used as access points for search and, being the structure highly consistent with the design of activities, finding records by navigation would not need to start with the whole scheme but only with the portions pointed by the specific tasks. Navigating by following specific tasks rather than records locations eases the difficulty of finding records and reduces (or, in other words, increases the usability of) the reliance on human memory. In addition, because all descriptive facets are determined by the Organizational RM, based on analyses of Operational Activities, these facets constitute a set of controlled vocabulary, and can be used for more than RM purposes. For example, when consistently used, they facilitate communications about the organization either internally (e.g., during employee orientations) or externally (i.e., during press conferences), thus contributing to a culture that values the organization as a whole.

When all operational activities are diligently designed, RM Appraisal can be conducted at the same time of Record Identification, because the needs for records use and reuse as

resources are known.[192] Retention periods therefore can be established for every identified record, which allows the collective retention period for an aggregation to be determined with a high level of precision. Because the collective retention period typically follows the longest one for the records included in such aggregation, the condition of not filing transitory records (i.e., those with short retention periods) into the aggregation needs to be satisfied. Transitory records are created everyday and they should be allowed to be removed from the workspace when not needed (assuming the existence of a pertinent RDA). Relying on the analytical results of Record Identification, transitory records can be explicitly labeled as such within the context of the activity, and managed in a way that separates them from official records. The Organizational RM can designate spaces particularly for transitory records and attach to the spaces appropriate (typically much shorter) retentions periods. This way, transitory records can be removed on a timely basis from the corporate records maintenance system. This removing of transitory records on a daily basis constitutes routine maintenance, which is necessary to complement periodic maintenance, that is, to destroy or transfer records by aggregation. The conduct of routine maintenance requires the identification of records to be precise in terms of the authority and value (i.e., its non-transitory status) a particular a record possesses.

When step-by-step execution is designed, automation of RM Maintaining Activities can be enabled. Under the control of RM Personnel records can be captured as designed and

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[192] This is not to suggest that the design, identification, and retentions are established once for all. On the contrary, they are frequently changed. What is emphasized here is the process, the work model that recognizes the need/benefits of working together. Frequent organizational changes are indeed another reason for the establishment of Unit RM.

classification can be instantaneous. When a RCS and the records it describes are current, all information needed by Archival Appraisal becomes available and Records Disposition Authorities can be issued with pertinence and currency. When records are managed by an Organizational Digital Records Management System, their physical instantiations are known to both the Organizational RM and the Archival Institution – the designated custodian, which enables transfer. When records are maintained routinely, they can be easily located and, equally important, useful, both within their creating organization and the archival institution. *A record that cannot be found does not really exist and a record holding no usability is not worth retrieving*. Only by establishing an Organizational RM with RM Personnel possessing the RM Functioning Ability can both records retrievability and usability be achieved.

The complete set of hypotheses is presented in Appendix 6, where the conditional relationships are displayed not only as linier but also circular and/or interrelated.

Figure 3 displays the work model for RM informed by the generated grounded theory, labeled as the Records Management Penetrating Model.

Figure 3 Records Management Penetrating Model

Record Nature → **GC** | Department → **RM Functioning Ability**
- RM Core Knowledge
- RM Extended Knowledge →
  - RM Conceptual Framework

RM Governance Structure
RM Responsibility Arrangement

- **Centralized RM**
- **RM Control**
  - Retrievability
  - Usability

Non-RM Unit ↔ Org. RM

Central RM

Accountability-R Activity

Local RM

RM Capacity
- Professional
- Technology

Investigation-R Activity

Local RM

Business Activity

- **Record Value Realization**
  - Instrumental Value
- **RM Value Demonstration**
  - Constant Value

Local RM

Unit RM

Employee RM

IT RM

RM Requirement-O Work
- RM Policy Instrument
- RM Procedure
- RM Tool
- Record Titling Guidelines
- RM Development Plan
- RM Performance Evaluation

RM Application-O Work
- **Record Identification**
- **Record(s) Maintaining Activity**
  - Record Capture
  - Record Classification
  - Record Titling
  - RM Appraisal
  - Records Retention Calculation
  - Records Disposition Activity
  - Record(s) Long-Term Preservation
  - Unit Digital Records Management System
- **Record(s) Retrieval Activity**

The next chapter presents the explanations on the IM crisis in the Government of Canada utilizing the emergent grounded theory.

4. Explaining the Information Management Crisis

In discovering theory, one generates conceptual categories or their properties from evidence; then the evidence from which the category emerged is used to illustrate the concept.[193]

4.1. The Root Cause: Lack of Sufficient Understanding of Record Nature

An insufficient understanding of Record Nature has directly resulted in the underdevelopment of RM Functioning Ability in the Government of Canada. The most representative indicator of this is the treatment of records as part of information without distinguishing adequately between these two concepts. Specifically, information is not defined, but simply used as a colloquial term, and the definition of record – "records are information … for business purposes, legal obligations, or both, regardless of medium or form"[194] – is unable to identify record with respect to organizational operation because information in an organization can only exist justifiably for "business purposes". IM(RM) policies or guidelines have never explained with sufficient specificity and clarity the creation process of records, that is, how records are made or received and kept in the processes of conducting operational activities, and in which manner they play their roles. For example, records are typically not associated with performance management and reporting or decision making, for which is the terms information or data that are exclusively used. This conceptual confusion surrounding record and information is at the

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[193] Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory,* 23.

[194] TBS, "Information Management Policy," 2007.

root of the ineffective establishment and conduct of IM(RM) in the Government of

Canada.

4.2. Representative Symptom: IM as a Single Discipline

The first issue is the employment of the strategy that treats the areas covered by the term

IM as the sphere of a single discipline. IM is defined to include "records and document

management, library services, archiving, data management, content management,

business intelligence and decision support, information access, information protection

and information privacy".[195] By this strategy, TBS policy instruments, guidelines, and

evaluation mechanisms, and LAC tools, as well as CSPS training courses, are all

developed under the umbrella term of information management or IM, without, however,

further breakdowns for the constituent parts of this overarching "discipline".[196] *Records*

and RM are basically invisible in this IM-as-a-whole strategy, at both the government

and departmental levels. Specifications for each constituent part are absolutely necessary

for individual government institutions to follow the government-wide policies and

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[195] Ibid.

[196] One additional example can be the CGSB-192.2-2009 Competencies of the Federal
Government Information Management Community, issued by the Canadian General Standards
Board. This standard includes two types of competencies, one called Behavioral Competencies and
the other called Functional Competencies (IM is a function in the government). Throughout the
standard, it is only the term IM that is used (for example, 6.3 Application, Implementation and Use
of IM Rules, Tools and Resources), without specific requirements for any of the IM components
identified by the TBS Information Management Policy. The usefulness of this standard is certainly
in doubt.

guidance, and for employees to discharge responsibilities or to fulfill job duties with effectiveness. In the case of RM, to create and maintain records require analysis and decision making, which, in turn, requires record-pertinent specifics. *Lack of specific directions for IM(RM) related work is a common/ubiquitous problem* in the Government of Canada. This problem is evident as revealed by both disclosed and online data (i.e., departmental IM strategic and implementation plans as well as TBS MAF assessments). TBS requires all departments subject to its IM Policy to produce IM strategic and implementation plans, which are evaluated as one of the operational aspects of the IM function. All departments were able to produce high-level strategic plans but many were unable to produce implementation/action plans. Moreover, most of the produced implementation/action plans were evaluated as unsatisfactory. These plans typically lack clarity, that is, they address IM as a whole, making it difficult if not impossible to discern information about the constituent parts, in particular, RM. These plans were inexecutable due to the lack of specifics for carrying out the concrete work. Because of the absence of recognition pertaining to the root cause, the solution for this unsatisfactory performance is typically to produce new plans. Producing high-level strategic plans is thus at the center of IM work in the Government of Canada, and the majority of the studied departments were able to obtain a higher than Acceptable rating (inclusive).

4.3. Representative Symptom: Weak/Non-Existent Digital Records Management

The second issue is the extremely weak, almost non-existent management of electronic or digital records.[197] Digital records and digital records management (DRM) have never

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[197] For a more detailed account of the weak digital records management, see Sherry L. Xie,

appeared to have an official status in the government, and the universal deployment of

digital technologies has only added to the IM function the responsibility of managing

"digital information" and/or "electronic documents". Despite the all-encompassing

definition of record that includes information "regardless of medium or form", only

emails are somehow discussed as electronic records.[198] Digital records created using

applications such as the MS Office Suite are typically called electronic documents,[199]

and complex digital records, such as dynamic databases or websites/systems supported by

such databases, are not considered in any relation to records, but as "digital information"

that requires data management and web content management. Complex digital systems,

such as dynamic databases and websites, do require specialized care other than records

management, for example, the attention on data quality and currency as well as the ability

of presenting relationships among different sets of data, etc.; however, it must be realized

that, regardless of how different these digital systems look, they are expected to and

should function as records systems. The entire second phase of the InterPARES project

was devoted to dynamic and interactive records, and, according to the project, specialized

care for systems producing such records constitutes part of the job of records creation,

"Digital Records Management in the Canadian Government: A Strategy for 'Success'," *The RIM Professionals Australasia Quarterly*, 29, 1 (2013): 48-52, in particular, 51-52.

[198] In some departments, the IM guidelines issued to employees refer to "information in your personal folders" as "electronic records". For example, the Department of Human Resources and Social Development Canada.

[199] The term electronic document or document is rarely defined in departmental IM policies or guidelines. Even the ready definition of electronic document provided by the Canada Evidence Act is not cited.

which is conceptually not different from using a typewriter to write a letter. The only

difference lies in the different levels of technological complexity and capability, which

should not cause the disconnection between records created by these advanced

technologies and their management. In fact, because of technological complexity, records

management in today's digital environment needs to participate in records creation in a

proactive manner, working with database specialists and website

developers/administrators to identify records in those systems at the time when

activities/programs are being conceived.[200] In this sense, digital records management

starts with digital records creation – just as paper records management includes record

forms design. As all operational activities in an organization are records creating

activities, all of them, and the technologies utilized by them, should be analyzed for

identifying relationships with records creation and management. However, this

understanding does not exist in the Government of Canada. In the Government of Canada,

the appreciation of records has largely remained linked to paper, and, as a result, the RM

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[200] This "participation-in-records-creation" idea may sound familiar as the notion of
"intervention-in-records-creation" was proposed and advocated in the early 1990s when the
unprecedented challenges of managing electronic/digital records were recognized by the archival
community. The ideas are the same in the sense that both recognize the volatility of this type of
records, which serves as the justification for intervention or participation. They, however, differ
fundamentally in the method of implementing the idea. The "participation" idea emphasizes that
it is the organizational RM program that should assume this task, yet the "intervention" idea relies
on archivists. As the discussion on the role of LAC indicates, relying on the archives to identify
records is impractical, which, according to the present study, underlies the unsatisfactory
performance of digital records management in government institutions. For details on the archival
intervention idea, see Alf Erlandsson, "Electronic Records Management: A Literature Review,"
http://www.wien2004.ica.org/en/node/30028 (accessed October 19, 2012).

function has not advanced with the proliferation of digital records in departments. On the surface this has caused the weakness or absence of the function of RM in departmental organizational charts, but more seriously, it has resulted in the lack of linkages between records and operational activities, including the technology that supports these activities. Associated with this phenomenon is the reversed IM/IT relationship.[201] Since the early stage of its IM journey, the Government of Canada has been promoting IM as the focus of work and IT as its enabler, and this explains why IM precedes IT in the expression IM/IT. Yet this exists only in written policies. In reality, IT is the only visible constituent part of IM in IM strategic plans and departmental performance reports, the sole representative in IM/IT or even IM audits, and the real focus of IM work when there is any.[202] *This reality renders the emphasized importance of records and RM in the TBS IM Policy simply an empty slogan.*

4.4. Representative Symptom: Lack of Understanding of Record Creation Purpose & Record Instrumental Value

An insufficient understanding of Record Nature also contributed directly to the insufficient understanding of Record(s) Purpose. In the Government of Canada, the goal of "recordkeeping" is to create, capture, and manage records as "a vital business asset and knowledge resource", and this overlooks the difference in purpose between creating and

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[201] For a more detailed account of the IT focus, see Sherry L. Xie, "Digital Records Management in the Canadian Government: A Strategy for 'Success'," : 50-51.

[202] See Appendix 2 for numerous examples.

maintaining records. To create records by making or receiving and keeping them is for

the purpose of carrying out an activity, while to maintain records, regardless of how long,

is for the purpose of further action, reference, or evidence. The recognition of Record

Creation Purpose is largely absent in the study setting, as no data has indicated that

considerations for record creation in relation to activity design and conduct were in

place.[203] Although IM policy instruments require information management to be

"integrated" with business needs,[204] none of the institution-specific data demonstrated

the existence of a sufficient understanding of the inter-relationship between the creation

of records and the conduct of an Operational Activity – at least not to the level that the

necessity of Record Identification is adequately recognized.[205] In fact, the IM integration

requirements were vague, utilizing the general, collective term "information", thus

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[203] The exception found is that, for projects in some departments (e.g., PWGSC), records in the form of deliverables may be pre-identified for project management purposes. This is however different still from what is advocated here because not all records produced by the projects are determined, nor are the management requirements associated with them.

[204] The "integration" requirement is also frequently termed as "alignment". For a more detailed description, see Sherry L. Xie, "Digital Records Management in the Canadian Government: A Strategy for 'Success'," : 50.

[205] The action of identification is in fact currently going on in the Government of Canada, under the leadership of the Library and Archives of Canada. The identification, however, aims at "information resources of business value", not records. The discussion on "information resources of business value" will be presented in the last chapter in association with the Directive on Recordkeeping, issued by the Treasury Board in 2009. Because of the recentness of this Directive, it is not coded as data in the research process, under the consideration that institutions need time to implement the Directive. From the released records, only three departments mentioned the Directive, all in the context of making future plans.

ignoring entirely the differences in a business unit's "information need" for a journal

article or an internal report. Moreover, the requirements emphasize that it is the business

unit that should take the initiative to identify information needs and then "bring" them to

the IM(RM) unit for suggestions/advice on solutions. There was no data, however,

indicating that integration – understood as the activity of systematically analyzing,

identifying, and designing records creation in relation to the completion of operational

activities – had ever happened.

Associated with the insufficient understanding of Record(s) Purpose is the insufficient

understanding of Record Value. In the Government of Canada, the emphasis is

exclusively on Record Reuse-Resource Value, that is, the value of records as

informational resources and, accordingly, the value of IM as a resource management

function. *The Record Instrumental Value is entirely left out*. Sufficient understanding of

the Record Instrumental Value would guide the recognition of the necessity of RM

participation in records creation, that is, to conduct Record Identification. The

participation in records creation permits RM to identify each and every record that the

organization creates or should create for all Operational Activities, to develop RM Tools

and RM Procedures with sufficient specifics for the operational steps by which records

are created, and to switch on mechanisms for ensuring record quality at the moment of

records creation. RM participation in records creation has been reduced to almost null

after the wide deployment of personal computers in organizations, which permit

employees unprecedented freedom for dealing with "their" records. [206] It is now the time

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[206] It appears that the Government of Canada encourages employee ownership of records. In the

to re-emphasize that record identification is the indispensable first step of the records lifecycle management process, which impacts each and every subsequent step, as well as the overall results of RM. This recognition invalidates the notion of IM(RM) as a resource management function that is comparable to financial or human resource management. Unlike financial or human resource management, RM cannot afford to take any distance from records creating activities: it is part of each and all activities in an organization, including those concerning financial management or human resource management. RM concerns not only the management of records as reusable resources, but also, and more fundamentally, the management of records as instruments of Operational Activities. What is also absent (or at least only unclear) is the recognition that Record Instrumental Value is the foundation of all types of Record Reuse Value.

Except for the existence of an overall statement that records are "knowledge resources" or "business assets", a clear understanding of the Record Reuse Value - in terms of the corresponding and transformative relationships between the different types of value and the different types of activities - does not exist in the Government of Canada. This has affected adversely the Organizational RM's ability of realizing either Record Reuse Immediate Value or Record Reuse-Distant Value. Because the realization of the Reuse-Distant Value is outside the records creating institution, legislation has to be enacted to enable reuse activities. In other words, without legislative support, the realization of Record-Reuse-Distant Value could be difficult, due to the fact that it

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IM Basics developed by the Treasure Board (2009), the expressions "your records" and "your information" are excessively used.

requires close cooperation with records creating institutions and it relies on the work of Organizational RM, it, however, does not contribute directly to the institutions' operation. It must be pointed out that, depending on the formulation of the legislation, the legislative support for realizing Record Reuse-Distant-Value does not necessarily assist RM Activities.

4.5. Representative Symptom: Insufficient & Ineffective LAC Support

In the Government of Canada, archival legislation (i.e., the enabling act for LAC) focuses primarily on preventing unauthorized destruction (i.e., without the consent of the archivist) and stipulates on RM Activities in a nominal manner only (e.g., one provision in the entire act). RM Activities are left to the records creating institutions, which, however, do not have RM dedicated legislation to rely on. Although the TBS Information Management Policy mandates the operation of departmental IM functions, it relies on LAC for "functional guidance", which it does not sufficiently provide for digital records management. When this is the case, the prevention of unauthorized destruction is practically meaningless because the poor quality of records hinders Archival Appraisal and the Reuse-Distant Value of transferred records is compromised. In light of this, the relationship between records creating organizations and the archival institution requires re-consideration.[207] In a time when paper records predominated, the greatest help that an archival institution could provide to a records creating institution was to offer

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[207] For a discussion relevant to the role of national archives in digital records management, see Sherry L. Xie, "National Strategies for Digital Records: Comparing the Approaches of Canada and China," *International Journal of Information Management* (accepted).

management for its semi-active records (i.e., those less frequently used), allowing them to be removed from the office area and to be stored in an inexpensive repository. This helped the bottom line of the institution and was greatly appreciated. The archival institution also offered courses to departmental RM Personnel on the management of active records (those frequently used), including the provision for guidance on common RM Tools, which, to a certain degree, ensured that records were managed as expected by the archival institution in terms of records quality. This assistance was and is, however, inevitably limited. As stated by the LAC, with reference to the Legacy Business Records Project, "[t]he plan and costing templates are guides not answers. They help you think your way through the process. Only you can develop the answers that are right for your institution."[208] The advent of digital records has further limited this assistance. The records creating organizations do not now have the same level of pressure as before regarding their paper records storage, and what they need are solutions – pertinent and effective ones – for addressing the challenges brought by the volume and complexity of digital records. LAC, however, is unable to provide such solutions because the technologies used by departments to create records are typically much more complex than those available to the archival institution. Therefore, for archivists to offer guidance on and provide tools for digital records management, they need to go into the departments and study their operations, including technologies. The traditional set up of an archival institution does not readily permit this, because its primary responsibility is not RM but the preservation and provision of access to "records with enduring value" under its

[208] LAC, "Legacy Business Records Project: Generic Plan and Resourcing Template: Overview," http://www.collectionscanada.gc.ca/obj/007/f2/007-1019-e.pdf (accessed October 19, 2012).

custody. This task has increasingly become impossible due to reduction in resources and growing system complexity. As a result, LAC now has neither the capacity (i.e., the time to be spent within the records creating organization) nor the ability (i.e., the archivists' understanding of the record-making technological environment) to assist Organizational RM programs, despite the fact that this remains its legislated responsibility. Moreover, the management of digital records in LAC may be itself an example of poor quality: the operation of the digital records management system in LAC is the worst among the departments to which the author paid a physical visit. The conceptual confusion exhibited in TBS policy instruments are indeed originated from LAC guidance, which typically does not provide clear definitions for key concepts and does not differentiate their usages in application. For example, the LAC guidance to departments called "Records and Information Life Cycle Management" provides no definition for information and no explanations for the relationship between information and records, and uses the terms "classification for Records Management" and "classification for Information Management" without differentiation.[209] Because IM in the GC includes library services, this indiscriminating usage seems to suggest a classification system for records can be equated with a classification for books. This Guidance also uses extensively the term "IM practitioners" in association with job fulfillment; without, however, making it clear to whom it refers or by what criteria they can be distinguished from "IM Specialists". The effectiveness of such guidance is certainly in doubt. To confirm this observation, none of

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[209] LAC, "Records and Information Life Cycle Management," http://www.collectionscanada.gc.ca/government/products-services/007002-2012-e.html (accessed October 19, 2012).

the institution-specific data, including site visit data, demonstrated the reception of any

effective assistance from the archives. As indicated by the records released by the

Department of Natural Resources Canada, it is currently cooperating with LAC on a

project called NRCan Recordkeeping and Disposition Authority Project, which required

LAC to assist the identification of digital records produced by the Department. As stated

earlier, the identification of digital records constitutes the most time-consuming task of

RM work, as it requires an adequate understanding of both the Operational Activity and

the technologies used by it. The time spent by the archivist onsite (i.e., in the Department),

however, is two hours maximum per Branch.[210] This is entirely inadequate. Perhaps, the

relationship between the archival institution and the records creating institution should be

reversed in today's digital records environment. The archival institution should withdraw

from the duty of assisting digital records management in institutions[211] and, instead,

should join forces with the organizational RM programs to raise the profile of RM and to

advocate its importance. By the same token, the departmental RM programs should

realize that they can no longer rely on the archives for assistance and that they can now

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[210] The project was indeed mainly conducted by a consulting company.

[211] The idea of archival institutions in the public sector not to focus on "the entire spectrum of information management" in government organizations was expressed by John McDonald in 1993, who advocated for the archives to "consider focusing their energies on providing advice on those policies, standards and practices which address the management of corporate memory". It is unfortunate that this advice seemed to have not made any influence on the IM/RM practices in the GC – both the TBS and individual departments still rely on LAC for guidance and assistance. See John McDonald, "Archives and Cooperation in the Information Age," *Archivaria* 35 (Spring 1993): 110-118.

rely only on themselves – that is, on RM professionals that are equipped with renewed and advanced abilities.

4.6. Representative Symptom: Missing Part of Departmental RM Activities

Without the recognition of Record Instrumental Value, the RM Constant Value cannot be demonstrated, and this has caused, in turn, the limited establishment of the GC IM(RM). Without sufficient elaboration of the relationship between Record Value and RM Value, it is difficult to justify the establishment of an Organizational RM that presents a strong Governance Structure, an adequate RM Capacity, and a close collaboration with operational units. In the current GC IM situation, the establishment of departmental IM(RM) functions typically lacks authority, RM personnel, and necessary RM technologies; in other words, it is limited to the part of RM(IM) Requirement-Oriented Work and does not have the part of RM Application-Oriented Work. The establishment, therefore, is not in conformance with RM Nature, which requires an Organizational RM to be truly organizational (i.e., it manages records on behalf of and for the organization, not individual employees or units), dedicated (i.e., with a sufficient number of full-time RM Personnel), and professional (i.e., RM Personnel are all qualified RM Professional). The specific indicators are the imbalanced work division and the unreasonable responsibility arrangement between the IM(RM) program and the rest of the organization. With this model, the "IM Specialists" are unable to acquire sufficient RM Functioning Ability for accomplishing RM Activities[212] and the part of the RM Application-Oriented

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[212] It is worth pointing out that the lack of knowledge and skills needed for managing digital records had long existed in departments. According to John McDonald in 1995, a senior manager

Work is left to operational managers and employees, including the most important task of Record Identification in the digital environment and the most time-consuming work of classification.[213]

Digital records identification needs to be conducted in relation to Operational Activities and in a manner that is systematic and thorough. As such, it can only be conducted by Local RM as part of RM Application-Oriented Work as it is out of the reach of the RM(IM) Requirement-Oriented Work. The RM(IM) Requirement-Oriented Work in GC focuses on developing policies and guidelines, and, when sufficient resources are in place, some training. The non-existence of RM Application-Oriented Work by Organizational RM caused the lack of systematic identification of digital records, which, in turn, has made all the other aspects of RM groundless. As two most noticeable indicators, the

in one department "established parallel units of expertise to deal with the records and information access/retrieval issues because he could not rely on his own records management and library staff". What this manager hoped for is that "the librarians concentrate on developing flexible and relevant access and retrieval strategies across all domains (records, information, data)" and "the records management staff could extend their knowledge of what it means to keep records (i.e., provide context) to help other communities (e.g., librarians, data managers, etc.) ensure that when information is provided to users, that it can be understood and authenticated in terms of the activities and circumstances (i.e., context) that gave rise to its existence". This hope, unfortunately, remained largely still a hope, as confirmed by McDonald ten year later and by the present study, almost another ten years later. See, John McDonald, "Managing Records in the Modern Office: Taming the Wild Frontier" and John McDonald, "The wild frontier ten years on", in McLeod, J. and Hare, C., *Managing electronic records* (Facet, London. 2005), 1-17.

[213] In the words of the IM Specialist of the Canada Revenue Agency, "we don't manage operational records". And in the case of the Correctional Service Canada, the EDRMS was implemented to be used by "the operational side", to which the IM Division does not have access.

conduct of IM(RM) Requirement-Oriented Work has been ineffective and the

implementation of RDIMS has been unsatisfactory. Without records being identified and

the RM Application-Oriented Work being professionally/effectively conducted, the

policies and guidelines produced by the IM(RM) Requirement-Oriented Work are only

words: *they produce no measurable value.* It is common that the implemented RDIMSs –

regardless of technological configurations – have failed the goals for which they were put

in place. These costly initiatives typically resulted in low user take-up (i.e., the ratio of

the times of user access to the system against the number of licences granted to system

users), system abundance, and/or replacement with new systems.[214]

Records Classification,[215] in most departments, is left to be carried out by employees

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[214] The Department of Fisheries and Oceans Canada and the Department of Health Canada can be
two examples of "spotty" or "poor" user take-up of the RDIMS implement. In the case of the
DFO, the system was asked to be removed because employees considered the implementation had
had a "negative impact on business effectiveness".

[215] Records classification, including the development of an organizational RCS, is currently a
serious problem in the Government of Canada. A summary of the aspects of the problem includes
1) no existence of a RCS, 2) out-of-date RCSs, 3) no implementation of a RCS, 4) inconsistence
of RCS implementation, and 5) no integration with records retentions. The ineffectiveness of the
RCS is also reflected by the issues with Info Source, which has been constantly rated by MAF as
lacking comprehensiveness and accuracy in describing activities and the records associated with
them. Even the Department of Public Safety Canada, which claims to have a PAA-based RCS,
received in MAF VII an unsatisfactory rating regarding its Info Source. The TBS comment is that
"A significant portion of the organization's information holdings have not been appropriately
identified or described in Class of Record descriptions". Info Source can be both comprehensive
and accurate when a comprehensive, detailed, and up to date RCS is in place as all the
information required by Info Source can be supplied by the RCS.

who are not RM professionals. This is evident with digital records and in the environment

of RDIMS. It is, however, not the type of work that should be assigned to employees

because of the time and skills entailed. Classification is time consuming, due to the high

volume of records and can be complex due to the nature of subject analysis. Regardless

of how a Records Classification System/Scheme (RCS) is constructed (i.e., utilizing

subject- or function-based methodology), the analysis of subject matter is always required

to code a record for item level retrieval. The difference between a subject-based RCS and

a function-based RCS lies only in how and when the subject analysis takes place: the

former typically uses subjects at a higher level, and the latter uses subjects at the lowest

level, that is, in the titles of the records. The function-based (or functional) RCS is thus

considered easier for users to follow. Among all the departments investigated, only three

stated that their RCSs were function-based, yet none of them relied on the methodology

developed by LAC in 2006 for developing function-based RCSs.[216] According to the

released copies, however, none of the schemes went down to the level of workflow or the

steps where records were created. Furthermore, the names of functions and activities are

simply used at the higher levels of the scheme, without presenting relationships between

the functions, activities, and transactions. In the process of obtaining records as data for

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[216] The methodology is termed as BASCS (Business Activity Structure Classification System)
and was developed with input from the Australian DIRKS methodology. Informants in some
department (e.g., Health Canada) indicated that the methodology for their departments'
construction of a function-based RCS would most likely be the DIRKS (through the hiring of RM
consultants), not BASCS. For more information on these two methodologies, see Sherry L. Xie,
"Function-based Records Classification Systems: A Comparative Study,"
http://www.armaedfoundation.org/pdfs/Sherry_Xie_Study.pdf (accessed October 19, 2012).

the present study, the three departments, along with the absolute majority of the study sample, had difficulties in retrieving records. Only the Canadian Security Intelligence Service (CSIS) and the Privy Council Office (PCO) had no problems finding records because the CSIS classifies every record created, including emails, and the PCO relies on dedicated RM personnel for classifying records – even though neither of the two institutions claimed their RSCs were function-based. This confirms the premise that classifying records requires sufficient resources and qualified specialists, and this requirement is still valid in the situation where a digital records management system/ERMS is implemented.

Compared to the implementation of a RCS in the shared drive, an ERMS is able to implement a RCS in its hierarchic structure (which facilitates navigation) and to assist classification by providing a drop-down list with classification codes and scope notes explaining them. However, classifying records is still the biggest challenge affecting the effectiveness of such systems[217] and the main reason for user resistance. User resistance causes a low rate of take-up (as mentioned above, this is the number of actual users of the system vs. the system capacity). In the case of the Department of Foreign Affairs and International Trade, the system implementation team invoked the measure of freezing the shared drives that had previously served as "recordkeeping repositories" to facilitate the use of the system. It was soon found out, however, that the number of records in the

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[217] For an analysis on classification in the context of digital/electronic records management system, see Sherry L. Xie, "Evaluation of the Electronic Document and Record Management Program in a Canadian Municipality," https://circle.ubc.ca/handle/2429/18320 (accessed October 19, 2012).

system stopped growing shortly after the surge that occurred when the shared drives were first frozen. User resistance resurfaced due to the heavy workload. The most common, mainstream solution to the issue of user resistance is change management, which focuses on increasing employee buy-in through enhancing communications with users and engaging them in the planning phase (part of the regular IM work of IM awareness and training).[218] These measures, however, are not pertinent to the issue of greatly increased workload, and even the award-wining training programs yielded little results in improving the quality of IM work conducted by employees.[219] User buy-in does not produce more work time or the skills needed for professional classification; the agreement to participate is thus easily offset by everyday work pressure. The only apparent method for reducing user resistance when introducing new technologies is to allow users to do less (e.g., by offering powerful search tools) or to do what they are willing to do (e.g., tagging to their like), and this is the solution currently employed by the Department of Natural Resources Canada. The Department reported to the Office of Information Commissioner that it had a strong IM infrastructure, which enjoyed high employee take-up and greatly facilitated records retrieval. This "strong" infrastructure

[218] One example of emphasizing change management as a way of improvement is the IM action plan of the Canada Border Services Agency. See CBSA, "Audit of Information Management 2011," http://www.cbsa-asfc.gc.ca/agency-agence/reports-rapports/ae-ve/2011/im-gi-eng.html (accessed October 19, 2012).

[219] The Department of Transport Canada and the Department of Natural Resources Canada had reported on their award-wining IM training programs. In fact, relying on employees' IM awareness for improving IM work has long proven ineffective, as the IM audit conducted in 1998 by AANDC indicates.

features a wiki-style portal with Google style search. It is therefore easier for employees to find "records" because, compared with the situation where "records are all over the place" and "there are an unknown number of servers", records are now centralized. In addition, as the portal was recently implemented, records saved into it are current, and being current means that they are still in the memories of the employees who saved them.[220] Because of the existence of memories, records can be located even in situations where the tags that the employees created make sense only to them and not to anyone else. In fact, the more unique (or odd) a tag is, the higher the level of search precision will be. This, however, accommodates only the needs of these individuals and only for a short time period, which is not intended or desired by the institution. The issue is that when professional classification is not implemented, such portals are highly unlikely to be effective for information searches in the long run, let alone for performing authorized destruction and contextualized transfer. In fact, neither the Department's ATI performance nor its MAF rating for IM Practice is strong.

To enable employee classification, time needs to be allocated in addition to employees' regular work hours, and training needs to be offered. No justification was found in

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[220] The reliance on human memory – as opposed to memory enabled by records – is a common practice in departments, despite the long history of RM as a program in the Federal Government. The ATIP analyst in the Department of National Defence stated that "if an experienced employee (i.e., one who remembers where the records are) cannot find the records, then the records cannot be found". The statement that "the person who worked with the file you are asking for has left the department/agency" appeared to be the second most frequently cited reason for institutions' inability of finding the requested records. The first and the most frequently used one is that "you are asking for too many records".

released records as to why employee classification is more economical than RM

personnel classification, or on how the quality and effectiveness of employee

classification can be ensured. In the case of the Department of Public Safety Canada, the

implementation team (which also prohibited the continued use of shared drives) reported

that there was a steady growth of records in the system, yet it did not report on any

evaluations on the accuracy of records classification or even whether or not the records

were classified. The account of records in the system was the only criterion for the

after-implementation evaluation. The Government of Canada began its implementation of

a digital records management system as early as the 1990s;[221] yet, after these many years,

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[221] In 1990, the then National Archives of Canada completed a project called FOREMOST
(Formal Records Management for Office Systems Technologies), which aimed at developing
functional requirements for managing information in the networked office. In 1991, the final
report of the project IMOSA (Information Management and Office Systems Advancement) was
published, which led to the development of the Guideline on the Management of Electronic
Records in Office Support Systems: Exposure Draft, in 1994. In support of the Guideline, a
companion document was issued entitled Records/Documents/Information Management:
Integrated Document Management System (RDIMS) for the Government of Canada -
Requirements. In 1996, the RFP Records/Document/Information Management (RDIM):
Integrated Document Management System was issued, calling for bids for a system to be used by
the Government of Canada. For additional information, see Government Records Branch,
National Archives of Canada, Managing Information in Office Automation Systems: Final Report
on the FOREMOST Project (National Archives of Canada, Ottawa, Canada, 1990); John
McDonald, "Managing Records in the Modern Office: Taming the Wild Frontier," *Archivaria* 39
(Spring 1995): 70-79; and John McDonald, "Record Keeping Systems - Lessons Learned from
the Experience of the Canadian Federal Government, 1999,"
http://www.archivists.org.au/events/conf99/mcdonald.html (accessed October 19, 2012). The RFP
for RDIMS is accessible through the MoReq 2 site at www.moreq2.eu (accessed October 19,
2012).

very few departments are proud of their RDIMS implementations.[222] The requirement for

employees to classify records proves to be the predominant reason.[223] There may also be

the reason of dysfunctional system configuration, as in the case of LAC, where the

system crashes every time more than ten users try to log on, and where it works properly

only when three users are active.[224] However, this reason should not be considered as

predominant for the failure of RDIMS implementation, since there will always be

solutions for technological malfunction. The issue with LAC is that there is not even a

classification scheme implemented in the system, and when asked whether there was a

RCS established based on BASCS (Business Activity Structure Classification System),

the methodology of constructing function-based RCSs that the institution developed and

recommended to be used by all GC institutions, the answer was, "No. There isn't one".

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[222] Among the departments that the author visited (i.e., the Treasury Board of Canada, the Library
and Archives of Canada, the Department of Public Works and Government Service Canada, and
the Department of Agriculture and Agri-Food Canada, AAFC), only the AAFC proudly
demonstrated its RDIMS. According to the informants, the success of their system is attributable
to the support from the senior management, the administrative structure of the IM Division
(which facilitates cooperation with IT), and the control over the system by the IM Division.

[223] Employees in general enjoy many of the functionalities provided by the system such as
search, creating their own workspaces, controlling versions, etc. When classification is carried out
by RM personnel, the system may be quite successful. A case in point is the implementation of an
EDRMS in the Canada Deposit Insurance Corporation, where employees enjoyed the
convenience and autonomy that the Electronic Document Management System (i.e., Microsoft
SharePoint) offers without being required to classify records according to RM rules. The records
are declared, captured, and filed into the ERMS component by RM personnel, entirely invisible to
employees.

[224] The observation was gained in April, 2011, when the author was visiting the institution.

The released records showed that there were many discrete, piecemeal efforts toward the improvement of the system; yet, no records indicate that a comprehensive plan was being developed. According to the informants, the most feasible solution would be to abandon the existing system and purchase the MS SharePoint.

The argument that employees are the best candidates for carrying out classification because they are the ones that understand the work best does not in fact hold up. This is because first, depending on the nature of the work, records created by certain types of activities may contain a variety of subjects, which then requires time-consuming analysis and cross-referencing, and second, when high employee turnover is the norm, the required familiarity with the work for quick classification will be out of many employees' reach. It is rather common that, due to the lack of professional RM, new or rotated[225] employees cannot find or make sense of the records left to them by their predecessors and end up re-creating records from scratch. Despite the fact that even RM practitioners are now stating that, in the digital world (in particular the ERMS environment), "we are all filing clerks now", [226] and that employees seem to all have their own ways of handling "their records", the quality of classification can only be ensured by dedicated RM Personnel who qualify as RM Professionals. The only method that may free RM personnel from daily, routine classification is auto-classification, an indicator of seamless

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[225] Employee rotation is a common practice in some departments such as the Department of Foreign Affairs and International Trade Canada.

[226] The National Archives, "Business classification scheme design," 17 http://www.nationalarchives.gov.uk/documents/information-management/bcs_toolkit.pdf (accessed October 19, 2012).

integration between records creation and records maintenance. Its effectiveness, however, depends on the availability of detailed Operational Activity designs and in-depth RM analysis. The more specific the analysis is, the higher the automation level can be. Neither the intellectual analysis of the Operational Activities, including the identification of records, nor the technological capacity of integration, are however simple tasks.[227] Nevertheless, this should be the direction towards which an Organizational RM should move. Records auto-classification cannot rely on computer analysis of subjects, at least not with the currently available technologies.[228]

The issue associated with ineffective classification is the out of date Records Disposition Authorities. To have pertinent and current RDAs is currently one of the most challenging tasks facing both the GC institutions and LAC. To appraise records for issuing a RDA, the archivist needs to understand the records in terms of their origins and the services they offer to the organization. The most effective method of obtaining such an

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[227] The complexity associated with the analysis of operational activities including the identification of records are exemplified by the research of the InterPARES project, and the complexity associated with integration technologies for business process management is evident in the IT literature, see, for example, James. F. Chang, *Business Process Management Systems: Strategy and Implementation*.

[228] For some details on the currently available auto-classification tools, see IBM, "InfoSphere Classification Module, Version 8.7.+,"
http://pic.dhe.ibm.com/infocenter/classify/v8r7/index.jsp?topic=%2Fcom.ibm.classify.admin.doc%2Fc_ag_scenario_0.htm (accessed October 19, 2012) and OpenText, "Auto-Classification Solution,"
http://www.opentext.com/2/global/company/news/press-releases/press-release-details.htm?id=354442799299477CB4BC196BADC1A3A0 (accessed October 19, 2012).

understanding is to access a comprehensive and activity-compliant RCS, as well as the decisions of RM Appraisal that are reached based on a sufficient understanding of Operational Activities. Such quality RCSs and appraisal decisions do not exist in the GC institutions, where records are largely under the control of employees, including the many institutions where an RDIMS or RDIMS is implemented. Records are thus "all over the place". [229] In the case of the Department of Health Canada, records (both paper and digital ones) were found in all possible places, including washrooms, because, according to the Department, it cannot find any more storage for records, and it does not have all necessary RDAs for records destruction. Another example comes from the Canada Revenue Agency where a search for the keyword "RDIMS" by employees, identified as relevant for responding to the ATI request, returned "18 thousands" hits due to the lack of timely disposition. LAC blames the records creating institutions for not providing a sufficient foundation for its archival work, and the records creating institutions complain about the archival institution for too long a waiting period for them to receive a renewed or new RDA.[230] The lack of current RDAs is also reflective of the fact that the legitimate reason that "the records that you are requesting were destroyed in xxx year under xxx RDA" was not used in responding to the author's ATI requests by any of the institutions except the Privy Council Office.

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[229] This expression occurred numerous times during the conversations that the author had with ATIP analysts or IM personnel.

[230] According to the records released by the Department of Natural Resources Canada, the memorandum between the Department and LAC for renewing its RDAs cost more than six months for preparation.

The transfer of digital records, in particular the complex ones, is currently not happening in the Government of Canada. As the same with destruction, the transfer of records requires quality RM as its foundation, that is, records (at least) need to be known to the RM program and the archivists in order to be selected and transferred. As revealed by the Office of the Information Commissioner of Canada, institutions do not know what records they have and where they are, which causes difficulties in responding to Access to Information requests. This observation is confirmed by the present study, which requested records from the IM(RM) institutional units concerning *their* activities and experienced difficulties in receiving records. The IM(RM) units are mandated to manage (or to provide guidance for other units to manage) records, yet they learned that locating and retrieving records of their own were no easy tasks. According to the informants, it is getting harder and taking longer to find records, and sometimes records that are still useful to the creating institution cannot be found. The issue of losing control over records was also confirmed by the most recent round of MAF assessments, which revealed that many institutions did not have a complete "inventory of structured or unstructured repositories". In fact, among the twenty-one institutions assessed by this round of MAF, and to which the author sent ATI requests, only two (i.e., the Department of Transport Canada and the Canadian Security Intelligence Service) satisfied this requirement.

4.7. Representative Symptom: RM(IM) Distant/Passive Work Model

Accompanying this reliance on operational employees for RM Application-Oriented Work is the notion that IM is an internal service (hence the expression "IM and its clients"). This work model makes departmental IM(RM) programs excessively passive in

that they only provide assistance to managers and employees for their conduct of RM related work, and the services are provided only when the "IM Specialists" are being asked. In an environment where records are predominately under the control of individual employees or business units, it is not considered necessary for them to ask for guidance or assistance, as this is, in their opinion, irrelevant to their methods of managing information. These non-"IM Specialists" are unwilling to spend time on work that they do not consider to be theirs, which results in classifying/profiling records being the primary source of user resistance. To reduce user resistance, many departments removed the mandatory classification requirement, including the TBS, while others never established one as they learned "best practices" from other departments. Without standardized, consistent classification, RM Maintaining Activities, such as destruction and transfer, suffer, and search and retrieval are ineffective. This distant, passive work model fundamentally violates the nature of records and contradicts the TBS's own assertion that IM is integral – therefore not external – to departmental activities. As the provision of services relies on initiatives taken by business units or employees, *the IM(RM) function adds no value at all* to departments when business units or employees do not require any services, which is typically the case. An example in point is the non-participation of RM(IM) in the ATI administration. In handling ATI requests, the ATI unit is responsible for identifying request relevance with the "program area", and the program area, called OPI (Office of Primary Interest) in the Government of Canada, is responsible for finding records capable of responding to the inquiry. *The IM(RM) function is not part of the process*. In the words of the ATI analysts who answered the question "does the IM unit help with the ATI unit in handling requests?", "No. The IM people don't help. They never

have". Because of this passive work model, the internal service status of IM has become a source of budgeting challenge for many IM(RM) programs. IM(RM) initiatives typically need to require a special budget, which is outside the regular budget allocation for operational activities. To request a special budget requires a business case to be made demonstrating connections with operational activities and with the "strategic goals and outcomes" of the department. As internal service functions are not considered mission critical, IM projects can be delayed, even though the business case may be adequately built. In situations where a budget cut is inevitable, the IM(RM) program is always the first function to be reduced or eliminated. It seems that it has never been able to compete with other internal services such as the financial management or human resources management, despite the fact that information is emphasized as the government "lifeblood"[231] and "strategic asset".[232]

From another angle, the current IM(RM) work model is inappropriate for operational managers and employees, who are required to take on an apparently very heavy RM(IM) workload. The IM policies in some departments emphasize so excessively the IM responsibilities of the business managers and employees that the responsibilities assigned to the IM Specialists appear to be the fewest, as demonstrated by the records of the Canadian Food Inspection Agency and the Department of Human Resources and Social

[231] TBS, "Information Management in the Government of Canada: The Business Problem Assessment," http://www.tbs-sct.gc.ca/im-gi/resources/bpa-epo/bpa-epo02-eng.asp (accessed October 19, 2012).

[232] TBS, "Information Management in the Government of Canada: The Vision," http://www.tbs-sct.gc.ca/im-gi/resources/tv-lv/tv-lv02-eng.asp (accessed October 19, 2012).

Development Canada.[233] In the case of the Department of Canadian Heritage (PCH), the emphasis is that "IM must become a way of life for everyone who works for PCH" and in the case of the Canada Revenue Agency, the emphasis is on the entire organization except the "IM Specialist".[234] In other words, the increasingly complex RM work has been increasingly imposed on non-"IM Specialists", *who are not trained RM professionals* and whose primary job is not to manage records but to be concerned with the content of records. If individual employees, rather than RM Professionals, were able to complete all the RM Application-Oriented Work, *there would be no need for a RM program in departments*. The RM Requirement-Oriented Work as it is currently completed in the Government of Canada can be easily accomplished by consultants. To further disable this work model, the guidelines and training developed for the employees' conduct of RM related work are themselves unclear and insufficient, due to the lack of first-hand

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[233] One example at the GC level can be the LAC's Email Management Guidelines. According to the Guidelines, employees are required to classify and manage emails, and in order to so, they need to "understand pertinent provisions of legislation, regulations, standards, guidelines, policies, and procedures related to email". Managers "should monitor employee compliance with these Email Management Guidelines including arrival/departure and orientation/exit protocols, the proper classification and storage of records and information, and the application of appropriate retention periods", and "should ensure that employees have at their disposal any pertinent reference materials on the subject of email management, or that they know where and how to obtain such materials when needed".
http://www.collectionscanada.gc.ca/government/news-events/007001-6305-e.html (accessed October 19, 2012).

[234] CRA's Information Management Policy 2003. The policy specifies requirements for the Commissioner, all Assistant Commissioners, the Senior General Counsel of the Legal Services, and all employees, not, however, for IM Specialists.

understanding of the complexity of digital records management on the part of the IM(RM) program. As introduced above, the IM(RM) program in GC features only RM Requirement-Oriented Work and does not perform any RM Application-Oriented Work. When RM Application-Oriented Work is not conducted in the context of Organizational RM, the harm to the organization increases: RM function is unable to achieve RM objectives (including the completion of RM Requirement-Oriented Work), and employees avoid RM, perceiving even training and awareness communications burdens, let alone the actual fulfillment of the series of responsibilities assigned to them.[235] This is one reason that accounts for the common difficulty of executing policy requirements and implementing plans in departments, which has been consistently revealed by MAF assessments.

If RM Application-Oriented Work is established as part of RM Function, non-RM employees can be ensured that their retrieval of record(s) is always assisted by the Unit RM, that is, whenever they cannot find records, the Unit RM will find records for them. In the Government of Canada, however, retrieval of records is solely the responsibility of the employees or sometimes their managers (including retrieving records for responding to ATI requests), and if they cannot find the records, the IM(RM) program will not find them either. This reality, in addition to indicating the IM(RM) program's inability of adding value to the organization through records retrieval, accounts for also employees'

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[235] According to the Policy on Information Management (TBS, 2007), employees are required to be responsible for "applying information management principles, standards, and practices as expressed in Treasury Board and departmental frameworks, policies, directives, and guidelines".

(including their managers') resistance to classifying records according to an organizational RCS, because they benefit little from this time-consuming task. Since retrieving records is the sole responsibility of employees, why should not they follow their own "filing rules" to organize records, which they typically consider more convenient than a RCS? When human memories exist, employees' own "fling rules" permit records to be located even if sometimes they were saved into a folder called "File Me". Classifying records in a consistent, standardized manner, that is, according to RM rules, benefits the RM program, which requires classification as the foundation for disposition, and the organization, which needs to retrieve records long after the fading of human memories. The shifting of this professional job to non-professionals (advocated in the Government of Canada as responsibility-sharing IM) has resulted in prolonged search processes and imprecise search results (i.e., the return of incomplete and irrelevant records),[236] all of which contribute to the delay in records release. In other words, non-professional RM work compromises the development of Record(s) Retrievability as the quality of record(s) metadata (including access points and location information) is not ensured.

To achieve RM Control, that is, to enable Record(s) Retrievability, RM must be centralized. Computers and networks can be deployed to every employee's desk with a set of straightforward rules requiring non-violation, yet RM cannot. In today's digital

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[236] These problems were evident with the author's ATI requests experience. Many institutions asked for narrowing down the scope of the request and for extensions to the 30 days timeline. Irrelevant records were not released in large numbers, which is, however, due to clarifications and reviews, not to search precision.

environment, records can be decentralized, but records management should not.[237] The

decentralized RM as encouraged by the current GC IM(RM) regime underlies, as one

more factor, the ineffective conduct of RM Application-Oriented Work, which

contributed directly to the overall performance of the IM(RM) program. This inadequate,

passive IM(RM) work model has reduced the value of RM to departmental operation,

distanced organizational RM function from lines of business, made useless the strong IM

governance-accountability establishment, and caused the chaotic, incomplete, and

difficult-to-retrieve status of records, that is, the RM(IM) crisis.

Figure 4 below illustrates the current RM(IM) Model that has caused the IM crisis,

labeled as the RM(IM) Distant/Passive Model.

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[237] For legitimizing decentralized RM, see, for example, The National Archives, Business
classification scheme design. Decentralized RM is currently the mode of work in the Government
of Canada and is constantly cited as the source of inconsistence for Branch/Directorate/Region
RM practices and as one major problem for implementing the ERMS (e.g., the Canadian
International Development Agency and the Department of Fisheries and Oceans Canada). It is
worth pointing out that records regarding the decentralized RM are difficult to find (or do not
exist), which includes not only those documenting the justification, but also the structure of the
decentralization, e.g., the number of RM positions throughout the entire department.

Figure 4 RM(IM) Distant/Passive Model
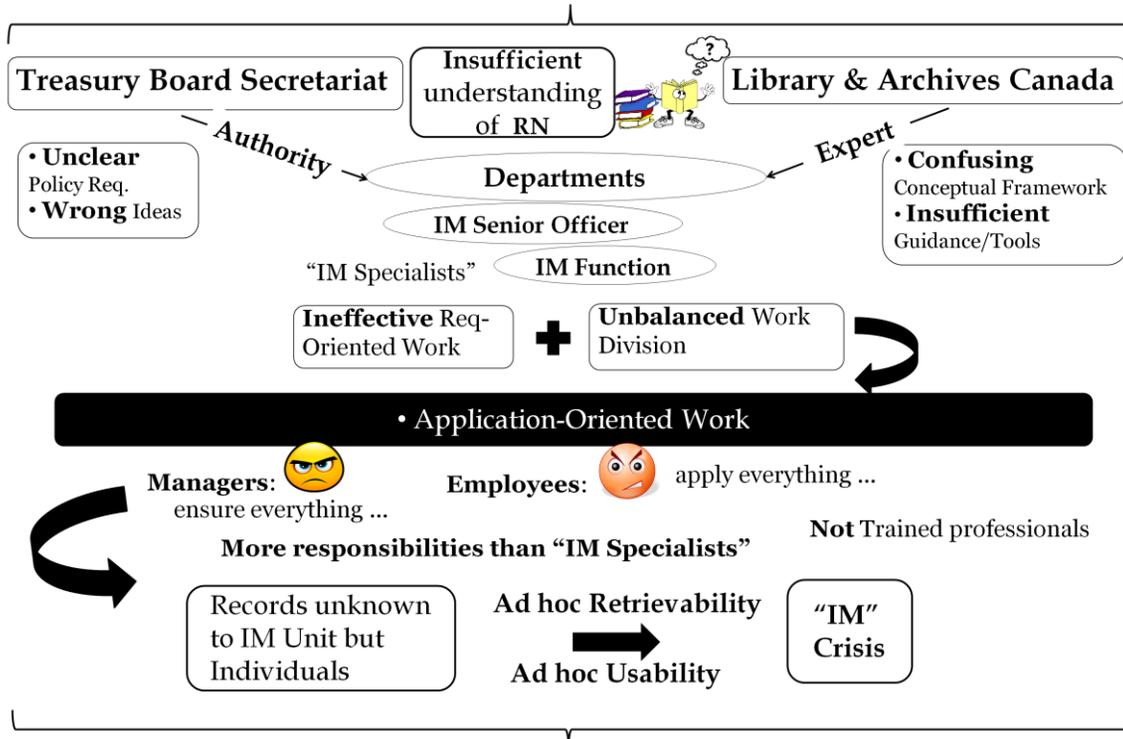
The next chapter presents the prediction on the outcome of the GC's latest improvement measure to the RM(IM) crisis, which is currently being undertaken by the government. As the last chapter of the dissertation, it identifies as well future studies and concludes the dissertation.

5. Prediction, Future Studies & Conclusion

5.1. Prediction of Outcomes of the GC IM Improvement Measure

This process [of grounded theory study] generates theory that fits the real world, works in predictions and explanations, is relevant to the people concerned and is readily modifiable.[238]

Although it is the reporting on the IM crisis in 2009 that inspired the present study, the issues surrounding RM or IM in the Government of Canada had existed long before 2009. In the 1983 Report of the Auditor General of Canada,[239] the Auditor General noted that "The records management function was not receiving recognition or full top level management support in departments", and as a result, "the records management program in many departments was incomplete".[240] It concluded that "the present quality of

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[238] Glaser Barney, *Theoretical Sensitivity*, 142.

[239] There were RM issues before 1983 and in fact, since the inception of RM as one type of work in the Canadian Federal Government after it was founded. There are, however, no systematic studies found on RM in the government. For some details on the RM situation in the early years, see Bill Russell, "The White Man's Paper Burden: Aspects of Records Keeping in the Department of Indian Affairs, 1860-19141," *Archivaria* 19 (Winter 1984-85): 50-72. Jay Atherton, "The Origins of the Public Archives Records Centre, 1897-1956," *Archivaria*, 8 (Summer 1979): 35-59. This early time period was not included as one part of the detailed analysis due to the dramatic changes that had taken place after the introduction of personal computers into the workplace. This is not to suggest that the early time period of RM does not bear any relevance to the investigation of the current RM status, but simply that it is out of the scope of the current study.

[240] Office of the Auditor General of Canada, "1983 Report of the Auditor General of Canada, Chapter 15 - Public Archives of Canada," http://www.oag-bvg.gc.ca/internet/English/parl_oag_198311_15_e_3380.html#0.2.L39QK2.3YG

records management in departments [241] and the low importance attached to it will not

assure the systematic flow of valuable records to the Archives, facilitation of public

access to government records or the intended economy and efficiency in government

operations".[242]   In 1989, TBS issued the Policy on the Management of Government

Information Holdings (MGIH), outlining the objectives of the policy in correspondence

with the areas criticized by the Auditor General, including access to information.[243] This

policy went through a number of revisions and its last revision of 1994 remained in effect

until 2003, when the new Policy on Management of Government Information was issued.

In 2003, the Office of the Auditor General published its report on the protection of

cultural heritage in the Government of Canada, which included a section on Archival

Heritage. According to this report, the "records disposition authorities regime",

administered by the then National Archives, was in a "crisis situation": disposition

authorities (RDAs) were "limited", "obsolete", and failed to "transfer records at the time

prescribed in the authorities". [244]   Although the MGIH was not assessed for its impact

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3SA.V3DX1F.T9 (accessed October 19, 2012).

[241] One example of the RM quality is the situation regarding "records retention and disposal
scheduling", which, as the OAG noted, had worsened considerably since 1973.

[242] OAG, "1983 Report, Chapter 15 - Public Archives of Canada,".

[243] The Access to Information Act was enacted in 1985.

[244] OAG, "2003 November Report of the Auditor General of Canada. Chapter 6 – Protection of
Cultural Heritage in the Federal Government,"
http://www.oag-bvg.gc.ca/internet/English/parl_oag_200311_06_e_12929.html#ch6hd4c
(accessed October 19, 2012).

on the management of records/information, the issues surrounding the records dispositions authorities reflect sufficiently the unsatisfactory status of information management in departments. The Office of the Information Commissioner regularly included in its annual reports from 1996 to 2005 the unsatisfactory performance of IM/RM in departments, utilizing the expressions "poor records management" and "information management crisis".[245] The reporting of unsatisfactory performance continued after 2005 in the special reports to Parliament (i.e., the report cards).

In 2006, the TBS conducted an assessment on the IM problem, asking the question, "What is wrong with IM today?" [246] Aiming at finding root causes, this exercise brought together over one hundred individuals from fourteen departments and agencies "representing IM and its clients", who participated in more than twenty workshops and working sessions, and consulted forty documents considered both authoritative and representative. Among the documents discussing the serious problems with IM are the reports of the Office of the Auditor General and the Office of the Information Commissioner. The products of this assessment included "IM-related problem statements" and the "root causes" of these problems. The IM-related problem statements, more than four hundred and eighty of them, were subsequently summarized into fifty

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[245] See, for example, OIC Annual Report 2005-2006, 22.

[246] TBS, "Information Management in the Government of Canada: The Business Problem Assessment," http://www.tbs-sct.gc.ca/im-gi/resources/bpa-epo/bpa-epopr-eng.asp?format=print (accessed October 19, 2012).

five,[247] and the root causes were categorized as five areas, including the IM program

management, IM rules and practices, IM capability and capacity, information handling,

and IM community and culture. The problem statements and the root causes are

comprehensive; all of them, however, are general, that is, referring only to "information"

or "IM", and vague, that is, without specifics in terms of reasoning and identification.

Based on this analysis, the TBS proposed a vision for IM that, "In the Government of

Canada, information is safeguarded as a public trust and managed as a strategic asset to

maximize its value in the service of Canadians".[248] To materialize this vision, a new

policy on information management was issued in 2007, replacing the 2003 Management

of Government Information Policy. Accompanying this new policy were the Directive on

Information Management Roles and Responsibilities, issued also in 2007, and the

Directive on Recordkeeping, issued in 2009.[249]

The continued reporting on the "poor records management"/"information management

crisis" indicates that the government improvement strategy has been unsuccessful, and

this is confirmed by the difficulties experienced by this thesis research when the author

was requesting records of departmental IM(RM) functions. There is much hope now

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[247] Some examples of the problems are: information cannot be found; departments often do not know what they have or what records contain; poor IM causes personal stress; difficulty aligning information and business processes amongst service delivery partners; governance frameworks for the IM program are weak, inconsistent and fragmented across government; and IM Program design and planning are inadequate.

[248] TBS, "Information Management in the Government of Canada: The Vision,".

[249] Both the policy and the directive issued in 2007 were coded in the research process.

focused on the 2009 Directive on Recordkeeping, the GC's latest measure of

improvement, which is required to be implemented in the departments subject to it by

June 2014.[250] The Directive was not coded as data in the research process of the present

study under the consideration that it would take time for its impact on departmental IM

programs to be observable. It is analyzed in this section for the purpose of predicting the

outcomes of its implementation in departments, utilizing the generated grounded theory.

When comparing the Directive with the previous unsuccessful improvement measures, a

prediction can be made that *it will be unable to deliver the expected results or*

fundamentally improve the grave situation of RM in the government.

The Directive continues the confusing conceptual framework of the previous TBS policy

instruments, and, in fact, it further derails from the guidance offered by foundational RM

concepts. The Directive utilizes a new term called "information resource of business

value" and avoids entirely the use of the term record. Except for being listed as one term

in the definitions appendix and for appearing in the term recordkeeping as a part of it, the

term record is invisible in the text of the Directive. Recordkeeping is indeed about

"information resources" and it is defined as "A framework of accountability and

stewardship in which information resources are created or acquired, captured, and

managed as a vital business asset and knowledge resource to support effective

decision-making and achieve results for Canadians". [251] When comparing this definition

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[250] LAC, "New Service Model and the Directive on Recordkeeping,"
http://www.bac-lac.gc.ca/eng/news/Pages/new-service-model-and-the-directive-on-recordkeeping
.aspx (accessed October 19, 2012).

[251] TBS, "Appendix – Definitions. Recordkeeping. Directive on Recordkeeping,"

with the one included in the 2007 Information Management Policy, one finds that the two definitions of recordkeeping are almost identical: the only difference is that the term "information resources" now replaces the term "records". [252] Information resources in this context refers to "Any documentary material produced in published and unpublished form regardless of communications source, information format, production mode or recording medium … includ[ing] textual records (memos, reports, invoices, contracts, etc.), electronic records (e-mails, databases, internet, intranet, data, etc.), new communication media (instant messages, wikis, blogs, podcasts, etc.), publications (reports, books, magazines), films, sound recordings, photographs, documentary art, graphics, maps, and artefacts".[253] However, the conceptual relationships among the various types of "information resources" are not provided, and this raises questions. For example, what is the difference between the types "electronic records" and "new communication media"? Blogs are listed as one example of the "new communication media" type, however, they qualify also as "electronic records", because the "electronic records" category includes "internet" as one example and blogs exist on the Internet. Also, "reports" are used as one example of two different types, "textual records" and "publications", then how should one distinguish them? Again, when, for convenient access, a contract (one example of "textual

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http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?section=text&id=16552 (accessed October 19, 2012).

[252] The definition reads as "A framework of accountability and stewardship in which records are created, captured, and managed as a vital business asset and knowledge resource to support effective decision making and achieve results for Canadians". TBS, Policy on Information Management.

[253] TBS, Policy on Information Management.

records") is placed on the organization's "intranet" (one example of "electronic records"), to which type does it belong? Finally, since the definition of recordkeeping centers on information resources (their creation, management, and significance to the government operation) rather than records (which are only a type of information resources), why is the Directive not entitled "Directive on Information Resources"?

Furthermore, the text of the Directive focuses on "information resources of business value". The Objective, Expected results, and many requirements utilize this term, not simply "information resources."[254] Information resources of business value are defined as "published and unpublished materials, regardless of medium or form, that are created or acquired because they enable and document decision-making in support of programs, services and ongoing operations, and support departmental reporting, performance and accountability requirements".[255] Despite the different wording, it is difficult, if not impossible, to discern the difference between information resources of business value and the meaning implied by the definition of recordkeeping for information resources (not the definition of information resources). It is also difficult, if not impossible, to distinguish information resources of business value from record, which is defined in the 2007

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[254] The details of the objective and one exemplar requirement are: Objective. Ensure effective recordkeeping practices that enable departments to create, acquire, capture, manage and protect the integrity of *information resources of business value* in the delivery of Government of Canada programs and services. Requirements. The departmental IM senior official designated by the deputy head is responsible for ensuring the following: Establishing, implementing and maintaining retention periods for *information resources of business value*, as appropriate, according to format. (italics mine). TBS, "Directive on Recordkeeping,".

[255] TBS, "Directive on Recordkeeping,".

Information Management Policy as "information created, received, and maintained by an organization or person for business purposes, legal obligations, or both, regardless of medium or form".[256] Two problems can be identified with this situation. First, there are no justifications for the replacement of records with information resources of business value. This appears to continue the tradition in GC's IM/RM policy development as the replacement of RM with the management of "information holdings" in 1989 happened without sufficient justification, so did the replacement of "information holdings" with "government information" in 2003 and the replacement of "government information" with "information" in 2007. Changing policy constantly may be itself justifiable (e.g., to respond to environmental impact), but changing without sufficient justifications is hardly so. As the nature of the subject regulated by these policies remained unchanged, the constant changing of terms in policies is a sign of the policy makers' lacking of firm understanding of the subject. Furthermore, these changes only cause difficulties/confusions for departments, rather than guiding and assisting them in their daily, routine IM(RM) jobs.[257] Second, the definition of the new term information resources of business value (as well as the entire Directive) fails again to sufficiently capture the meaning/implications of the nature of the subject the Directive intends to regulate, because it does not convey the transformative relationship between information

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[256] TBS, "Information Management Policy,".

[257] The situation with the Canada Border Services Agency is one such example. CBSA, "2011Audit of Information Management," http://www.cbsa-asfc.gc.ca/agency-agence/reports-rapports/ae-ve/2011/im-gi-eng.html (accessed October 19, 2012).

resources and information resources of business value and does not differentiate the purposes of records (or information resources or information resources of business value, to use the Directive's term) creation and maintenance. With respect to the departments' implementation of the Directive, in particular the first task of identifying information resources of business value, therefore, questions need to be asked regarding effectiveness. If the identification of records in the past was one of the biggest challenges of managing digital records, then how can the identification of information resources of business value – which are required to be entirely in digital format by 2017 – be any easier?

The confusion has already started to show. In the guidelines developed by the TBS for all GC Employees regarding their IM responsibilities, information is equated to information resource, and information resource and information resource of business value are used without differentiation.[258] In disclosed records, departments equate information resources

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[258] For example, "Every day, we create, collect, use and share *information resources* that provide evidence of our business activities" and "These *information resources* help us to make informed decisions that support our managers, our peers, and our clients and ultimately provide results for Canadians". "A repository is a preservation environment for *information resources of business value*" and "Organize, file, and store *information resources* within repositories, ensuring easy access when needed to make decisions and to support program and service delivery". "File or save *records information resources* in a repository". (Italics mine). See many other examples in the Guideline for GC Employees: IM Basics (Date modified 2009-06-01), where records, information resources, information resources of business value, record of enduring value, and information resources of enduring value cannot be effectively distinguished.

of business value to "records of business value" [259] or "business records".[260] Furthermore, the Directive maintains the distant, passive IM(RM) work model and continues relying on non-RM employees and when a project is in place, consultants, for carrying out the part of RM work that should not be assigned to non-RM professionals or temporary help. RM professional work such as Record Identification and Record Classification requires in-house RM Functioning Ability on a continuous basis and, as such, cannot be accomplished by non-professionals and is not suitable for projects that feature temporary consultants for a limited time period. As stated in the previous chapter, to identify and classify records necessitates both Core and Extended RM Knowledge, which can only be enabled by formally establishing close work relationships between the RM program and all other non-RM units, and by permitting its existence as part of the organization's operation. With only limited on-site time, it will be difficult for consultants to acquire the needed knowledge and in cases where consultants are able to complete the initial phase of the project, the quality of RM work will be unable to be maintained or continued.[261] Without addressing the fundamental issues/root causes, the Directive will be unable to make any substantial improvements to the current grave situation. Ultimately, the performance of information management, information resources management, records

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[259] For example, the Department of Citizenship and Immigration Canada.

[260] For example, the Department of Aboriginal Affairs and Northern Development Canada.

[261] As revealed by the disclosed records regarding the pilot project on implementing the Recordkeeping Directive between the Department of Natural Resources Canada and LAC (e.g., the document entitled Current State Overview, by a consulting company commissioned by LAC), there are already difficulties reported on "collecting data".

management, or the management of information resources of business value – regardless of

the choice of term – will remain unsatisfactory. The expected outcome, that is, "Effective

recordkeeping practices that ensure transparency and accountability of government

programs and services",[262] will not be satisfactorily delivered, and the objective, that is,

"to enable departments to create, acquire, capture, manage and protect the integrity of

information resources of business value in the delivery of Government of Canada programs

and services",[263] will not be fully achieved.

5.2. Future Studies

*Since substantive theory is grounded in research on one particular substantive area,
it might be taken to apply only to that specific area. A theory at such a conceptual
level … become[s] almost automatically a springboard or stepping stone to the
development of a grounded formal theory. Substantive theory is the strategic link in the
formulation and generation of grounded formal theory. The linkage between research
data and formal theory occurs when a particular substantive theory is extended and
raised to formal theory by the comparative analysis of it with other research data.*[264]

Future studies inspired by the present research that are relevant to the further

development of the emergent grounded theory can be categorized in relation to the

Government of Canada, other governmental settings, and non-governmental settings.

Future studies in the context of the Government of Canada were identified directly by the

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[262] TBS, "Directive on Recordkeeping,".

[263] Ibid.

[264] Glaser G. Barney, *Discovery of Grounded Theory*, 79; 33-35; and *Theoretical Sensitivity*, 146.

field data and/or data coding as encompassing five areas. The first area centers on the implementation of the Directive on Recordkeeping in the government. The following departments emerged in the research process as potential study subjects:

- The Department of Citizenship and Immigration Canada, which set the goal of identifying and defining its "records of business value" by March 31st, 2012;
- The Department of Environment Canada, which, in responding to the Round VII (2009-10) MAF assessment, stated that "the Department will finalize its communication and implementation plans on the TBS Recordkeeping Directive by developing IM-awareness products: training, advice, guidance, presentations, communication of best practices, and guidelines and procedures";[265]
- The Department of Natural Resources Canada, the Department of Public Safety Canada, and the Department of Aboriginal Affairs and Northern Development Canada, which were selected as testbed institutions by LAC and are working with the On Second Thought Advisor consulting company for implementing the Directive.[266]

The second area focuses on records creation, which is indicated as significant by the observation of the quality of disclosed records of both the ATI function[267] and the

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[265] Environment Canada, http://www.ec.gc.ca/default.asp?lang=En&n=33B5D371-1 (accessed October 19, 2012).

[266] OSTA, "OSTA In Action: Case Studies," http://ostadvisory.com/main/casestudies/ (accessed October 19, 2012).

[267] In addition to records relating to the IM/RM function, the present study requested also records relating to the ATI function in the institutions.

IM/RM function,[268] as well as the lack of procedures for creating adequate records

pointed out by the OIC's report cards. Moreover, this focus is motivated by the

Documentation Standards for Government Programs, Services and Results: A

Developmental Framework and Guide for Business Managers and Information Resource

Specialists (draft),[269] developed by LAC, which emphasizes the importance of the

creation of records and the connections between the creation and the TBS's requirements

on the establishment/identification of the Program Activity Architecture by the

departments.[270] Three departments participated in LAC's pathfinder projects:

- The Department of Human Resources and Social Development Canada:

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[268] Many released records do not have a date, have no version control, or cite rescinded acts or policies. Another example is the records released by PWGSC (in the form of reports produced by databases), which states that the Department of Natural Resources Canada has implemented RDIMS. According to the Director of the IM program in the Department, however, the department does not have any form of configuration of RDIMS.

[269] This draft document was released in 2008 as part of the improvement effort for the IM crisis, in particular the conceiving of the "recordkeeping regime". Although it is inadequate in recognizing the necessity of in-house RM functioning ability, its emphasis on records creation in tight relationship with the PAA is what the present study found strong agreement with. This document was not coded as data in the research process due to the fact that it has remained as a draft and the final product of all these improvement efforts is the Directive on Recordkeeping. For additional information, see Daniel J. Caron and Andreas Kellerhals, "Supporting Democratic Values through a Relevant Documentary Foundation - An Evolutionary Complex," *Archivaria* 71 (Spring 2011): 99-134, in particular, 100-117.

[270] TBS, "Policy on Management, Resources and Results Structure," http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=18218&section=text (accessed October 29, 2012).

Documentation Standard development for departmental business records -

Policy function;

- The Canada Public Service Agency: Documentation Standard development for
departmental business records - Human Resources function;

- The Office of the Information Commissioner of Canada: Documentation
Standard.[271]

The third area focuses on selected departments for examining specific aspects as
indicated by the disclosed records including:

- The Department of Industry Canada's construction of a "Business-based
Classification Structure";

- The Department of Health Canada's implementation of "an Enterprise Content
Management Solution (ECMS) across the Department";

- The Department of Canadian Heritage's "Information
Architecture/Classification Project", which aims to "build an information
architecture/classification structure for the Department, applicable not only to
an eventual Electronic Document and Record Management System (EDRMS)
implementation, but to other information repositories throughout the
Department".

The fourth area focuses on the GC's IM/RM audits, which can be assessed according to

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[271] LAC, "Assessment Projects,"
http://www.collectionscanada.gc.ca/007/001/007001-5105-e.html (accessed October 29, 2012).

three aspects: criteria selection/establishment,[272] auditor qualifications with respect to the RM Requisite Knowledge, and the effectiveness of the recommendations made in audit reports, that is, their acceptance, execution, or rejection by institutions.

The fifth area should continue this study's focus on the GC's development of digital government and its impact on the management of digital records, which is considered at a higher level of technological complexity.

The other governmental settings identified as of immediate pertinence to the further development of the generated theory include the national/federal governments of the United States and Australia. Both governments have established a national archives with the responsibility of assisting records management in departments or agencies,[273] similarly to the Government of Canada, and both have reported issues relating to records management in departments or agencies [274] which are also similar to those encountered

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[272] The coding of the many IM audits revealed that the criteria for the audits were mainly based on IT standards.

[273] United States of America, "44 U.S.C. Chapter 29 Records Management by the Archivist of the United States and by the Administrator of General Services," http://www.archives.gov/about/laws/records-management.html (accessed October 29, 2012); and Australia Government, "Archives Act 1983," http://www.comlaw.gov.au/Details/C2012C00025 (accessed October 29, 2012).

[274] The White House, "Presidential Memorandum - Managing Government Records," http://www.whitehouse.gov/the-press-office/2011/11/28/presidential-memorandum-managing-government-records (accessed October 29, 2012); and Adrian Cunningham, "Good Digital Records Don't Just 'Happen': Embedding Digital Recordkeeping as an Organic Component of Business Processes and Systems," *Archivaria* 71 (Spring 2011): 21 - 34.

by the Government of Canada. Besides the comparisons on the overall quality of records management, specific aspects can be studied as well. For example, it would be interesting to examine the application of the DIRKS Manual in the Australian setting as the National Archives had ceased the use of the methodology,[275] which, however, continues to be recommended by the State Records New South Wales for use by government agencies.[276]

Relying on the technique of theoretical sampling, future studies pertinent to governmental settings can be extended to include other levels of government, either using the same or different criteria. Similarly, relying on the technique of theoretical sampling, future studies can also be extended to include non-governmental settings such as private or not-for-profits organizations. By continuing theoretical sampling and constant comparative analysis, a substantive grounded theory can be raised to the rank of formal theory with a higher level of generality and a broader scope of applicability.

5.3. Conclusion

To manage a subject it is essential to understand it. This understanding may be widened, deepened, or adjusted, but should always focus on the nature of the subject. Only by a firm understanding of its nature can the subject be managed with effectiveness and not be influenced/confused by factors that are external to it. Because of the lack of a firm

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[275] NAA, "Publications and Tools," http://www.naa.gov.au/records-management/publications/DIRKS-manual.aspx (accessed October 29, 2012).

[276] State Records NSW, "DIRKS," www.records.nsw.gov.au/recordkeeping/dirks (accessed October 29, 2012).

understanding of the nature of records, the influence of the concepts of information or information resources in the Government of Canada has remained strong since 1989, when for the first time a policy replaced RM with the expression "management of information holdings." [277] Not only have all TBS policy instruments focused on information but also the voices that have been in strong support of RM, such as the Canadian Auditor General and the Information Commissioner, do not distinguish RM and IM. This, according to the current study, is the root cause of the GC's inability to develop mechanisms that are sufficiently pertinent and specific to all the components identified as parts of its IM regime. This lack of specifics made it difficult for the RM program to demonstrate value despite of a seemingly well constructed policy. The rescinded 2003 policy was, according to the TBS, "the result of several years of research and consultation across the federal government", and for which, the TBS planned to "develop and manage a comprehensive and phased strategy implementation plan" including the implementation of "sound information management practices".[278] The policy, however, did not deliver any concrete results in improving the IM(RM) situation during the four years of its existence, and its successor, the 2007 IM Policy, proved to be no better. The most recent MAF assessments (2010) of departmental IM practices revealed an extremely weak performance - the weakest one indeed among all aspects assessed. Many departments received high and higher ratings in the aspects of establishing governance structure and

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[277] The term information holding has been exclusively used by TBS in relation to the administration of the Access to Information Act.

[278] OAG, "2003 November Report,".

developing strategic plans, but the daily practices have been commonly inadequate.[279]

One may argue that the lack of specifics in developing plans and carrying out specific

tasks is attributable to the lack of resources, but this, according to the present study, is

only a symptom, not the root cause.

According to the findings of this research, a full understanding of the nature of record and

a RM program equipped with adequate RM Functioning Ability should be able to address

the issue of resources by requiring a sensible operation budget. More significantly, the

understanding of Record Instrumental Value should be able to facilitate the proposal of

embedding the RM Application-Oriented Work within operational activities; therefore,

the budget required for RM would become a part of the budget of the operational

activities. This way, even with program reviews,[280] the RM work would be assessed

along with the Operational Activity, not separately as a not-mission-critical, internal

service function that can be reduced to a nominal existence. If the activity is to be

eliminated, the RM work within it would be eliminated with the activity, and if the

activity is retained, the RM work (including the RM personnel) would be retained as well.

Either way, there would not be a chaotic situation due to records left behind. In addition,

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[279] Departments can be skillful in writing strategic plans, which permits them to receive a high
MAF rating. When the strategy cannot be or is not implemented, a new strategy can always be
drafted. The current development of the Department of the Canadian Heritage's IM Strategy is
such an example.

[280] Program reviews in the Government of Canada is the mechanism utilized to cut budget and
reduce services.

there are cases where resources are not the issue,[281] yet the IM(RM) performance is still

unsatisfactory and is even criticized as having not effectively utilized the allocated

resources. This reinforces the deduction that it is the inadequacy of RM Functioning

Ability that is the root cause. To avoid being marginalized or even completely replaced,

the RM program in the Government of Canada needs first to be separated from the

all-encompassing, thus practically useless, IM container and then, based on the RM

Functioning Ability, promote a RM function that is able to deliver concrete results for the

organization and demonstrate the value of the RM profession.

Compared with the sources of the relevant literature identified for coding in the research

process (i.e., the InterPARES project, ARMA International, and ISO 15489), the present

study has specified and extended them in the following ways:

- It codified the implications embedded in the definition of record, the

    development of digital diplomatic analysis, and the findings on interactive and

    dynamic records of the InterPARES project into the concepts of Record(s)

    Purpose, Record Value, and RM Nature;

- It further developed Record Value into a set of values distinguished first as

    being instrumental or reusable and then by different types of reusable value;[282]

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[281] As showed by the disclosed records, the Department of Aboriginal Affairs and Northern
Development Canada, the Department of Citizenship and Immigration Canada, and the
Department of Public Safety Canada mentioned that resources were adequately allocated.

[282] This is an extension to ISO 15489's emphasis on records as evidence. The standard's
emphasis on evidence is excessive and imbalanced as it ignores the other types of value.
Moreover, the use of the term evidence does not differentiate between the implied meanings of

- It specified the relationships between the different types of Operational Activity and the different types of Record Value;

- It specified the guidance offered by Record Nature to establish RM Nature;

- It specified the relationships between RM Value and Record Value and established that RM Constant Value, the value that is most visible to organizations, is demonstrable by realizing Record Instrumental Value;

- It elaborated on the design of Operational Activities as the foundation for organizational operations including the conduct of RM Activities;

- It analyzed the role of Record Identification in completing RM Activities with effectiveness (i.e., satisfactory performance) and emphasized the importance and necessity of managing digital records at individual level (in addition to class level, which has been long established); [283]

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evidential (as in T. R. Schellenberg's records value categorization) or evidentiary (as treating records as documentary evidence in legal proceedings). For additional information on this distinction, see T. R. Schellenberg, "The Appraisal of Modern Public Records: Evidential Values," http://www.archives.gov/research/alic/reference/archives-resources/appraisal-evidential-values.html (accessed October 19, 2012) and Rodney Young. "The Evidentiary and Probative Value of Trade Union Records," *Archivaria* 18 (Summer 1984): 202-213, in particular, 203-205.

[283] It may be useful to point out that the idea of managing individual records is not as the same as "item level control" as proposed by David Bearman in "Item Level Control and Electronic Recordkeeping," http://www.archimuse.com/papers/nhprc/item-lvl.htm (accessed October 19, 2012). Although the former encompasses the creation of metadata for individual records (i.e., at the item level), which is the focus of the latter, differently from it, it emphasizes the identification of records in the process of designing/re-designing operational activities/programs and considers it the foundation of all subsequent RM activities, including, but not limited to, metadata creation at item level. The emphasis on records identification also extends the ISO 15489's requirement

- It specified the establishment of Organizational RM with a focus on RM Application-Oriented Work;

- It specified a design of RM Function that includes Governance Structure, Responsibility Arrangement, and the integration of Central Digital Records Management System and Unit Digital Records Management Systems in compliance with RM Nature;

- It extended the RM Requisite Knowledge & Skill to include knowledge of all Operational Activities and knowledge of all technologies supporting the activities in qualifying RM Professional/RM Personnel, including the method of determining the required level of the extend knowledge.[284]

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for records creation, which focuses on the creation of evidence. For example, on page 6, the Standard requires that, "Rules for creating and capturing records and metadata about records should be incorporated into the procedures governing all business processes for which there is a requirement for evidence of activity". Record Identification emphasizes the analysis of each and every record that an Operational Activity requires, not only those considered evidence.

[284] The RM Extended Knowledge goes beyond the ARMA's requirement for the development of its members' RM ability. In its Records and Information Management Core Competencies, there are two domains, Business Function and Information Technology, which appear to most possibly encompass the Non-RM Activity Knowledge and the Non-RM Technology Knowledge. These two domains, however, focus only on the operation of RM as the domain examples indicate. Examples of business functions include (at Level 4) "the supervision of RIM staff, budgeting, providing customer service, identifying and mapping work processes, providing input to management, and strategic planning"; and examples of information technology tasks (at level 4) include "the RIM software application selection process, reprographics and imaging equipment, establishing requirements for IT related to managing electronic repositories, and the identification of emerging technologies". ARMA International, "Records and Information Management Core

When generation of theory is the aim, one is constantly alert to emergent perspectives that will change and help develop his theory ... the published word is not the final one, but only a pause in the never-ending process of generating theory.[285]

[285] Barney G. Glaser and Anselm L. Strauss, *Discovery of the Grounded Theory*, 40.

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Appendices

Appendix 1 GC-Wide Data Open Coding & Memoing – TBS[286]

Data	Indicators → Memos & Substantive Codes
Symbol	• → = contribute to or result in; • TBS-#: data sourced by TBS; • TBS#-i# = numbered indicator by numbered data; • [M#(TBS-#-i#): …] = numbered memo based on one indicator; • [M#(TBS-#-i#+TBS-#-i#+…): …] = numbered memo based on two or more indicators; • [M#(TBS-#-i#⇔TBS-#-i#): …] = numbered memo based on a comparison between two indicators; • [M#(TBS-#-i#⇔TBS-#-i#⇔TBS-#-i#): …] = numbered memo based on a comparison between more than two indicators; • [SC←(M#): …] = substantive code based on one memo; • [SC←(M#+M#+…): …] = substantive code based on two or more memos; • [SC←(M#+…+TBS-#-i#+…): …] = substantive code based on both memos and indicators; • [SC←(M#+…+TBS-#-i#+…+other-data-source#+…): …] = substantive code based on both memos and indicators;
TBS-1 [287]	1. TBS1-i1: Defines "Information Management";[288] 2. TBS1-i2: Does not define information, but qualifies it as "in an organization"; [M1(TBS1-i1+TBS1-i2): the IM is a discipline about a subject/thing in organization that does not have a definition]; 3. TBS1-i3: Defines recordkeeping, for which the subject is "records";

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[286] The substantive codes in this and other coding tables are only samples provided to illustrate the abstracting process that generated them. This abstracting process involved numerous back and forth coding, memoing, and comparing; therefore, to completely document this process is both unjustifiable and undesirable.

[287] TBS, "Policy on Information Management,".

[288] 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.

Data	Indicators → Memos & Substantive Codes
	records are characterized as "vital business asset" and "knowledge source";[289]
	4. TBS1-i4: Defines "records", using the term "information" as the definiens, considered the genus of the definiendum; records are characterized as information for "business purposes" and/or "legal obligation";[290] [M2(TBS1-i3⇔TBS1-i4): the characterizations of records are different];
	5. TBS1-i5: Lists IM components;[291] [M3(TBS1-i5+TBS1-i1): *is this suggesting that all these components form one discipline?* yet none of the components is defined] → [sc: lack of definition for key terms];
	6. TBS1-i6: Emphasizes records and RM among IM components;[292]
	7. TBS1-i7: Lists 9 responsibilities for deputy heads;
	8. TBS1-i8: Points out employees' IM responsibilities;
	9. TBS1-i9: Points out RM as one type of specialized expert services, providing support to departments;
	10. TBS1-i10: Expects GC to provide "convenient access to relevant, reliable, comprehensive and timely information";
	11. TBS1-i11: Expects "information and records" to be managed as "valuable assets";
	12. TBS1-i12: Expects governance structures, mechanisms and resources are in place for IM;
	13. TBS1-i13: Points out a "whole-of-government" approach to manage information and records;

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[289] A framework of accountability and stewardship in which <u>records</u> are created, captured, and managed as a vital business asset and knowledge resource to support effective decision making and achieve results for Canadians.

[290] Records are information created, received, and maintained by an organization or person for business purposes, legal obligations, or both, regardless of medium or form.

[291] [I]nformation management encompasses records, as well as documents, data, library services, information architecture, etc..

[292] [R]ecords and their management are mentioned at key points in the policy for the purpose of emphasis.

Data	Indicators → Memos & Substantive Codes
	14. TBS1-i14: Defines Functional specialist;[293]
TBS-2 [294]	1. TBS2-i1: Expects IM governance structure to ensure IM accountability;[295]
	2. TBS2-i2: Characterizes Information technology (IT) as a key enabler to IM;[296]
	3. TBS2-i3: Characterizes the relationship b/w IM and departmental activities as "identifiable and integral";[297]
	4. TBS2-i4: Lists 10 requirements for the IM senior executive designated by the deputy head;
	5. TBS2-i5: Lists 6 requirements for managers;
	6. TBS2-i6: Lists 4 requirements for employees;
	7. TBS2-i7: Lists 5 requirements for IM functional specialists;
	8. TBS2-i8: Defines IM functional specialist; [298] the definition lists more IM components than TBS1-i5; [M57(TBS2-i8→M3(TBS1-i5+TBS1-i1)

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[293] An employee who carries out roles and responsibilities that require function-specific knowledge, skills and attributes in the following priority areas: finances, human resources, internal audit, procurement, materiel management, real property, and information management.

[294] TBS, "Directive on Information Management Roles and Responsibilities," http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12754&section=text#cha4 (accessed October 19, 2012).

[295] Governance structures in departments ensure sound IM accountability.

[296] Information technology (IT) is a key enabler to achieving well-managed information in support of policies, programs and services.

[297] Information management is an identifiable and integral element of departmental programs and services.

[298] Information Management Functional Specialist is 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.

Data	Indicators → Memos & Substantive Codes
	(2)+TBS1-i9): *what are the advantages/benefits of grouping all these different types of specialized expertises as one discipline?* And, again, none of them is defined or explained]; 9. TBS2-i9: All requirements refer to IM as a whole, i.e., they are not distinguished by IM components; [M4(TBS2-i9+TBS1-i5+TBS2-i8): lack of definitions or explanations for IM components that are not self-explanatory; *will this be a problem for implementing these requirements?*]; 10. TBS2-i10: Identifies the role and responsibilities of CSPS;[299] 11. TBS2-i11: Defines "information life cycle";[300]
Note: *data Below are in or after 2009. They were coded here as part of TBS IM policy instruments. When coding institutional records, consider the issuing time here.*	
TBS-3[301]	1. TBS3-i1: Defines recordkeeping in Appendix, for which "information resources" is the subject;[302] [M5(TBS3-i1+TBS1-i3): the two definitions for recordkeeping are not exactly the same, and the difference is that one uses "records" and the other uses "information resources" as the genus of the definition respectively; *is this suggesting that the two terms are considered synonyms?*] 2. TBS3-i2: Defines "information resources",[303] listing "textual records"

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[299] The Canada School of Public Service is responsible for the development and delivery of a government wide core learning strategy and program for all public servants involved in the management of information.

[300] The life cycle of information management encompasses the following: planning; the collection, creation, receipt, and capture of information; its organization, use and dissemination; its maintenance, protection and preservation; its disposition; and evaluation.

[301] TBS, "Directive on Recordkeeping,".

[302] A framework of accountability and stewardship in which information resources are created or acquired, captured, and managed as a vital business asset and knowledge resource to support effective decision-making and achieve results for Canadians.

[303] Any documentary material produced in published and unpublished form regardless of communications source, information format, production mode or recording medium. Information resources include textual records (memos, reports, invoices, contracts, etc.), electronic records (e-mails, databases, internet, intranet, data etc.), new communication media (instant messages,

Data	Indicators → Memos & Substantive Codes
	and "electronic records" as two types; [M6(TBS3-i2): this suggests that the concept of information resource is broader than that of record; then M5 contradicts M6]; 3. TBS3-i3: Defines recordkeeping in Clause 3.1[304], for which "information resources of business values" is the subject; this is the third version of the definition for the term; 4. TBS3-i4: Defines "information resources of business value",[305] which is worded differently from that for "information resources"; [M7(TBS3-i3+M5+M6): "records", "information resources", and "information resources of business value" are defined differently but used without differentiation in the definitions for recordkeeping. *Will this cause confusion when applying the concept?*]; [M8(TBS3-i4): does not define business value, which can be roughly inferred as relevant to "decision-making in support of programs, services and ongoing operations, and support departmental reporting, performance and accountability requirements" when compare the definitions for information resources and for information resources of business value. This suggests that the concept of information resources is broader than that of information resources of business values. [M9.1(M8+TBS1-i4): it is difficult to distinguish the concept of information resources of business value from that of record, as they are defined as relevant to organizational business purposes and legal obligations. [M9.2(M8+TBS1-i4): *What's the purpose of using "information resources of business values"?*]; 5. TBS3-i5: Defines record in Appendix, same as TBS1-i4;[306]

wikis, blogs, podcasts, etc.), publications (reports, books, magazines), films, sound recordings, photographs, documentary art, graphics, maps, and artifacts.

[304] Recordkeeping is a resource management function through which information resources of business value are created, acquired, captured, managed in departmental repositories and used as a strategic asset to support effective decision making and facilitate ongoing operations and the delivery of programs and services.

[305] Are published and unpublished materials, regardless of medium or form, that are created or acquired because they enable and document decision-making in support of programs, services and ongoing operations, and support departmental reporting, performance and accountability requirements.

[306] Records are information created, received, and maintained by an organization or person for

Data	Indicators → Memos & Substantive Codes
	6. TBS3-i6: Characterizes recordkeeping as a "core resource management function"; [M10(TBS3-i6+TBS2-i3): *what's the relationship b/w a resource management function and an integral element of business activities?*]; 7. TBS3-i7: identifies three key pieces of legislation for recordkeeping: the FAA Act re deputy head responsibility for "information",[307] the LAC Act re "disposition authorities" and disposition of "information resources",[308] and the ATI Act;[309] 8. TBS3-i8: Does not define "information"; [M11(TBS3-i7+ TBS3-i8+ TBS1-i2): *what's the relationship b/w "information" and "information resources"?*] 9. TBS3-i9: Defines disposition authorities in relation to "records";[310] [M12(TBS3-i9+TBS3-i7): *is this suggesting that information resources = records when it comes to disposition?*→[M16(12)]; 10. TBS3-i10: Lists 5 requirements for departmental IM senior official designated by the deputy head; 11. TBS3-i11: Does not use the term record(s) but information resources of business value throughout the Directive; [M13(TBS3-i11+M9.1+M9.2: *is this suggesting to use the term "information resources of business value" to replace "records"? if yes, why?*]

business purposes, legal obligations, or both, regardless of medium or form.

[307] Under the management authority of the Financial Administration Act, deputy heads have the responsibility for the management and administration of information.

[308] Under the Library and Archives of Canada Act, the Librarian and Archivist of Canada has the authority to issue disposition authorities and has the power to delegate this authority for the disposition of information resources.

[309] Under the Access to Information Act, the President of the Treasury Board has responsibility for the general administration of the Act.

[310] Disposition authorities are the instruments that enable government institutions to dispose of records which no longer have operational value, either by permitting their destruction (at the discretion of institutions), by requiring their transfer to Library and Archives of Canada, or by agreeing to their alienation from the control of the Government of Canada.

Data	Indicators → Memos & Substantive Codes
TBS-4[311]	1. TBS4-i1: Defines EDRM solutions,[312] with both "information resources" and "records" as its subjects without any differentiation; 2. TBS4-i2: Defines information resources[313], same as TBS3-i2, which has a broad scope, including books, magazines, and databases; 3. TBS4-i3: Defines record, same as TBS1-i4; 4. TBS4-i4: Does not define document; 5. TBS4-i5: Uses the term records once in defining EDRM solutions; [TBS4-i5: there seems to be the tendency not to use the term record(s) →M13(2)]; 6. TBS4-i6: Defines information resources of business value, same as TBS3-i4; 7. TBS4-i7: Define recordkeeping, same as TBS3-i1; 8. TBS4-i8: Defines information life cycle, same as TBS2-i11;[314] the definition refers to the life cycle of "information management", which includes activities for information (e.g., "its maintenance", "its disposition") and activities for IM (e.g., "planning"): life cycle of

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[311] TBS, "2010 Standard for Electronic Documents and Records Management Solutions (EDRMS)," http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=18910&section=text (accessed October 19, 2012).

[312] EDRM solutions are automated systems used to manage, protect and preserve information resources creation to disposition. These solutions maintain appropriate contextual information (metadata) and enable organizations to access, use and dispose of records (i.e., their retention, destruction or transfer) in a managed, systematic and auditable way in order to ensure accountability, transparency and meet departmental business objectives.

[313] Any documentary material produced in published and unpublished form regardless of communications source, information format, production mode or recording medium. Information resources include textual records (memos, reports, invoices, contracts, etc.), electronic records (emails, databases, internet, intranet, data etc.), new communication media (instant messages, wikis, blogs, podcasts, etc.), publications (reports, books, magazines), films, sound recordings, photographs, documentary art, graphics, maps, and artefacts.

[314] The life cycle of information management encompasses the following: planning; the collection, creation, receipt, and capture of information; its organization, use and dissemination; its maintenance, protection and preservation; its disposition; and its evaluation.

Data	Indicators → Memos & Substantive Codes
	information ≠ life cycle of IM; [SD←M14(TBS4-i8+M7): imprecise definition] 9. TBS4-i9: Defines information technology[315], using the terms "data" and "information", yet neither of which is defined; [M15(TBS4-i9+ TBS1-i2): lack of definitions for key terms]; 10. TBS4-i10: Defines metadata,[316] using the term "information resources"; 11. TBS4-i11: Lists 3 requirements for departmental IM Senior Official designated by the deputy head and CIO or equivalent; 12. TBS4-i12: Applies concepts without differentiation: Clause 3.2 uses "information resources of business value", Clause 3.3 uses "information resources", and clauses 3.4 and 5.1.1 uses "information"; [SD←M16(TBS4-i12+ M7+M11: confusing concept application] 13. TBS4-i13: Expects "increased … access to information";[317] [TBS4-i13+TBS4-i1→M16(2)]; 14. TBS4-i14: Identifies the role and responsibilities of PWGSC;[318] 15. TBS4-i15: Requires to follow the *Principles and Functional Requirements for Records in Electronic Office Environments - Module 2: Guidelines and Functional Requirements for Electronic Records*

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[315] Includes any equipment or system that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. It includes all matters concerned with the design, development, installation and implementation of information systems and applications to meet business requirements.

[316] The definition and description of the structure and meaning of information resources, and the context and systems in which they exist.

[317] 5.2.1 Increased government-wide access to information within and across departments to enable increased employee productivity and the efficiency and effectiveness of program and service delivery to Canadians.

[318] The Department of Public Works and Government Services Canada is responsible for providing common government-wide solutions to meet IM requirements of departments and agencies for delivering services such as document management, Web content management, portal and collaboration, and enterprise search management.

Data	Indicators → Memos & Substantive Codes
	Management Systems, by the International Council on Archives, 2008, without reasoning;[319] 16. TBS4-i16: Uses "information resources of business value" in Clause 3.7, which discusses the functionality of EDRM solutions;[320] [TBS4-i16+TBS4-i1→ M16(3)];
TBS-5[321]	1. TBS5-i1: Defines metadata, same as TBS4-i10; 2. TBS5-i2: Uses definitions by TBS-1, TBS-2, TBS-3, and Dublin Core Metadata Initiative Glossary; 3. TBS5-i3: Uses "information" and "information resources" without differentiation, and it's difficult to distinguish them from records or information resources of business value,[322] [TBS5-i3→M16(4)]; 4. TBS5-i4: Lists 3 types of metadata: recordkeeping metadata, Web resource discovery metadata, Web content management system metadata; 5. TBS5-i5: Associates recordkeeping metadata with "information resources of business value",[323] web resource discovery metadata with

[319] Their concepts of retention period and disposition authorities are different from the Canadian ones.

[320] 3.7 EDRM solutions enable GC employees to find, share and collaboratively develop information resources of business value, therefore increasing their productivity, and the efficiency and effectiveness of their departments.

[321] TBS, "2010 Standard on Metadata," http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=18909&section=text (accessed October 19, 2012).

[322] 3.3 The consistent creation, capture and use of metadata contribute to the objectives of the Policy on Information Management and the Directive on Recordkeeping to manage information as a strategic asset by supporting the capture, description, retrieval, use, re-use, accessibility, sharing, authenticity, reliability, integrity, and maintenance of information resources to facilitate decision-making, accountability, and the efficient delivery of Government programs and services.

[323] 3.6.1 Recordkeeping metadata supports recordkeeping as a management function through which information resources of business value are created, acquired, captured, and managed in departmental repositories over time, and used as a strategic asset to support effective decision making and facilitate ongoing operations and the delivery of programs and services.

Data	Indicators → Memos & Substantive Codes
	"Web information resources",[324] and Web content management system metadata with "Web content";[325] yet no distinctions made between Web information resources and Web content; [TBS5-i5→M15(2)] 6. TBS5-i6: Requires the application of recordkeeping metadata in conformance with ISO 23081 – Information and documentation – Records management processes – Metadata for records – Part 1: Principles; and ISO 23081 – Information and documentation – Records management processes – Metadata for records – Part 2: Conceptual and implementation issues; 7. TBS5-i7: Requires the application of Web resource discovery metadata and Web content management systems metadata to use Dublin Core Metadata Initiative (DCMI) Metadata Terms; 8. TBS5-i8: Indicates implicitly in Appendixes C and D the relationship b/w "Web resources", "information resources within Web content management systems", and "information resources of business value": the former two can be identified as the later; [326] [M17 (TBS5-i8+TBS5-i1+M13): *why manage information resources of no business value (those not identified as information resources of business value?*]; 9. TBS5-i9: Lists 4 responsibilities for the departmental IM Senior Official designated by the deputy head; 10. TBS5-i10: Lists 1 responsibility for The departmental CIO or equivalent; 11. TBS5-i11: Lists 4 responsibilities for IM functional specialists; 12. TBS5-i12: Lists 3 responsibilities for all employees; 13. TBS5-i14: Uses "information resources" as key term in the body of the standard;[327] [TBS5-i14→M17(2)];

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[324] 3.6.2 Web resource discovery metadata supports the navigation, searching, display and sharing of Web information resources.

[325] 3.6.3 Web content management system (WCMS) metadata supports business and technical processes for authoring, managing and publishing Web content in Web content management systems.

[326] Applying recordkeeping metadata as outlined in Appendix B to Web resources that are determined to be information resources of business value, and Applying recordkeeping metadata as outlined in Appendix B to information resources within Web content management systems that are determined to be information resources of business value.

[327] 5.1, 5.2.1, 6.1.3.

Data	Indicators → Memos & Substantive Codes
	14. TBS5-i15: Does not use the term record(s) in the body of the standard; [TBS5-i15→M13(3)];
Common to all the above	1. TBSc-i1: Point out relevant laws; 2. TBSc-i2: Identify roles and responsibilities of other GC departments (TBS, LAC, Statistic Canada, PWGSC, and Canada School of Public Service); 3. TBSc-i3: Includes monitoring and reporting requirements and consequences; [328]
TBS-6[329]	1. TBS6-i1: designed for "all GC employees" (whose institutions are subject to TBS-1); (it can be inferred from the text that) the "all employees" are those who are not "managers" or "IM specialists";[330] 2. TBS6-i2: there are times when information is under employees' care and control;[331] 3. TBS6-i3: is intended to be a base that "can be added to and customized to reflect institutional policies, procedures, directives, guidelines, tools, and best practices"; 4. TBS6-i4: focuses on concepts and their applications;[332]

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[328] During one teleconference, the IM Specialist said, regarding the unsatisfactory IM performance, "we are all in the same place'.

[329] TBS, "Guideline for GC Employees: IM Basics," Date modified 2009-06-01. Replaces Information Management - Guidelines. Date modified 1996-01-05, http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=13832&section=text, which is completely about IT (accessed October 19, 2012).

[330] "Your IM specialists are available to help you with these responsibilities, as needed"; "so we encourage you to consult your manager and information management (IM) specialists, as needed."

[331] "The following is an overview of some of the practices recommended for you to apply to all information while it's in your care and control".

[332] "designed to help you gain a basic understanding of information and records management concepts".

Data	Indicators → Memos & Substantive Codes
	5. TBS6-i5: Equates "information" to "information resource(s)" "For the purposes of this guideline";[333] [M18(TBS6-i5): *none of the previous higher level policy instruments states about this, then, how can this guideline do this?* - As a lower level policy instrument, the guideline applies other than defines concepts. If information is equal to information resources, then the definition of information resources of business value means exactly records; +TBS6-i6+ TBS6-i7 = it's difficult for TBS' own guideline to make clear of these concepts, which can also be bypassed] 6. TBS6-i6: Uses the term "information resources" in a way that does not distinguish it from information resources of business values or records; [→M16(5)] a. Every day, we create, collect, use and share <u>information resources</u> that provide evidence of our business activities; b. These <u>information resources</u> help us to make informed decisions that support our managers, our peers, and our clients and ultimately provide results for Canadians; c. Organize, file, and store <u>information resources</u> within repositories, ensuring easy access when needed to make decisions and to support program and service delivery; d. Be informed of and apply retention periods for <u>information resources</u>; e. Classification systems are designed to <u>manage information resources</u> according to their <u>business value</u>, ensuring their proper retention and disposition; f. as you go about your normal business activities each day, you generate and collect paper and <u>electronic</u> <u>information resources</u>. <u>These information resources</u> provide an important <u>record</u> of the actions you've taken, the decisions you've made, and the reasons for both, allowing for transparency and accountability. In order to ensure the ongoing value of <u>these information resources of business value</u>, capture them along with any relevant metadata to ensure that they are complete, authentic, and reliable. Retain <u>information resources of business value</u> in accordance with institutional <u>records management standards and procedures</u>, stored or profiled within a repository, if available, and protected

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[333] For the purposes of this guideline, "information" is equivalent to "information resource(s)" and these are the broadest of all terms – including any documentary material produced both in published and unpublished form regardless of communications source, information format, production mode or recording medium. The term "information resource" is introduced through the Directive on Recordkeeping.

Data	Indicators → Memos & Substantive Codes
	against damage and loss; g. Ensure <u>information resources of enduring business value</u> are properly <u>preserved</u>; h. File or save <u>records information resources</u> in a repository; i. Provide definition of "transitory records" by LAC, then use "transitory information resources"; 7. TBS6-i7: difficult to distinguish "information resources of business value" from "records"; [→M16(6)] a. cooperate with information specialists to properly transfer digital or paper copies of <u>information resources of business value</u> through the Library and Archives Canada regulations and disposition authorities; b. <u>Information resources of enduring value</u> will be transferred to Library and Archives Canada (LAC); c. In the section of "Document your business activities and decisions", lists examples of "the types of information resources that are of business value", all of which also qualifies the definition of record; d. Email messages that <u>pertain to GC business</u> are considered information resources of business value; e. Use "inactive information resources of business value";[334] 8. TBS6-i8.1: "information resources" appears 53 times, "information" 30 times; [M19(TBS6-i8.1+TBS6-i5): 53+30=83 times in total; the most frequent usage is information or information resource]; →M17(3); TBS6-i8.2: "records" 43 times and "information resources of business value" 17 times; [M20(TBS6-i8.2): the fact that the term "records" appears more than "information resources of business value" is because the reference sources the guideline rely on use the term "records" (e.g., the ATI Act and LAC documentation)]; [M21{M20⇔M13(3)}: *will this cause a gap b/w legal requirements and the TBS policy instruments?*]; 9. TBS6-i9: The information contained on these sites (social networks) may or may <u>not</u> be considered <u>information resources of business value</u> but may nonetheless be subject to <u>federal or provincial access to information legislation</u> (which governs records); [M22(TBS6-i9): This suggests the scope of record is larger than information resources of business value →M16(7)]; adversely affected applications of concepts by the introduction of this new term] 10. TBS6-i10: A repository is a preservation environment for <u>information resources of business value</u>. Business rules for the management of the <u>information resources captured in a repository(ies)</u> need to be

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[334] Storage of inactive information resources of business value.

Data	Indicators → Memos & Substantive Codes
	established, and there must be sufficient control for the resources to be authentic, reliable, accessible and usable on a continuing basis (from Directive on Recordkeeping); 11. TBS6-i11: Capture those <u>information resources of business value</u> by saving them within a repository; [M23(TBS6-i10+TBS6-i11): information resources of business value = information resources captured in a repository(ies); *how to capture*? If the awareness is to only tell employees there is the need for capture, then this kind of awareness will not yield any concrete results]; 12. TBS6-i12: Uses "electronic information" "electronic information resources"; uses "electronic records" only in relation to the system;[335] [TBS6-i11→M19(2)]; 13. TBS6-i13: Lists what employees are asked to do;[336] [SD←M24(TBS6-i12): this displays a rather heavy workload]; [SD←M25(TBS6-i12): and at the same time a great level of individual control) a. 8 responsibilities including classification and application of retention schedules; b. Employees to make a "sound <u>IM plan</u>" for their work; managers and IM specialists are for "further assistance"; no existing information for the job? c. As you create and collect information<u>, identify its value to your institution</u> and manage it accordingly, making sure that it's accessible to those who need it. d. <u>Preserve the integrity and value</u> of information resources of <u>business value</u> by keeping the structure, context, and content intact to facilitate future searching and use. e. <u>Organize your information</u> in a logical and systematic way so that it's easy to find and share. <u>Where possible</u>, use standards, rules, and procedures established or adopted by your institution. i. Information that is well organized will help you to work better and also <u>supports</u> <u>your</u> need to respond efficiently and effectively to requests regarding <u>access to</u>

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[335] If your organization doesn't have an <u>electronic records and document management system</u> or repository(ies), speak to your manager and consult with the appropriate specialist (e.g. the records or library functional specialist) to find out more about your internal policies on filing electronic information.

[336] The only indication of the existence of an organizational RM function is the existence of IM specialists.

Data	Indicators → Memos & Substantive Codes
	information, privacy, and legal discovery. ii. Organize all <u>published</u> material according to the classification system of your institution's library. *Why even ask employees to organization library materials?* f. Starting a new job provides <u>you</u> with an ideal opportunity to <u>establish</u> good practices for managing government information resources right from the start; g. Protect information against loss, damage, unauthorized access, alteration, or destruction; h. <u>you have procedures in place</u> to properly manage it. <u>Name, inventory, and organize</u> the electronic documents according to, or linking to, the institutional classification system if one is in place; i. Provide pertinent information about everything you leave for your successor, explaining why it will be needed; [*how can this be guaranteed?* if this is true, then there won't be complaint about loss of corporate memory when discussing the ATI requests]; j. Ensure that information resources of business value, in all media, are organized and filed according to the policies, standards, and procedures established or adopted by your institution so that the information continues to be accessible to other employees. [*How to ensure?*]; k. Managing information to the way <u>you</u> work has many advantages. [*What about others' ways to work?*]; l. It saves you time. [*How?* Managing information (if only emails are considered) cost time]; m. Employees to be IM advocate: If you notice ways that these practices can help your organization to be more effective, communicate them to your manager. *Why should employees do this?* This is not their job];

Appendix 2 Institution-Specific Online Data Open Coding & Memoing – sG

Data	Indicators → Memos & Substantive Codes
Symbol	- IS-1 = organizational structure; - IS-2 year = annual report; - IS-3 = MAF assessment VII (the most recent one at the time of coding); - IS-4.# = audit report(s); - Others see Appendix 2.1
	sG: CFIA
IS-1[337]	1. CFIA-IS1-i1: VP, Information Management & Information Technology -> Business Information Management -> Information Management -> Information Holdings -> E-Document Management; Records and Information Services: 4 positions; 1.1. CFIA-IS1-i1.1: only one with "records" in title; [M200(CFIA-IS1-i1.1): few "records" positions in org. chart]; 1.2. CFIA-IS1-i1.2: called "Records Management Assistant; [M201(CFIA-IS1-i1.2): no management positions for records in org. chart]; 2. CFIA-IS1-i2: positions under E-Document Management all have "Information Management" in titles;[338] [M202(CFIA-IS1-i2): presence of E-Document Management in IM]; 3. CFIA-IS1-i3: No subdivision or position under Information Management has electronic record(s) in title; [M203(CFIA-IS1-i3): no presence of electronic/digital records];
IS-2 2008-09[339]	1. CFIA-IS2(08)-i1: Identifies "Information for Decision-Making" one risk area and the Information Management Way Forward as one key

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[337] GEDS, "CFIA,"

http://sage-geds.tpsgc-pwgsc.gc.ca/cgi-bin/direct500/eng/XEou%3dCFIA-ACIA%2co%3dGC%2
cc%3dCA (accessed October 19, 2012). Organization chart changes frequently. The last time
coding these charts were in 2012-05 because of the attempt to use most recent data. Many
changes have happened since the Fall of 2011.

[338] I asked about this during teleconference with HCan and others and site visit.

[339] CFIA, "Departmental Performance Reports,"

http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/ica/icapr-eng.asp?format=print (accessed

Data	Indicators → Memos & Substantive Codes
	initiative for the risk; 2. CFIA-IS2(08)-i2: RM (or records management) have no appearance; [M204(CFIA-IS2(08)-i2): no presence of RM in DPR];
2009-10[340]	1. CFIA-IS2(09)-i1: "Information Management Way Forward" has no appearance; 2. CFIA-IS2(09)-i2: uses "IM/IT"; [M205(CFIA-IS2(09)-i2): When IM/IT is used in DPR, the content is typically about IT];[341] 3. CFIA-IS2(09)-i3: IM/IT is one of the "Internal Services";[342] 4. CFIA-IS2(09)-i4: RM (or records management) has no appearance; CFIA-IS2(09)-i4→M204(2); 5. CFIA-IS2(10-11)-i0: The "IM environment" features "regular communications to employees, employee education and training courses" → what IM does: no actual RM work → [M71];
IS-3[343]	1. CFIA-IS3-i1: 12.1 Governance: *Acceptable*; [344]

October 19, 2012).

[340] CFIA, "Departmental Performance Reports,"
http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/ica/icapr-eng.asp?format=print (accessed
October 19, 2012).

[341] e.g., These strategies include the development of the Performance Management and Reporting
Solution and related key IM/IT initiatives such as the implementation of a data centre that houses
mission-critical computer systems and associated components.

[342] Internal services are groups of related activities and resources that are administered to support
the needs of programs and other corporate obligations of an organization. These groups include
Management and Oversight Services, Communications Services, Legal Services, Human
Resources Management Services, Financial Management Services, IM/IT Services, Real Property
Services, Security Management Services, Environmental Management Services, Materiel
Management Services, Procurement Services, and Travel and Other Administrative Services.

[343] TBS, "MAF VII CFIA,"
http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2009/ica/ica-eng.asp#il (accessed
October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	1.1. CFIA-IS3-i1.1: an *adequate* governance and accountability structure (including IM presence in organization-wide committees);
	1.2. CFIA-IS3-i1.2: roles and responsibilities for management are only *somewhat* identified;
	1.3. CFIA-IS3-i1.3: participation in GC-wide IM approaches and initiatives;
	2. CFIA-IS3-i2: 12.2 Strategy Planning and Implementation: *Opportunity for Improvement*;
	2.1. CFIA-IS3-i2.1: has an IM strategy;
	2.2. CFIA-IS3-i2.2: implementation is underway and there is evidence of progress;
	2.3. CFIA-IS3-i2.3: *some* IM awareness and training activities exist but are *not* linked to an overall awareness strategy/plan and do *not* reflect current policy requirements; [345]
	3. CFIA-IS3-i3: 12.4 Access to Information Act: *Acceptable*;
	3.1. CFIA-IS3-i3.1: *most* of the functions, programs, and activities have been appropriately identified and described in Info Source;
	3.2. CFIA-IS3-i3.2: *some* institution-specific "Classes of Records" need improvement; [TS$_2$-TBS1(CFIA-IS3-i3.1+CFIA-IS3-i3.2): Info Source was identified as one extended source for coding]; [M206(CFIA-IS3-i3): the assessing criterion here is different from that of the OIC: TBS MAF assesses the production of Info Source, yet the OIC assesses the time of finding responsive records];
	4. CFIA-IS3-i4: TBS identified opportunities:
	4.1. CFIA-IS3-i4.1: Ensure IM governance and strategic planning address, where possible, all activities described in the IM Internal Services Profile; [M207(CFIA-IS3-i4.1): this means that

[344] There is evidence that adequate IM governance and accountability structures are in place, including representation of IM in organization-wide governance and/or approval committees; IM roles and responsibilities for senior executives and managers are only somewhat defined; Participation is evident in GC-wide approaches and initiatives related to developing, implementing, sharing, and leveraging IM policies and practices.

[345] Organization has an IM strategy; IM strategy implementation is underway and there is evidence of progress against plans; Organization has some IM awareness and training activities, but they are not linked to an overall awareness strategy/plan and do not reflect current policy requirements.

Data	Indicators → Memos & Substantive Codes
	in a departmental IM governance and strategic plan all IM components need to be specifically identified as activities; i.e., treating IM as a whole ((e.g., TBS1-i7.2; TBS2-i9; LAC2-i5) would fail this requirement];[346]
	4.2. CFIA-IS3-i4.2: More wholly integrate IM requirements into planning, approval, management, operational, and evaluation activities; [M208(CFIA-IS3-i4.2): integration of IM requirements into other organizational activities needs improvement];
	4.3. CFIA-IS3-i4.3: More detailed reporting and monitoring on the IM strategy, e.g. timelines, results to date, resourcing, etc. [M209(CFIA-IS3-i4.3): insufficient details on IM strategy implementation];
	4.4. CFIA-IS3-i4.4: Ensure that the locations of all information holdings are documented and that retention plans are in place; [M210(CFIA-IS3-i4.4): the MAF methodology for 2009-10 does not define "information holding", which is however inferable from TS_2-TBS1; see TS_2-TBS1-i2]; [M211(CFIA-IS3-i4.4): documentation of locations of all "information holdings" needs improvement]; [M212(CFIA-IS3-i4.4): retention plans for all "information holdings" need improvement];
	4.5. CFIA-IS3-i4.5: Develop consistent metadata that can be applied to all information holdings; [M213(CFIA-IS3-i4.5): MAF methodology for 2009-10 does not define "metadata"; the definition by TBS4-i10[347] cannot be applied here because it is defined in relation to "information resources", unless information holdings = information resources]; [M214(CFIA-IS3-i4.5): MAF methodology for 2009-10 does not define "consistent"]→[M40(11)];
	4.6. CFIA-IS3-i4.6: Ensure that all Class of Record descriptions are complete, up-to-date, and comply with Treasury Board Secretariat requirements; [M215(CFIA-IS3-i4.6): the completeness and currency of records description need improvement];

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[346] From where the knowledge about all the components can be obtained to develop the plan? Only from the professionals doing the work.

[347] The definition and description of the structure and meaning of information resources, and the context and systems in which they exist.

Data	Indicators → Memos & Substantive Codes
TS$_2$-TBS1[348]	1. TS$_2$-TBS1-i1: defines "Classes of Records" as "Descriptions of the records created, collected and maintained by a government institution as evidence of and information about a particular institutional program or activity";[349] 2. TS$_2$-TBS1-i2: does not define "information holding"; its meaning, however, can be inferred as information relating to functions, programs, activities;[350] [TS$_2$-GC1(TS$_2$-TBS1-i2): the Access to Information Act was identified as an extended source due to its relation to the term information holding];
TS$_2$-GC1	1. TS$_2$-GC1-i1: stipulates that the purpose of the Act is "to provide a right of access to information in records under the control of a government institution";[351] [M216(TS$_2$-GC1-i1): the ATI Act governs access to records;]; [M217{M216(TS$_2$-GC1-i1)+TS$_2$-TBS1-i2}: information holdings therefore = records of "functions, programs, activities"; consequently M211 and M212 are RM issues]; (M217+M213) → M40(12); [M218: TBS requirement (CFIA-IS3-i4.5) cannot be satisfied];
IS-4[352]	1. CFIA-IS4-i1: uses "IM/IT"; 2. CFIA-IS4-i2: all findings are general statements;[353]

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[348] TBS, "Info Source: Sources of Federal Government and Employee Information 2010," http://www.infosource.gc.ca/emp/emppr-eng.asp?format=print (accessed October 19, 2012).

[349] http://www.infosource.gc.ca/emp/emp01-eng.asp (accessed October 19, 2012).

[350] Info Source "provides information about the functions, programs, activities and related information holdings of government institutions subject to the Access to Information Act.

[351] GC, "Access to Information Act. s2. (1),".

[352] CFIA, "Audit of IM/IT Governance," http://epe.lac-bac.gc.ca/100/206/301/cfia-acia/2011-09-21/www.inspection.gc.ca/english/agen/eval/imitgitie.shtml#a2_1 (accessed October 19, 2012).

[353] e.g., "The existing governance committee structure does not provide comprehensive oversight for the IM/IT function" and "A full suite of IM/IT policies and procedures has not been established, approved and communicated".

Data	Indicators → Memos & Substantive Codes
	[M219(CFIA-IS4-i2): treats IM/IT as a whole; unclear how the work of IM and IT was distinguished]; [M220(CFIA-IS4-i2): treats IM/IT as a whole; no presence of records or RM]; 3. CFIA-IS4-i3: The audit methodology uses "COBIT as a basis for audit objectives and criteria"; COBIT stands for Control Objectives for Information Technology and is "an industry standard that is widely accepted as a baseline of best practices"; [M221(CFIA-IS4-i3): although IM/IT is used, the audit is about the management of IT projects or information systems];
	sG: CIDA
IS-1[354]	1. CIDA-IS1-i1: Information Management and Technology Branch ->Information Management and Business Management Division -> Corporate Information Management Section (CIMS)-> Agency Records Center: 8 positions; 2. CIDA-IS1-i2: 1 among the 8 position titles contains "records": Senior Corporate Records Management Analyst; CIDA-IS1-i2→M200(2); CIDA-IS1-i2→M201(2); 3. CIDA-IS1-i3: all the titles of other positions including those in the other two subdivisions (about 20) under CIMS use the terms "information", "information management", "IM/IT", or "enterprise content management"; CIDA-IS1-i3→M203(2);
IS-2 2008-09[355]	1. CIDA-IS2(08)-i1: "records" appears once in "paper records";[356] 2. CIDA-IS2(08)-i2: no IM (or information management); 3. CIDA-IS2(08)-i3: RM (or records management) has no appearance; CIDA-IS2(08)-i3→M204(3);

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[354] GEDS, "CIDA,"

http://sage-geds.tpsgc-pwgsc.gc.ca/cgi-bin/direct500/eng/XEou%3dCIDA-ACDI%2co%3dGC%2
cc%3dCA (accessed October 19, 2012).

[355] CIDA, "DPR 2008-09,"

http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/ida/idapr-eng.asp?format=print (accessed
October 19, 2012).

[356] Also, more than 2,500 Haitian civil registrars were trained in adapting new technologies to their work, including digitizing more than 14 million paper records as electronic files in order to allow wider access and use, which resulted in broader and better access to government services.

Data	Indicators → Memos & Substantive Codes
2009-10[357]	1. CIDA-IS2(09)-i1: "information management" appears once as one internal service; 2. CIDA-IS2(09)-i2: RM (or records management) has no appearance; CIDA-IS2(09)-i2→M204(4);

IS-3[358]	1. CIDA-IS3-i1: 12.1 Governance: *Acceptable*;
	   1.1. CIDA-IS3-i1.1: same as CFIA-IS3-i1.1;
	   1.2. CIDA-IS3-i1.2: IM roles and responsibilities for senior executives and managers *are* defined;
	   1.3. CIDA-IS3-i1.3: *Extensive* participation is evident in GC-wide approaches and initiatives related to developing, implementing, sharing, and leveraging IM policies and practices;
	2. CIDA-IS3-i2: 12.2 Strategy Planning and Implementation: *Acceptable*;
	   2.1. CIDA-IS3-i2.1: IM strategy is *current*, *active*, and *formally approved*;
	   2.2. CIDA-IS3-i2.2: same as CFIA-IS3-i2.2;
	   2.3. CIDA-IS3-i2.3: IM awareness and training activities are included as part of an overall awareness strategy/program;
	3. CIDA-IS3-i3: 12.4 Access to Information Act: *Opportunity for Improvement*;
	   3.1. CIDA-IS3-i3.1: *some* of the information holdings are *not* appropriately identified or described;
	   3.2. CIDA-IS3-i3.2: A *significant* number of institution-specific Classes of Records do *not* comply with Treasury Board Secretariat requirements; [TS$_2$-TBS2(CIDA-IS3-i3.2): the document on TBS requirements was identified as one extended source)];
	4. CIDA-IS3-i4: TBS identified opportunities: same as [M207(CFIA-IS3-i4.1)]; [M208(CFIA-IS3-i4.2)]; [M209(CFIA-IS3-i4.3)]; [M211(CFIA-IS3-i4.4)]; [M212(CFIA-IS3-i4.4)]; [M215(CFIA-IS3-i4.6)]; and CFIA-IS3-i4.5;

[357] CIDA, "DPR 2009-10,"

http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/ida/idapr-eng.asp?format=print (accessed October 19, 2012).

[358] TBS, "MAF VII CIDA,"

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2009/ida/ida-eng.asp (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	5. CIDA-IS3-i5: TBS identified opportunities: [M222(CIDA-IS3-i5): the identification and description of "all institutional functions, programs, activities and related information holdings" in Info Source need improvement];
TS_2-TBS2[359]	1. TS_2-TBS2-i1: Requirements on institution-specific Classes of Records; 1.1. TS_2-TBS2-i1.1: Title (mandatory)-Reflects the records being described; 1.2. TS_2-TBS2-i1.2: Description (mandatory)- 1.2.1. TS_2-TBS2-i1.2.1: Identifies the records created, collected and maintained by the institution as evidence of and information about a particular institutional program/activity; 1.2.2. TS_2-TBS2-i1.2.2: The Description must provide sufficient information for the general public to understand the program/activity to which the records relate; 1.3. TS_2-TBS2-i1.3: Document Types (mandatory) - Identifies specific document types contained in the files; for example: contracts, statements of work, proposals, evaluation criteria, memoranda, procedures, policies, legal opinions, project plans, surveys, statistical reports, agendas, minutes of meetings, etc.; [confirms M222(TS_2-TBS2-i1.2.1+ TS_2-TBS2-i1.2.2+ TS_2-TBS2-i1.3+CIDA-IS3-i3.2): the identification and description of records are problematic] 2. TS_2-TBS2-i1-i2: Requires descriptions of the institution's main functions, programs and activities;
IS-4[360]	1. CIDA-IS4-i1: uses the term IM/IT (400 appearances in the 72 pages document); CIDA-IS4-i1→ M221(2): when it's used the content is typically about IT[361]]; [TS_2-TBS3(CIDA-IS4-i1): the document Strategic Directions for Information Management and Information

[359] TBS, "Implementation Report No. 112 -Info Source 2009 Requirements," http://www.tbs-sct.gc.ca/atip-aiprp/impl-rep/2009/112-imp-mise02-eng.asp (accessed October 19, 2012).

[360] CIDA, "Audit of the IM/IT Strategy, Processes and Controls 2008," http://198.103.138.71/INET/IMAGES.NSF/vLUImages/Internal%20Audits/$file/IMIT-StrategyProcessesControls-EN.pdf (accessed October 19, 2012).

[361] Examples include p.1, paragraph 2, p.3, both sections.

Data	Indicators → Memos & Substantive Codes
	Technology: Enabling 21st Century Service to Canadians was identified as one extended source for the purpose of understanding the usage of "IM/IT"];
	2. CIDA-IS4-i2: Audit criteria were taken from COBIT (Control Objectives for Information Technology); because the obvious focus of COBIT on IT, the report states that "the term IT is used in the broader sense of IM/IT in line with TBS and COBIT on organizational or enterprise information and the technology investments made to manage and control that information"; [M223(CIDA-IS4-i2): audit criteria were based on IT industry standard and the report suggests that the term IT can represent IM];
	3. CIDA-IS4-i3: "data" appears 139 times, which is in line with the COBIT audit framework; [M224(CIDA-IS4-i3): the discussions about data are mainly on technology such as data warehouse and database consolidation; even those on data quality are in fact about technological issues]; [362]
	4. CIDA-IS4-i4: "IM" and "information management" each appears once (excluding a couple of times in titles); [M225(CIDA-IS4-i4): "IM" or "information management" is typically associated with "IM policies, trainings", and "governance for information management"];
	5. CIDA-IS4-i5: "records management" appears once in the full name of EDRMS; CIDA-IS4-i5→M220(2);
	6. CIDA-IS4-i6: "electronic records" appears once with no details; weak appearance of electronic records];
	7. CIDA-IS4-i7: "records" appears 12 times, all in titles such as EDRMS, Agency Records Schema, and Agency Records Center; "records" has no appearance in discussion];
	8. CIDA-IS4-i8: when discussing EDRMS (Enterprise Document and Records Management System) implementation,
	8.1. CIDA-IS4-i8.1: the report states that "the decentralization and independence of records management across branches made the implementation of EDRMS more difficult for branches"; [M226(CIDA-IS4-i8.1): in CIDA RM is decentralized, branch-based, which is considered as hindrance to EDRMS implementation];
	8.2. CIDA-IS4-i8.2: "a major impediment to the successful implementation of the EDRMS was the lack of effective application of the Agency Records Schema and the optimized Agency master index as the foundations of an Agency data classification schema for its electronic records"; [M227(CIDA-IS4-i8.2): considered lack of records classification

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[362] P4., section Information Quality for Reporting, in particular paragraph 2.

Data	Indicators → Memos & Substantive Codes
	application "major impediment" of EDRMS implementation]; [SD←M228(CIDA-IS4-i8.2): suggests that data classification = electronic records classification; →M89(1)]; [M229(CIDA-IS4-i8.2): no connection with LAC BASCS methodology or function-based records classification schema → ineffective LAC guidance];
TS$_2$-TBS3[363]	1. TS$_2$-TBS3-i1: a strategic document aiming at supporting eGov development;[364] 2. TS$_2$-TBS3-i2: Uses "IM/IT" for 100 times; [M230(TS$_2$-TBS3-i2): when IM/IT was used, typically about IT];[365] 3. TS$_2$-TBS3-i3: "IM" appears twice, both used in "IM standards, techniques and tools" without details; 4. TS$_2$-TBS3-i4: "IT" appears 15 times, used in "IT procurement", "IT reform", "using IT to mechanize programs and processes", etc.; 5. TS$_2$-TBS3-i5: "a common set of IM standards, techniques and tools" is "also an emerging priority"; [M231(TS$_2$-TBS3-i5+ TS$_2$-TBS3-i4+ TS$_2$-TBS3-i3+ TS$_2$-TBS3-i2): Although IM is put before IT, the focus of the document is apparently on IT]; 6. TS$_2$-TBS3-i6: "records" appears once without details;[366] 7. TS$_2$-TBS3-i7: "records management" or "RM" has no appearance; [SD←M232(TS$_2$-TBS3-i6+ TS$_2$-TBS3-i7): weak (one time) appearance of records; no RM appearance];
	sG: CRA
IS-1	1. CRA-IS1-i1: Headquarters -> Strategy and Integration Branch -> Statistics and Information Management Directorate -> Information

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[363] TBS, "Strategic Directions for Information Management and Information Technology: Enabling 21st Century Service to Canadians 1999,"

http://www.tbs-sct.gc.ca/pubs_pol/ciopubs/tb_oimp/sdimit-eng.pdf (accessed October 19, 2012).

[364] "The IM/IT strategy will advance the federal government's citizen-centred service delivery vision collaboratively across departments and with other levels of government". "Getting government on-line requires a new approach to our IM/IT infrastructure."

[365] Examples include s1.4,

[366] "Government must lever enterprise-wide IM/IT initiatives to manage records, information and knowledge resources".

Data	Indicators → Memos & Substantive Codes
	Policy and Governance Division; 2. CRA-IS1-i2: None of the position titles contains "record(s)"; [M233(CRA-IS1-i1+CRA-IS1-i2): no appearance of record(s) or RM in IM org. chart]; 3. CRA-IS1-i3: cannot discern IM/RM on the charts of regional offices either;
IS-2 2008-09[367]	1. CRA-IS2(08)-i1: "records" appears in relation to financial transactions;[368] 2. CRA-IS2(08)-i2: IM (or information management) has no appearance; 3. CRA-IS2(08)-i3: RM (or records management) has no appearance; 4. CRA-IS2(08)-i4: the emphasis is on data;
2009-10[369]	1. CRA-IS2(09)-i1: same as CRA-IS2(08)-i1; 2. CRA-IS2(09)-i2: "information management" appears in "Information Management Strategy", which treats information as a whole;[370] 3. CRA-IS2(09)-i3: RM (or records management) has no appearance; 4. CRA-IS2(09)-i4: the emphasis is on data; {CRA-IS2(08)-i3+CRA-IS2(09)-i3}→M204

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[367] CRA, "DPR 2008-09," http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/index-eng.asp?acr=1453 (accessed October 19, 2012).

[368] To fulfill its accounting and reporting responsibilities, management maintains sets of accounts which provide records of the Agency's financial transactions.

[369] CRA, "DPR 2098-10," http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/ida/idapr-eng.asp?format=print (accessed October 19, 2012).

[370] We developed the CRA Information Management Strategy 2010-2011 to 2012-2013. Developed in consideration of program and service information requirements, as well as legislation and policies governing the management of information, the strategy identifies areas where the CRA's information management practices are less mature and sets a collaborative change agenda across the CRA to address those areas.

Data	Indicators → Memos & Substantive Codes
IS-3[371]	1. CRA-IS3-i1: 12.1 Governance: *Strong*; 1.1. CRA-IS3-i1.1: IM governance and accountability structures are in place *throughout the organization*, including representation of IM in organization-wide governance and/or approval committees; 1.2. CRA-IS3-i1.2: same as CIDA-IS3-i1.2; 1.3. CRA-IS3-i1.3: same as CIDA-IS3-i1.3; 2. CRA-IS3-i2: 12.2 Strategy Planning and Implementation: *Acceptable* 2.1. CRA-IS3-i2.1: same as CFIA-IS3-i2.1; 2.2. CRA-IS3-i2.2: implementation is underway and there is *significant* evidence of progress; 2.3. CRA-IS3-i2.3: same as CIDA-IS3-i2.3; 3. CRA-IS3-i3: 12.4 Access to Information Act: *Acceptable*; 3.1. CRA-IS3-i3.1: same as CFIA-IS3-i3.1; 3.2. CRA-IS3-i3.2: Response to TBS feedback is usually fully addressed; 3.3. CRA-IS3-i3.3: significant efforts made to improve and revise its 2009 Info Source chapter; 4. CRA-IS3-i4: TBS identified opportunities; same as [M207(CFIA-IS3-i4.1)]; [M209(CFIA-IS3-i4.3)]; [M211(CFIA-IS3-i4.4)]; [M212(CFIA-IS3-i4.4)]; [M215(CFIA-IS3-i4.6)] and CFIA-IS3-i4.5; 5. CRA-IS3-i5: TBS identified opportunities; Finalize and approve the IM strategy;
sG: CSC	
IS-1	1. CSC-IS1-i1: National Headquarters -> Senior Deputy Commissioner's Office -> Information Management Services -> Information Management: 34 positions; 2. CSC-IS1-i2: 11 contains "record(s)"; →M200; 2.1. CSC-IS1-i2.1: 9 "Record Clerk", 1 "Senior Clerk, Offender Records"; [M234(CSC-IS1-i2.1): most are assistant/clerk positions for RM]; 2.2. CSC-IS1-i2.2: 1 "Supervisor, Records Management"; [M235(CSC-IS1-i2.2): RM low management position]; 3. CSC-IS1-i3: cannot discern IM/RM on the charts of regional offices;
IS-2	1. CSC-IS2(08)-i1: "information management" appears as one internal services;

[371] TBS. MAF VII CRA.

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2009/nar/nar-eng.asp.

Data	Indicators → Memos & Substantive Codes
2008-09[372]	2. CSC-IS2(08)-i2: Activities to enhance "Information Management/Information Technology" infrastructure include: 2.1. CSC-IS2(08)-i2.1: The installation of a Security Intelligence Network in all institutions; The development of a process to test and monitor CSC's Information Technology disaster recovery capacity for mission-critical applications; CSC-IS2(08)-i2.1→M205 apparent IT activities; 2.2. CSC-IS2(08)-i2.2: The implementation of an integrated and risk-based business planning process; The implementation of a revised Program Activity Architecture to assist with improved resource allocation, activities-based reporting, accountabilities and corporate evaluations; [M236(CSC-IS2(08)-i2.2): not apparent IT activities but also unclear how they are related IM]; 3. CSC-IS2(08)-i3: RM (or records management) have no appearance;
2009-10[373]	1. CSC-IS2(09)-i1: "Information Management" appears in "Information Management Branch" and "Performance Analysis"; 1.1. CSC-IS2(09)-i1.1: the Information Management Branch undertook initiatives to improve efficiency: implementation of a business plan to improve information technology planning and governance processes; finalized the System Development Life Cycle model and conducted an initial functional review of all areas within Application Services and Infrastructure Services and Operations; reduced the number of corporate applications by 50 percent and implemented application lifecycle procedures; revamped the coding structure to improve financial analysis and reporting, visibility and transparency; [M237(CSC-IS2(09)-i1.1): all apparent IT initiatives when discussing IM Branch]; 1.2. CSC-IS2(09)-i1.2: Information technology is crucial to CSC's operations at all levels, and the relationship between the Information Management Branch and the rest of the organization can either facilitate or hinder operations; [M238(CSC-IS2(09)-i1.2): IT represents completely the IM

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[372] CSC, "DPR,"

http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/pen/penpr-eng.asp?format=print (accessed October 19, 2012).

[373] CSC, "DPR,"

http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/pen/penpr-eng.asp?format=print (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	Branch]; 1.3. CSC-IS2(09)-i1.3: In October 2009, the Police and Court Information Management Module was implemented across the country. This is a shared electronic access system whereby police reports, judges' reasons for sentence and other official documents can be easily accessed by CSC staff. As a result of this initiative, documents are accessible immediately after scanning and are available to all authorized users simultaneously. As well, users can search for a particular type of report by date and by sentence and once captured, documents cannot be lost or misplaced; [M239(CSC-IS2(09)-i1.3): IM and document were used when discussing electronic systems, but not records or electronic records]; 2.　CSC-IS2(09)-i2: RM (or records management) have no appearance;
IS-3[374]	1.　CSC-IS3-i1: 12.1 Governance: *Acceptable*; 1.1. CSC-IS3-i1.1: IM requirements are *somewhat* integrated as a part of the approval, development, implementation, evaluation, and reporting of departmental policies, programs, services, or projects; 1.2. CSC-IS3-i1.2: IM is *somewhat* represented in the corporate-wide governance or approval committee(s); 1.3. CSC-IS3-i1.3: *Some* responsibilities are identified for IM policy development/ implementation; [M240(CSC-IS3-i1⇔CFIA-IS3-i1; CIDA-IS3-i1;): CSC-IS3-i1 should be Opportunity for Improvement]; 2.　CSC-IS3-i2: 12.2 Strategy: *Acceptable*; 2.1. CSC-IS3-i2.1: strategy is *in development* but it is *not* clear how it supports departmental business priorities and operations *nor* how it integrates with other corporate strategies, plans, and planning cycles; 2.2. CSC-IS3-i2.2: strategy implementation plan, including *some* timelines and resources, is underway and *some* achievements to date are identified; 2.3. CSC-IS3-i2.3: *Minimal* IM awareness activities are underway to help staff and executives understand their IM roles, responsibilities and accountabilities; [M241(CSC-IS3-i2⇔CFIA-IS3-i2; CIDA-IS3-i2;): CSC-IS3-i2

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[374] TBS, "MAF VI CSC,"

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2008/pen/pen-eng.asp (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	should be Opportunity for Improvement];
	3. CSC-IS3-i3: 12.4 Access to Information Act: *Opportunity for Improvement*;
	3.1. CSC-IS3-i3.1: same as CIDA-IS3-i3.2;
	3.2. CSC-IS3-i3.2: A *significant* number of the organization's functions, programs, activities and related information holdings have not been appropriately identified or described in its 2008 Chapter of Info Source: Sources of Federal Government Information; →M222;
	4. CSC-IS3-i4: TBS identified opportunities; same as [M208(CFIA-IS3-i4.2)]; CRA-IS3-i5; [M222(CIDA-IS3-i5)]; [M215(CFIA-IS3-i4.6)];
	5. CSC-IS3-i5: TBS identified opportunities; Increase awareness activities and develop an overall IM Awareness Strategy and Implementation plan to ensure employee awareness of IM responsibilities; [SD←M242(CSC-IS3-i5): even "employee awareness of IM responsibilities" is unsatisfactory, let alone apply all IM requirements + AANDC 1998 audit shows that awareness was a problem then, yet the current GC/TBS effort is still on awareness and training for employees → ineffective IM work model]
IS-4.1[375]	1. CSC-IS4.1-i1: one objective is "to assess if required quality analysis of wastewater treatment is conducted and that records are properly maintained"; [M243(CSC-IS4.1-i1): the use of "records" is confusing; →M16(19)];[376]
	2. CSC-IS4.1-i2: Only 2 of the nine institutions audited use the "filing system";[377] [M244(CSC-IS4.1-i2): classifying/filing records was a

[375] CSC, "Audit of Environmental Management System 2006," http://www.csc-scc.gc.ca/text/pa/adt-envrmngmnt-378-1-210/audit_enviromanage2006_e.pdf (accessed October 19, 2012).

[376] e.g., "Ensure that all documents required in the Environmental Guidelines (audits, data, records) are kept on site for five years following the date of issue"; "Confirm that all documents required by the Environmental Guidelines (records, service logs, reports, and notices) are kept on site"; "all documents required by Environmental Guidelines (audits, measurement data, records, register) are kept on site of at least 5 years following the date of issue".

[377] Finding #2 - A permanent filing system was in place in only two of the nine institutions visited.

Data	Indicators → Memos & Substantive Codes
	problem];
IS-4.2[378]	1. CSC-IS4.2-i1: uses "information" and "data" for performance management/reporting; the term record(s) has no appearance; [M245(CSC-IS4.2-i1): records is not associated with performance management or reporting]; M245⇔TBS definition of records)];
IS-4.3[379]	1. CSC-IS4.3-i1: uses "Information Management"; [M246(CSC-IS4.3-i1): when IM is used, it's about IT project management]; 2. CSC-IS4.3-i2: "records" appears in "medical records"; no details;

IS-4.4[380]	1. CSC-IS4.4-i1: is about "physical offender and staff records";
	 2. CSC-IS4.4-i2: "records" used 100 times; [M247(CSC-IS4.4-i1+CSC-IS4.4-i2): records are used in association with "physical records"];
	 3. CSC-IS4.4-i3: areas audited include "policies and procedures", "roles and responsibilities", "training", and "monitoring & reporting", "classifying and filing records", "maintaining official files", "access to records", and "disposal of records";
	 4. CSC-IS4.4-i4: The Information Management Division
	    4.1. CSC-IS4.4-i4.1: is responsible for the management of corporate information at National Headquarters; [M248(CSC-IS4.4-i4.1): no definition for information];
	    4.2. CSC-IS4.4-i4.2: creates information management standards, policies and programs in accordance with all Federal Government policies;
	    4.3. is also responsible for management of the Offender Records;
	    4.4. CSC-IS4.4-i4.4: also provides functional direction to both

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[378] CSC, "Audit of Strategic Performance Management Information 2009,"

http://www.csc-scc.gc.ca/text/pa/adt-spmi-378-1-245/adt-spmi-378-1-245-eng.shtml (accessed October 19, 2012).

[379] CSC, "Review of Health Information Management Module 2009,"

http://www.csc-scc.gc.ca/text/pa/adt-himm-378-1-207/adt-himm-378-1-207-eng.shtml (accessed October 19, 2012).

[380] CSC, "Audit of Safeguarding of Physical Offender and Staff Records 2010,"

http://www.csc-scc.gc.ca/text/pa/adt-sposr-378-1-253/adt-sposr-378-1-253-eng.shtml (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	regions and institutions with regards to physical offender files; [M249(CSC-IS4.4-i4.2+CSC-IS4.4-i4.4): what IM does: standards, policies; functional direction];
	4.5. CSC-IS4.4-i4.5: has minimal involvement with the management of physical staff records as this falls under the responsibility of the Human Resource Management Sector; [M250(CSC-IS4.4-i4.5): incomplete/weak control over records];
	5. CSC-IS4.4-i5: procedures and user's manuals for offender records are comprehensive; [M251(CSC-IS4.4-i5): issues are related to application of procedures];[381]
	6. CSC-IS4.4-i6: Safeguarding of electronic files was examined in the Audit of Logical Access Controls; [TS$_2$-CSC1(CSC-IS4.4-i7): the Audit of Logical Access Controls (CSCe-1) was identified as one extended source;
TS$_2$-CSC1[382]	1. TS$_2$-CSC1.1: logical access controls means "user ids and passwords giving users' access to the corporate network or corporate applications"; [M251(TS$_2$-CSC1.1): Safeguarding of electronic files = IT security = user ids and passwords];
	2. TS$_2$-CSC1.2: electronic/digital records management has no appearance; [M252(TS$_2$-CSC1.2): even in audit relating to "electronic files", E/DRM has no appearance];
	sG: EC
IS-1	1. EC-IS1-i1: Deputy Ministers' Office -> Corporate Services Branch -> Information Management Directorate -> Library and Records Management Services - > (Library Services); Electronic Documents Management Services; Records Management Services -> 6 regions; EC-IS1-i1→M202;
	2. EC-IS1-i2: Titles under Records Management Services include: Records Administrator; RM Assistant; Head, IM Services; Supervisor, Records Office; Records Specialist; EC-IS1-i2→M200; EC-IS1-i2→M203; EC-IS1-i2→M235;
IS-2	1. EC-IS2(08)-i1: "information management" appears once in the

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[381] For example, Records are not always being classified when the information is sensitive; *Files being used outside of the institution are not always appropriately safeguarded;* Documents given to offenders by CSC are not always properly identified;

[382] CSC, "Audit of Logical Access Controls," http://www.csc-scc.gc.ca/text/pa/adt-lac-378-1-240/adt-lac-378-1-240-eng.pdf (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
2008-09[383]	development of the "business and information management processes within resource and policy constraints" of the Environmental Assessment Management System; 2. EC-IS2(08)-i2: RM (or records management) has no appearance;→M204;
IS-2 2009-10[384]	1. EC-IS2(09)-i1: "information management" appears 7 times; 1.1. EC-IS2(09)-i1.1: information management "emerged in 2009-2010" as one of the "key risks" "that could affect the Department's capacity to meet its priorities in subsequent years"; 1.2. EC-IS2(09)-i1.2: under Risk Analysis 1.2.1.　　EC-IS2(09)-i1.2.1: To improve data quality and availability, the Department is implementing an integrated information management (IM) plan by establishing key IM services and products, promoting policies and best practices for the management of information; [M253(EC-IS2(09)-i1.2.1): IM = data quality and availability]; 1.2.2.　　EC-IS2(09)-i1.2.2: implementing new technologies to support information management; 1.3. EC-IS2(09)-i1.3: Lessons Learned (under Performance Analysis for Strategic Outcome 3: Canadians and their environment are protected from the effects of pollution and waste);[385]

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[383] EC, "DPR 2008-09,"

http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/doe/doepr-eng.asp?format=print (accessed October 19, 2012).

[384] EC, "DPR. 2009-10,"

http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/doe/doepr-eng.asp?format=print (accessed October 19, 2012).

[385] Greater integration and cooperation among the various Environment Canada data collection programs would better enable information that is more simplified, streamlined and aligned with departmental priorities. Lessons learned from the design and implementation of electronic submission tools to support data gathering under the Chemicals Management Plan, the National Pollutant Release Inventory and the Greenhouse Gas Emissions Reporting Program were integrated in the Single Window Reporting Initiative. More specifically, the lessons learned included the importance of the coordination and communication of clear and valid business rules, tools to manage data, and the involvement of information management specialists and key

Data	Indicators → Memos & Substantive Codes

	[M254(EC-IS2(09)-i1.3): the involvement of information specialists is for "data" and "information"];
	 1.4. EC-IS2(09)-i1.4: As one of the internal services;
	 1.5. EC-IS2(09)-i1.5: A 3-year (2009-2012) IM/IT plan (under Performance in support of Management Priorities);[386]
	 2. EC-IS2(09)-i2: "IM/IT" or "IM & IT" or "IM and IT" 9 times;
	   2.1. EC-IS2(09)-i2.1: As one component in "integrated planning"; [387]
	   2.2. EC-IS2(09)-i2.2: as one "key enabling function";[388]
	     [EC-IS2(09)-i2.2→M219(CFIA-IS4-i2);
	     [M255(EC-IS2(09)-i2.2): it seems that IT here represents IM as suggested by "information technology/management"];
	   2.3. EC-IS2(09)-i2.2: The IM/IT Portfolio/Client Relationship Management program has matured since its initial implementation in 2008, and continues to enhance client engagement and alignment between departmental and program objectives and delivery of IM and IT products and services.

program staff to promote alignment of <u>data</u> requirements across programs while ensuring that reporting obligations can be met in response to provisions under CEPA 1999.

[386] Implementation of Environment Canada's three-year Information Management and Information Technology (IM & IT) Plan (i.e. the 2009-12 IM & IT Plan) continued, along with enhancement of client engagement to align funding, design process and delivery of IM and IT services and projects to the Department's Strategic Outcomes.

[387] Progress has been made on integrated planning by improving linkages across financial, human resources, information technology/management, and communications planning components. Specifically, during the operational planning process, financial resource requirements (salary, Operation and Maintenance, Grants and Contributions and Capital) and non-financial planning components (HR, IM/IT, Communications) were solicited from line managers through a single department-wide call letter and common templates. This effort was assisted by the participation of enabler portfolio managers (e.g., HR, Communications, IM/IT) who worked with line managers in defining these resource requirements.

[388] "7- Strengthening the support to Program Activities through enhancement of key enabling functions" under "Management Priorities for 2009–2010" under "Contribution of Department's Priorities to Strategic Outcomes".

Data	Indicators → Memos & Substantive Codes
	Environment Canada has complementary mechanisms to ensure that both the funding and the design process align IM & IT projects with departmental and program objectives; EC-IS2(09)-i2.2: unclear how the work of IM and IT is distinguished; →M219(CFIA-IS4-i2); 2.4. EC-IS2(09)-i2.3: Environment Canada's IM & IT Services advanced in the areas of process standardization and the use of best practices; EC-IS2(09)-i2.3: unclear how the work of IM and IT is distinguished→ M219(CFIA-IS4-i2); 3. EC-IS2(09)-i3: RM (or records management) has no appearance; →M204;
IS-3[389]	1. EC-IS3-i1: 12.1 Governance: *Acceptable*; 1.1. EC-IS3-i1.1: same as CFIA-IS3-i1.1; 1.2. EC-IS3-i1.2: same as CIDA-IS3-i1.2; 1.3. EC-IS3-i1.3: same as CFIA-IS3-i1.3; 2. EC-IS3-i2: 12.2 Strategy Planning and Implementation: *Acceptable*; 2.1. EC-IS3-i2.1: same as CIDA-IS3-i2.1; 2.2. EC-IS3-i2.2: same as CRA-IS3-i2.2; 2.3. EC-IS3-i2.3: same as CIDA-IS3-i2.3; 3. EC-IS3-i3:12.4 Access to Information Act: *Acceptable* 3.1. EC-IS3-i3.1: Organization submitted an Annual Report to Parliament and addressed all of the mandatory reporting requirements; 3.2. EC-IS3-i3.2: CRA-IS3-i3.2; 3.3. EC-IS3-i3.3: CRA-IS3-i3.3; 4. EC-IS3-i4: TBS identified opportunities: same as [[M207(CFIA-IS3-i4.1)]; [M209(CFIA-IS3-i4.3)]; [M211(CFIA-IS3-i4.4)]; [M212(CFIA-IS3-i4.4)]; CFIA-IS3-i4.5; [M215(CFIA-IS3-i4.6)];
IS-3.1[390]	1. EC-IS3.1-i1: To comply with the TBS Recordkeeping Directive on Institution-Specific Classes of Records, EC will continue working on

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[389] TBS, "MAF VII EC,"

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2009/doe/doe-eng.asp (accessed October 19, 2012).

[390] EC, "Departmental Response to Round VII (2009-10) Environment Canada Management Accountability Framework (MAF) Assessment,"

http://www.ec.gc.ca/default.asp?lang=En&n=33B5D371-1 (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	revising the classes of records created for the *2009Info Source Chapter*, focusing on activities; [M256(EC-IS3.1-i1): the department still uses "records" in relation to the TBS Recordkeeping Directive]; 2. EC-IS3.1-i2: The Department will finalize its communication and implementation plans on the TBS Recordkeeping Directive by developing IM-awareness products: training, advice, guidance, presentations, communication of best practices, and guidelines and procedures; [M257(EC-IS3.1-i2): the department also uses "IM" in relation to the TBS Recordkeeping Directive]; [M258(EC-IS3.1-i2): the plan to implement the TBS Recordkeeping Directive is to develop "awareness products": "training, advice, guidance, presentations, communication"];
IS-4[391] (found out in 2012)	1. EC-IS4-i1: Information management involves the management of information (that has business value) throughout the information's entire life cycle – [M600: confusing use of terms]; 2. EC-IS4-i2: The Government of Canada's Policy on Information Management assigns roles and responsibilities generally to managers and employees … [M601: No mentioning of IM specialists – went beyond the TBS R&R model; same with CRA 2003. Information Management Policy, which did not mention IM specialists either; CFIA as well) ; 3. EC-IS4-i3: This concern has been addressed in the TB Directive on Recordkeeping …; [M602: all terms, i.e., "information", "information (that has business value)", "records", "corporate memory") used without differentiation]; 4. EC-IS4-i4: Access to timely, accurate and reliable information is an essential component for decision making and overall performance; [M603: records are not associated with decision making or performance]; 5. EC-IS4-i5: <u>Information management issues have plagued departments across government for many years, so it is not surprising to find that EC has also been experiencing many seemingly intractable issues of its own</u>. A number of the recommendations arising from the Review of Information Management conducted in 2001 are still outstanding 10 years later. [M604: a lingering problem]; 6. EC-IS4-i6: Audit scope: The management of all records related to the business of the Department, regardless of format, was included; records definition uses the LAC one; the audit then is in fact about records including electronic records; [M605: yet electronic records

[391] EC, "Audit of Governance of Information Management. Nov. 2, 2011,"

http://www.ec.gc.ca/ae-ve/default.asp?lang=En&n=A44BE2CD-1 (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	did not appear because the criteria sources (below) do not talk about ER];
	7. EC-IS4-i7: Audit criteria were based on: the TB Directive on Information Management Roles and Responsibilities; the TB Policy on Information Management; the TB Directive on Recordkeeping; and the Library and Archives of Canada Act; [M606(EC-IS4-i6+ EC-IS4-i7): ineffective legal/regulatory framework → ineffective audit];
	8. EC-IS4-i8: An IM strategic plan was created in 2007 and approved; little evidence of implementing its recommendations; [M607: non-execution]
	8.1. Then, a new IM strategic plan is currently under development; [M608: will developing a new one be the solution? Ineffective solution];
	9. EC-IS4-i9: The Information Management Steering Committee (IMSC) … was set up [M609: easy part of MAF assessment, thus is done] to provide strategic direction to the IMD on the impact of information management practices on business; specific responses to IM issues have yet to be developed into actionable plans that can be implemented across the organization; [M609: this is the difficult part: lack of specifics for implementation];
	10. EC-IS4-i10: In the absence of relationships between these managers and IMD key contacts , the various areas within EC conduct IM practices as they see fit, seeking only limited guidance from the IM Directorate [M610: ineffective IM guidance, "area"-independent IM; a passive IM service function);
	11. EC-IS4-i11: IM training is not delivered consistently across the department. There is no training plan for IM in the Department ([M611: training is comparatively simple when compared to e.g., integration IM requirements with business processes, yet it's a problem); training is provided only when requested ([M612: a passive IM service function);
	12. EC-IS4-i12: Recordkeeping requirements and standards, such as the need to identify information resources of business value, to protect that data and the need to carry out activities that support good recordkeeping, are not consistently understood by managers [M613: need for RM professionals] across the Department;
	13. EC-IS4-i13: Each directorate's recordkeeping practices are different, and [M614: directorate-independent "recordkeeping"];
	14. EC-IS4-i14: are influenced by the tools they have at hand, such as SharePoint, shared drives, Microsoft Exchange Server, etc.; [[M615: IT influences "recordkeeping practices"];
	15. EC-IS4-i15: An inconsistent understanding of disposition authorities; [M616: issues caused by lack/insufficient understanding of records];

Data	Indicators → Memos & Substantive Codes
	16. EC-IS4-i16: Guidance is available to employees through best practices on how to dispose of administrative, operational and transitory records, but such guidance is not actively promoted; [M617: the issue is not about promoting guidance, but its executability];
	17. EC-IS4-i17: For the most part, the treatment of hard-copy information is well understood; however, there is no central inventory of these information holdings [M618: need for central control];
	18. EC-IS4-i18: the issues is the lack of "a common departmental approach"; [M619: need for central control];
	19. EC-IS4-i19: The lack of a consistent EC approach to IM limits the ability to share, leverage and find information; [M620: need for central control];
	20. EC-IS4-i20: Recommendations from prior audit work (in 2001, no online copy)
	20.1. development of tools and processes for IM; [M621: this tells about the IM ability)
	20.2. on-going efforts to communicate IM responsibilities and increasing overall IM awareness; [M622: the ineffectiveness of increasing employee awareness may be caused by resistance, due to the heavy workload imposed on them);
	21. 3 recommendations: finalize strategic plan, ensure compliance with TB requirements, make communication plan, etc., [M623: same areas as those MAF assesses; none of them addresses the root causes, will be ineffective];
sG: HCan
IS-1	22. HC-IS1-i1: Corporate Services Branch -> Information Management Services Directorate; Business Management Services Division; CIO and Director General's Office; Client Engagement and Governance Centre; Computing and Network Services Centre; Solutions Centre; HC-IS1-i1→M233;
IS-2 2008-09[392]	1. HC-IS2(08)-i1: "information management" appears in Operational Priorities: "The information management agenda advanced through implementation of a Proof of Concept project and the subsequent rollout of an electronic document management system in a limited number of Health Canada branches; [M259(HC-IS2(08)-i1): information management = IT project (electronic document

[392] HCan, "DPR,"

http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/shc/shcpr-eng.asp?format=print (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	management system)]; HC-IS2(08)-i1→M239; 2. HC-IS2(08)-i2: "records" used in "electronic health records"; no details;[393] 3. HC-IS2(08)-i3: RM (or records management) have no appearance; →M204;
IS-2 2009-10[394]	1. HC-IS2(09)-i1: Uses IM; →M246: is apparently about IT]; [395] 2. HC-IS2(09)-i2: Uses IM/IT; →M205: is apparently about IT]; [396] 3. HC-IS2(09)-i3: records used in "Electronic Health Records"; 3.1. HC-IS2(09)-i3.1: Canada's Economic Action Plan allocated $500 million to Canada Health Infoway (Infoway) to support the goal of establishing Electronic Health Records for Canadians, to speed up the implementation of Electronic Medical Records in physicians' offices, and to integrate points of service, such as hospitals, pharmacies and community care facilities; 3.2. HC-IS2(09)-i3.2: The Department is accelerating the implementation of Health Information Systems, via Canada Health Infoway, to support the continued implementation of electronic health records and other electronic health technologies

[393] Together with provinces and territories we made progress on common goals such as patient wait times and the transition to electronic health records.

[394] HCan, "DPR," http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/shc/shcpr-eng.asp?format=print (accessed October 19, 2012).

[395] PeopleSoft will replace the current outdated HR IM system in order to improve enterprise information, enhance services to support program delivery, streamline processes and reduce cost.

[396] IM/IT- Health Canada (HC), in partnership with PWGSC IT Shared Services, is the first federal department to adopt a new innovative interoperable Web 2.0 tool called Oracle Beehive. The Business Enterprise Enabler (BEE) initiative provides Health Canada users with access to collaboration tools such as wiki's and blogs, team workspaces and instant messaging. This will enable HC to use industry leading services for enterprise collaboration, while aligning with the Government of Canada IT Shared Services initiative. Health Canada will continue to roll-out Web 2.0 tools, in response the Clerk's directions regarding increased use of wikis and blogs in government.

Data	Indicators → Memos & Substantive Codes
	(e.g. telehealth and public health surveillance); [TS$_2$-GC2(HC-IS2(09)-i3.1+HC-IS2(09)-i3): Canada Health Infoway was identified as one extended source]; 4. HC-IS2(09)-i4: RM (or records management) have no appearance;
TS$_2$-GC2[397]	1. TS$_2$-GC2-i1: Infoway is about "transforming health care through health information technology"; all items under What We Do are about IT; [M260(HC-IS2(09)-i3+TS$_2$-GC2-i1): even though "records" is used, the content is about IT];
IS-3[398]	1. HC-IS3-i1: Governance: *Acceptable*; 1.1. HC-IS3-i1.1: same as CFIA-IS3-i1.1; 1.2. HC-IS3-i1.2: CFIA-IS3-i1.2; 1.3. HC-IS3-i1.3: CFIA-IS3-i1.3; 1.4. HC-IS3-i1.4: IMSO is not formally designated; 2. HC-IS3-i2: 12.2 Strategy Planning and Implementation: *Opportunity for Improvement*; 2.1. HC-IS3-i2.1: same as CFIA-IS3-i2.1; 2.2. HC-IS3-i2.2: implementation is *nominally* underway and there is *little* evidence of progress against plans. 2.3. HC-IS3-i2.3: same as CIDA-IS3-i2.3; 3. HC-IS3-i3: 12.4 Access to Information Act: *Opportunity for Improvement*; 3.1. HC-IS3-i3.1: A *significant* portion of the organization's functions, programs, and activities have not been appropriately identified or described in its 2009 Chapter of Info Source; 3.2. HC-IS3-i3.2: CIDA-IS3-i3.2; 4. HC-IS3-i4: TBS identified opportunities: same as [M207(CFIA-IS3-i4.1)]; [M209(CFIA-IS3-i4.3)]; [M211(CFIA-IS3-i4.4)]; [M212(CFIA-IS3-i4.4)]; CFIA-IS3-i4.5; [M222(CIDA-IS3-i5)];
IS-4.1[399]	1. HC-IS4.1-i1: Audit of IM/IT Governance; → M221: completely

[397] GC. Canada Health Infoway. https://www.infoway-inforoute.ca/index.php.

[398] TBS, "MAF VII HCan. 2009-10,"

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2009/shc/shc-eng.asp (accessed October 19, 2012).

[399] HCan, "Audit of Information Management/Information Technology (IM/IT) Governance. 2009," http://www.hc-sc.gc.ca/ahc-asc/pubs/_audit-verif/2009-28/index-eng.php (accessed

Data	Indicators → Memos & Substantive Codes
	about IT];

IS-4.2[400]	1. HC-IS4.2-i1: The Government of Canada has an information management strategy that is followed by departments and agencies; Yet, the Information Commissioner of Canada has identified that across government there remains systemic issues affecting the way in which departments manage information;
	
	2. HC-IS4.2-i2: The objective of this audit is to assess Health Canada's information management practices in relation to roles and responsibilities, systems, record classification structure, and disposition authorities;
	
	3. HC-IS4.2-i3: The audit relied on the Treasury Board of Canada Secretariat core management control criteria to assess management controls and stewardship;
	
	4. HC-IS4.2-i4: Roles and responsibility;
	  4.1. HC-IS4.2-i4.1: audit criteria: IM is a shared responsibility; [M261(HC-IS4.2-i4.1): the "roles and responsibility" structure follows TBS-1 and TBS-2];
	    4.1.1. HC-IS4.2-i4.1.1: Within the Information Management Services Directorate, the Information Knowledge Management Division (IKMD) provides department-wide functional leadership and guidance for information management (IM); more specifically, the Division is responsible for the development and maintenance of information management strategies, policies, information architecture, standards and guidelines;
	    4.1.2. HC-IS4.2-i4.1.2: The Division is also accountable for the development and support of a records management solution in all media types, development and deployment of training and awareness strategies, and coordinating, to develop IM communication products; delivery of records disposition; services to facilitate access to knowledge; library services; research and mail services; [M262(HC-IS4.2-i4.1.1+ HC-IS4.2-i4.1.2): what IM does: provides department-wide functional leadership and guidance (=development and maintenance of IM strategies, policies, standards and guidelines) and "also" the development and

October 19, 2012).

[400] HCan, "Audit of Information Management. 2010,"

http://www.hc-sc.gc.ca/ahc-asc/pubs/_audit-verif/index-eng.php (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	support of a RM solution in all media types, development and deployment of training and awareness strategies, IM communication products; delivery of records disposition];
	4.1.3. HC-IS4.2-i4.1.3: Health Canada managers are responsible for managing information as an integral part of programs, service delivery and as a strategic business resource; Branches are responsible for managing corporate information which consists of documents pertaining to the delivery of programs and services, records of decisions made, and evidence of financial and legal transactions;
	4.1.4. HC-IS4.2-i4.1.4: all employees are responsible for managing the information they collect, create and use to support not only the outcomes of the programs and services, but also the Department's operations and legislated accountabilities; ; [M263(HC-IS4.2-i4.1.3+ HC-IS4.2-i4.1.4): "managers" and "all employees" do the actual work];
	4.1.5. HC-IS4.2-i4.1.5: Branch Information Management Advisor (BIMA) and the Regional Information Management Advisor (RIMA); Advisors support department-wide information management initiatives by <u>implementing</u> policies, directives and standards; Advisors also develop and <u>deliver</u> information management services such as providing routine advice, training and awareness sessions; In addition, they are responsible for <u>supporting</u> integration of information management requirements into departmental business and information technology strategies; Lastly, they <u>collaborate</u> with all managers to address information lifecycle requirements; further investigation! – they are equivalents of the IM Division at the headquarters, still not

Data	Indicators → Memos & Substantive Codes
	doing the actual work][401] [402]
	4.2. HC-IS4.2-i4.2: Issue: While the Department has in place a structure to manage its information, there are (thus) still roles and responsibility gaps with respect to how information is managed and monitored for both integrity and completeness; [M264(HC-IS4.2-i4.2): the problem is actual work for execution/implementation];
	4.3. HC-IS4.2-i4.3: Recommendation; [M265(HC-IS4.2-i4.3): recommendations do not address causes: recommend to update, to implement; to apply, etc., but nothing on "how"];
	4.3.1. CIO update information management policies/guidelines and directives to reflect current roles and responsibilities for managing information in the Department;
	4.3.2. all Branches apply information management principles, standards, and practices;
	4.3.3. CIO conduct annual assessments on the effectiveness of Branch information management practices and report annually to the Senior Management Board – Policy;
	4.4. HC-IS4.2-i4.4: Management Response: numerous actions have been undertaken; [M266(HC-IS4.2-i4.4): Management Response addresses the part of the solution that is easier and quicker to be

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[401] Information Management Advisors have a broad knowledge of information management disciplines and provide guidance and support to program and staff functions on all aspects of managing the information resource. TBS-CIOB. Glossary - Subject: Information Management. http://www.tbs-sct.gc.ca/cioscripts/gloss/gloss-alpha_e.asp?SubjectID=28&who=/im-gi/.

[402] ATI request released record: Situation Report on Records Improvement Project. 2005. IKMD assumed an advisory role with an emphasis on consensus building and collaboration. The Branches and the Regions were responsible to complete the work. Under the direction of IKMD and through the Portfolio Managers, RIP developed direct links, with its counterparts in the branches and regions through the Branch Information Management Advisors (BIMAs) and the Regional Information Management Advisors (RIMAs). These members worked together collaboratively on the implementation of common tools, processes, and standards for RM in the Department. - The linkage is comparatively strong but still it remains as an advisory role and collaborative relationship, which does not solve the problems of needing to carry out RM work professionally and of monitoring the RM performance with sufficient authority.

Data	Indicators → Memos & Substantive Codes
	developed];
	4.4.1. updated the Departmental IM policies, guidelines and directives to reflect current roles and responsibilities for managing information and posted them to the Health Canada intranet;
	4.4.2. reviewed and updated the IM/IT governance structure;
	4.4.3. has also been creating Department-wide generic IM position descriptions to further strengthen the IM role within the Department;
	4.4.4. An IM Strategy is being developed including awareness and communications; learning and training; engagement and commitment;
	4.4.5. Branches are committed to developing and implementing IM action plans;
	5. HC-IS4.2-i5: Records Management, Standards and Classification
	5.1. HC-IS4.2-i5.1: Audit Criterion; [M267(HC-IS4.2-i5.1): "records" and "information" are used without differentiation];
	5.2. HC-IS4.2-i5.2: Issue:
	5.2.1. HC-IS4.2-i5.2.1: Records classification systems (a function-based IM classification standard[403]) are developed but not all Branches have adopted the same classification system;
	5.2.2. HC-IS4.2-i5.2.2: The IM Division has been providing training but the responsibility for adopting such a system ultimately lies with the Branches; [M268(HC-IS4.2-i5.2.2): Branch does the actual work]; [M269(HC-IS4.2-i5.2.2): no institutional RM control over branch records];
	5.3. HC-IS4.2-i5.3: Recommendation:→ M265(HC-IS4.2-i4.3): recommendations do not address causes: recommend to monitor, to implement, but nothing on "how"];
	5.3.1. CIO monitor compliance to the departmental current classification standard for managing information;
	5.3.2. all Branches implement the Department's current classification standard for managing information as identified in the Directive on the Management and Storage of Information on Health Canada's Network Servers;
	5.4. Management Response:
	5.4.1. HC-IS4.2-i5.4.1: Corporate level:

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[403] In 2007/08 a second generation functional classification structure (aXsv2) was implemented by Corporate Services Branch to manage information holdings to ensure that records are managed in accordance with the approved Departmental classification structure.

Data	Indicators → Memos & Substantive Codes

	[M270(HC-IS4.2-i5.4.1): management responses at corporate level address those that are easy to be developed and/or implemented (to promote the classification structure, to provide training];
	
	5.4.1.1. continues to promote the current Departmental Classification structure,
	5.4.1.2. continues to provide training sessions;
	   5.4.2. branch level: [M271(HC-IS4.2-i5.4.2): management responses at branch level address those that are NOT easy to be developed and/or implemented (e.g., ensure the "classification standard" is used by employees), thus the requirements are empty ones as there are only "to ensure" but no how to ensure]
	5.4.2.1. all branches are to <u>ensure</u> Branch IM Specialists are sufficiently trained to provide support to end clients regarding the use of the department's current classification standard;
	5.4.2.2. all branches are to <u>ensure</u> the department's current classification standard is used by its employees to classify/organize information in all media and document management solutions unless Business dictates otherwise;
	6. HC-IS4.2-i6: Records Disposition Authority;
	  6.1. HC-IS4.2-i6.1: Audit Criterion; [M272(HC-IS4.2-i6.1): audit criterion uses "data" and "records" without distinguishing];
	  6.2. Issue:
	    6.2.1. A review of Records Disposition Authorities within the Branches showed that they often did not exist, were incomplete, or were more suited as a guideline;
	    6.2.2. a high percentage of the Departmental business processes are not covered under a RDA;
	  6.3. Recommendation:
	    6.3.1. CIO coordinate the development and approval of the Records Disposition Authorities with all Branches;
	    6.3.2. all Branches, implement the Records Disposition Authorities in accordance with Health Canada's Disposition Directive;
	  6.4. HC-IS4.2-i6.1: Management Response: CIO started a project and is currently coordinating the development of an MOU, negotiating with both LAC and HC's Branches. Once the MOU is signed, Corporate Services Branch will co-ordinate the development and approval of Records Disposition Authorities (RDA) for all Branches; and, establish retention periods and application guidelines; [M273(HC-IS4.2-i6.1): obtaining RDAs

Data	Indicators → Memos & Substantive Codes
	is a long process];
	7. HC-IS4.2-i7: Enterprise Information Architecture Model;
	7.1. Audit criteria: Administration of an information systems function should include the maintenance of a business information model and establish the appropriate systems to manage the information holdings;
	7.2. HC-IS4.2-i7.2: Issue: [M274(HC-IS4.2-i7.2): finding the right (or responsive in the case of ATI requests) records is the most noticed problem];
	7.2.1. excessive time spent looking for documents; occurrences of lost documents; incomplete or inaccurate document audit trail; and difficulties in managing the "paper mountain";[404]
	7.2.2. Interviews were held with Branch Access to Information (ATI) coordinators, all of which commented on
	7.2.2.1. the excessive time required to find information in response to ATI requests;
	7.2.2.2. Branch ATI coordinators rely on the knowledge base of employees for locating and accessing required information;
	7.3. HC-IS4.2-i7.3: Existing strategies; [M275(HC-IS4.2-i7.3): existing strategies for HC-IS4.2-i7.2 are mainly IT];
	7.3.1. To address some of these challenges, IMSD has begun to develop an overarching information architecture model for managing the Department's information holdings;
	7.3.2. In addition, it has developed and implemented an Application Software Registry that contains a list of software applications owned by the Department;
	7.3.3. Other building blocks include the implementation of the Records Information Classification Standard;
	7.3.4. and an electronic data management tool = Electronic Document Management System (EDMS);
	7.3.4.1. HC-IS4.2-i7.3.4.1: EDMS pilot has provided a number of benefits to users in HECSB, which include increased productivity and efficiency for program delivery, compliance on a number of key requirements such as ATIP business processes, ability to manage documents more effectively and efficiently throughout their lifecycle (conversion to the records classification structure), avoidance of document re-creation costs, avoidance of corporate memory loss due to employee

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[404] As reported in the 2008 Project Charter for Electronic Management System.

Data	Indicators → Memos & Substantive Codes

	turnover, promotion of information sharing, and protection and control of records; [M276(HC-IS4.2-i7.3+ HC-IS4.2-i7.4): mentions the implementation of the Records Information Classification Standard, yet the focus is on benefits brought by technology];
	   7.3.4.2. At the end of the pilot, a client survey highlighted some areas of concerns;
	     7.3.4.2.1. In particular, staff indicated that the proposed system had some challenges in assisting them with their day-to-day business activities such as integrating EDMS with e-mail;
	     7.3.4.2.2. Employees noted the need for the Department to seek a national solution to integrate with other reporting systems;
	   7.3.4.3. It was also noted that there was no plan to identify resources to fund an enterprise content management solution across the Department;
	 7.4. HC-IS4.2-i7.4: Recommendation: [M277(HC-IS4.2-i7.4): recommendation is a larger scale IT system, Enterprise Content Management Solution (ECMS), than the current RDIMS];
	   7.4.1. CIO in collaboration with all Branches develop a three year plan to fund and implement an Enterprise Content Management Solution (ECMS) across the Department;
	   7.4.2. all Branches use the Department's Enterprise Content Management Solution (ECMS) once it becomes available;
	 7.5. Management Response:
	   7.5.1. create a senior management Steering Committee with a mandate to develop a 3-5 year business plan to fund and effectively implement an Enterprise Content Management Solution (ECMS) across the Department;
	   7.5.2. HC-IS4.2-i7.5.2: In the absence of an ECMS, in the interim, Corporate Services Branch will continue with the limited implementation of Record Document Information Management System (RDIMS) to Corporate Services Branch Executive Committee members as part of its commitment to enhance management practices within existing budgets; [M278(HC-IS4.2-i7.5.2+PWGSC-i1): RDIMS is the recommended solution for GC-wide application];
	 8. HC-IS4.2-i8: "electronic records " appears once without details;[405]

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[405] Audit interviews with various Branch and Regional Information Advisors (BIMA/RIMA)

Data	Indicators → Memos & Substantive Codes
	sG: ND
IS-1	1. ND-IS1-i1: Deputy Minister -> Assistant Deputy Minister (Information Management) -> 10 divisions: 8 with "Information Management" -> no further info]; ND-IS1-i1→M233;
IS-2 2008-09[406]	1. ND-IS2(08)-i1: "information management" as one "essential support activities"; 2. ND-IS2(08)-i2: Uses "IM/IT" in "IM/IT Campaign plan" and "IM" in "enterprise IM system"; no details]; 3. ND-IS2(08)-i3: records and RM have no appearance; →M204;
IS-2 2009-10[407]	1. ND-IS2(09)-i1: "records management" used in "records management technology"; [408] no details; 2. ND-IS2(09)-i2: "Information Management" as one of the "Internal Services"; 3. ND-IS2(09)-i3: uses "IM/IT": 3.1. ND-IS2(09)-i3.1: With reference to "contributions to the Olympics"; [409] →M205: IM/IT is about an IT project;

confirmed the limited use of a records information classification standard to manage electronic records within the respective branches.

[406] ND, "DPR 2008-09,"

http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/dnd/dndpr-eng.asp?format=print (accessed October 19, 2012).

[407] ND, "DPR 2009-10,"

http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/dnd/dndpr-eng.asp?format=print (accessed October 19, 2012).

[408] (in the context of the Departmental IM/IT Campaign Plan) A departmental environmental scan of current collaboration and records management technology was completed and will inform the strategy going forward.

[409] Providing IM/IT support including deployment of unprecedented Joint Tactical Data Link capability providing other government departments and decision-makers with detailed common operating picture of all aircraft, surface vessels and radar operating in the Op PODIUM area of operations.

Data	Indicators → Memos & Substantive Codes
	3.2. ND-IS2(09)-i3.2: With reference to Consolidate the Departmental Approach to IM/IT; → M205: is apparently about IT];[410] 3.3. ND-IS2(09)-i3.3: With reference to the Departmental IM/IT Campaign Plan; → M205: the focus is on IT;[411] → M209(CFIA-IS4-i2)];[412] 3.4. ND-IS2(09)-i3.4: With reference to Lessons Learned; →M205: is apparently about IT];[413] ND-IS2(09)-i3.4→M209(CFIA-IS4-i2);[414] 3.5. ND-IS2(09)-i3.5: Defence's IM/IT responsibilities are wide-ranging and complex; →M219; 4. ND-IS2(09)-i4: "record keeping" appears; [415] no details;

[410] Defence significantly improved capacity, capability and spending within the IT Program. This enabled Defence to support a whole-of-government approach to IM/IT Planning.

[411] For example, Rationalization efforts include the development of an Enterprise Shared Service approach with other government departments; a departmental Enterprise resource planning strategy was established and financial and materiel support systems have been successfully integrated to improve accountability and resource stewardship.

[412] IM/IT in-theatre capabilities have been enhanced to provide integrated command and control nationally with other government departments and internationally with our Allies;

[413] IM/IT security vulnerabilities and risks are on the rise, and Defence operations may be put at risk in light of the increased dependence on IM/IT systems, complexity in the environment and evolving cyber threats.

[414] Departmental strategic assessments and business plans commented on the inability to provide stakeholders with the IM/IT support needed, reflecting the criticality of establishing common IM/IT services/standards.

[415] (in the context of the Departmental IM/IT Campaign Plan) significant progress was made on the development of a departmental IM Collaboration strategy, the goal of which is to facilitate information sharing across Defence environments and support departmental obligations regarding record keeping, access to information, and privacy.

Data	Indicators → Memos & Substantive Codes
IS-3[416]	1. ND-IS3-i1: 12.1 Governance: *Acceptable*; 1.1. ND-IS3-i1.1: same as CFIA-IS3-i1.1; 1.2. ND-IS3-i1.2: same as CIDA-IS3-i1.2; 1.3. ND-IS3-i1.3: same as CIDA-IS3-i1.3; 2. ND-IS3-i2: 12.2 Strategy Planning and Implementation: *Acceptable*; 2.1. ND-IS3-i2.1: same as CIDA-IS3-i2.1; 2.2. ND-IS3-i2.2: same as CFIA-IS3-i2.2; 2.3. ND-IS3-i2.3: same as CIDA-IS3-i2.3; 3. ND-IS3-i3: 12.4 Access to Information Act: *Opportunity for Improvement*; 3.1. ND-IS3-i3.1: same as CIDA-IS3-i3.2; 3.2. ND-IS3-i3.2: same as CRA-IS3-i3.2; 3.3. ND-IS3-i3.3: same as CRA-IS3-i3.3; 4. ND-IS3-i4: TBS identified opportunities: [M207(CFIA-IS3-i4.1)]; [M209(CFIA-IS3-i4.3)]; [M211(CFIA-IS3-i4.4)]; [M212(CFIA-IS3-i4.4)]; CFIA-IS3-i4.5; [M222(CIDA-IS3-i5)]; [M215(CFIA-IS3-i4.6)];
IS-4[417]	1. ND-IS4-i1: 4 audits/reviews found with IM in title: Management Review of IM Procurement 2004, Internal Audit and Assessment Reports Related to Contracted IM/IT Maintenance Support 2004, Review[418] of Contracting for Professional Services within the Information Management Group 2005, and Analysis of Information Management Projects 2009; →M221(ND-IS4-i1): IM/IT is about IT; →M246: IM is used but about IT (IT projects or software and hardware maintenance)]; (ND-IS1-i1+ND-IS2(08)-i2+ ND-IS4-i1)→M223: ND tends to use IM to represent IT];
sG: PCH	
IS-1[419]	1. PCH-IS1-i1: Strategic Policy, Planning and Corporate Affairs ->

[416] TBS, "MAF VII ND,"

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2009/dnd/dnd-eng.asp (accessed October 19, 2012).

[417] ND, "Audit Reports," http://www.crs-csex.forces.gc.ca/reports-rapports/rp-av-eng.aspx (accessed October 19, 2012).

[418] The procedures for review and audit were similar to that of an audit, but without the same rigour of application.

[419] GEDS, "Department Listing,"

Data	Indicators → Memos & Substantive Codes
	Chief Information Officer Branch -> Knowledge and Information Management -> IM Policy and Strategic Planning; Information Management Client Services: one unit with "records" in title;[420] PCH-IS1-i1→M200; PCH-IS1-i1→M203; PCH-IS1-i1→M235;
IS-2 2008-09[421]	1. PCH-IS2(08)-i1: uses "IM";[422] [M279(PCH-IS2(08)-i1): when IM is used in DPR, it is about an IT project]; 2. PCH-IS2(08)-i2: uses "Information Management/Information Technology (IM/IT)";[423] PCH-IS2(08)-i2→M219(CFIA-IS4-i2); 3. PCH-IS2(08)-i3: "Records" appears once in the name of an IT system;[424]
IS-2 209-10[425]	1. PCH-IS2(09)-i1: "IM" and "information management" have no appearance; 2. PCH-IS2(09)-i1: "record(s)" and "RM" have no appearance;→M204;

http://sage-geds.tpsgc-pwgsc.gc.ca/cgi-bin/direct500/eng/BE#H (accessed October 19, 2012).

[420] Supervisor, Information Holdings, Records Management Operations.

[421] Canadian Heritage, "DPR 2008-09,"
http://www.tbs-sct.gc.ca/dpr-rmr/2008-2009/inst/pch/pchpr-eng.asp?format=print (accessed October 19, 2012).

[422] The Department advanced on implementation of its multi-year IM Strategy with deployment of the Records, Document and Information Management System (RDIMS-*InfoCentre*) complete in 20 to 25 percent of the Department.

[423] As part of integrated business planning and leveraging existing governance structures, the Department established an IM/IT project approval process offering greater transparency, clearly identifying decision-making authorities and facilitating the prioritization of IM/IT projects.

[424] Records, Document and Information Management System (RDIMS-*InfoCentre*).

[425] Canadian Heritage, "DPR 2009-10,"
http://www.tbs-sct.gc.ca/dpr-rmr/2009-2010/inst/pch/pchpr-eng.asp?format=print (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
IS-3[426]	1. PCH-IS3-i1: 12.1 Governance: *Acceptable*; 1.1. PCH-IS3-i1.1: same as CSC-IS3-i1.1; 1.2. PCH-IS3-i1.2: Responsibilities are identified for IM policy development and implementation consistent with the GC IM Strategy and policy instruments; 1.3. PCH-IS3-i1.3: *Some* participation is evident in GC-wide approaches and initiatives related to developing, implementing, sharing and leveraging IM policies and practices; 2. PCH-IS3-i2: 12.2 Strategy: *Acceptable*; 2.1. PCH-IS3-i2.1: A current and active IM strategy identifies support to business priorities and operations, information needs and accountabilities, IM policy considerations and is *partially* integrated with other corporate strategies, plans and planning cycles; 2.2. PCH-IS3-i2.2: same as CSC-IS3-i2.2; 2.3. PCH-IS3-i2.3: IM awareness activities are underway in the department to help staff and executives understand their IM roles, responsibilities and accountabilities; 3. PCH-IS3-i3: 12.4 Access to Information Act: *Acceptable*; 3.1. PCH-IS3-i3.1: same as CSC-IS3-i3.1; 4. PCH-IS3-i4: TBS identified opportunities; same as [M208(CFIA-IS3-i4.2)]; 5. PCH-IS3-i5: TBS identified opportunities; Increase participation in GC IM activities in order to leverage and share IM best practices across the enterprise;
IS-4[427]	1. PCH-IS4-i1: done by the department's own audit unit "With the assistance of external resources"; 2. PCH-IS4-i2: Objective: to provide assurance on the adequacy and effectiveness of the control framework at PCH to manage and protect information in accordance with relevant acts, TBS and Departmental policies, procedures and practices; 3. PCH-IS4-i3: Scope: 3.1. PCH-IS4-i3.1: includes all information managed by PCH, regardless of format (i.e., paper, electronic) and 3.2. PCH-IS4-i3.2: covers the management of information across the

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[426] TBS, "MAF VI. Canadian Heritage,"

http://www.tbs-sct.gc.ca/maf-crg/assessments-evaluations/2008/pch/pch-eng.asp (accessed October 19, 2012).

[427] Canadian Heritage, "Information and Records Management Audit. September, 2011,"

http://www.pch.gc.ca/eng/1332341667177 (accessed October 19, 2012).

Data	Indicators → Memos & Substantive Codes
	IM lifecycle, as defined by Library and Archives Canada (LAC-3):

4. PCH-IS4-i4: The information managed by the Department is as varied as the initiatives and activities undertaken to meet the Department's mandate; [M500: "information" here can include library materials] This includes information related to grants and contributions (e.g., correspondence, applications), corporate services (e.g., HR, policy development, analysis and research), and the operations of the Department (e.g., business plans, reports); [M501: "information" here = records];
5. PCH-IS4-i5: The Knowledge and Information Management Directorate (KIM) within the Chief Information Officer Branch (CIOB), has the mandate to provide the strategic direction, tools, and guidance related to the appropriate management of information within the Department, including the development of the Department's Information Management (IM) Policy; [M502: what IM does];
6. All employees of the Department are responsible for applying IM principles, standards, and practices in the performance of their duties, and for documenting their activities and decisions; [M503: in line with TBS requirements, employees do the actual work];
7. IM resources outside of KIM vary across branches and sectors: in some branches, there is an assigned position that is responsible for IM, while in others, an individual may have part time IM responsibilities; [M504: IM responsibilities in branches or sectors are with either "an assigned" or "part time" position];
8. In general, staff with IM responsibilities outside of the KIM Directorate act in a 'record management' role focused on the managing of hardcopy records, than that of an IM Specialist; [M505: a 'record management' role in branches or sectors is one that focuses on the managing of hardcopy records, which is different from a role "of an IM Specialist"];
9. The majority of information at PCH resides and is managed at the program level, in both electronic and hardcopy form; [M506: weak institutional RM control];
10. PCH-IS4-i10: While active hardcopy records generally reside with the program areas, a corporate Records Office managed by KIM is used to store inactive and/or dormant files. The Directorate utilizes Integrated Recorded Information Management System (iRIMS) to manage hardcopy records within its corporate Records Office. The vast majority of program areas still retain paper records as they need signed copies, as PCH considers 'signed originals' as the official record, the process to manage this information is thus intensively manual; [M507: paper RM by program areas and Records Office];

Data	Indicators → Memos & Substantive Codes
	11. PCH-IS4-i11: The main electronic information repositories include: [M508: complex electronic environment]
	11.1. Email (Lotus Notes);
	11.2. Corporate network drives (for example, the 'G: drive');
	11.3. InfoCentre (Electronic Document and Record Management System (EDRMS));
	11.4. Corporate applications such as PeopleSoft (HR system), Grants and Contributions Information Management System (GCIMS), and CCM Mercury; and,
	11.5. Numerous program-specific applications.
	12. PCH-IS4-i12: The PCH Intranet contains some IM resources that are available for staff to review; [M509: emphasize on employees for solving the problems];
	13. PCH-IS4-i13: A new PCH IM Policy has been in effect since April 1, 2010. This policy outlines roles and responsibilities for IM within the Department, consistent with the TB Policy. A comprehensive suite of IM-related standards and guidelines to support the IM Policy has yet to be been developed; [M510: emphasis on policy development];
	14. PCH-IS4-i14: The PCH Intranet contains some IM reference material available for staff to review. These resources are not well known and the content is not well understood by staff as IM awareness and/or guidance program to provide context and/or training on the use of these resources is not in place [M511: ineffective IM/RM guidance; need for RM professionals]
	15. PCH-IS4-i15: The issue of inconsistence: [M512(PCH-IS4-i15): all tell the lack of RM control]
	15.1. Networks drives are inconsistently organized throughout the Department, and the information within these drives are inconsistently labelled (i.e., through naming conventions) or managed. There are no coherent standards for the naming of electronic documents;
	15.2. A pilot EDRMS implementation (InfoCentre) has been in place within the Department since 2006, ... For InfoCentre users, there are no standard procedures provided and classification and naming conventions are not consistent between pilot areas;
	15.3. The Department utilizes a classification system using iRIMs for hardcopy records. This classification system is not consistently used with hardcopy records throughout the Department. Regional offices visited have created their own ad hoc records classification systems;
	15.4. The Grants and Contributions Information Management System (GCIMS) is not being consistently utilized by G&C program areas. Each program area has developed their own standards for the information that may be placed in GCIMS and

Data	Indicators → Memos & Substantive Codes
	how it may be organized;
	16. PCH-IS4-i16: The current expansion of this pilot project (of InfoCentre) has been stopped. CIOB is currently developing a business case for the corporate implementation of a new EDRMS solution; [M513: the solution is to implement new IT systems]
	17. PCH-IS4-i17: information of a more transitory nature and/or not of operational value is also being collected at the same time, and subsequently being retained and not differentiated from the information of business value [M514: evidence of the ineffective LAC guidance on identifying transitory records – *if transitory records are not identified, how can transitory information resource (of business value) be identified?]*

Appendix 3 Institution-Specific ATI Data Open Coding & Memoing – sG (CFIA)

Data	Indicators → Memos & Substantive Codes
Symbol	• IS-ATI-1 = Request handling data (ATI-RH Data); • IS-ATI-2 = Process responsive data (ATI-PR Data); • IS-ATI-3.# = Disclosed records data (ATI-DR Data); • Others see Appendix 2.
	sG: CFIA
IS-ATI-1	4. CFIA-IS-ATI1-i1: The request is seeking a large amount of information; 5. CFIA-IS-ATI1-i2: Some records cannot be found[428] (e.g., meeting minutes or resolutions on the establishment of the IM/RM program; records regarding RDIMS purchase and implementation);; 6. CFIA-IS-ATI1-i3: Finding and retrieving[429] records involves multiple OPI[430]s, i.e., job descriptions by Human Resource, RDIMS by IT; 7. CFIA-IS-ATI1-i4: IM/RM is not responsible for finding and retrieving records unless it's the OPI; [M300(CFIA-IS-ATI1-i3+CFIA-IS-ATI1-i4): the IM/RM program does not assist ATI requests in providing[431] responsive records]; 8. CFIA-IS-ATI1-i5: Difficult to retrieve budgetary information specifically for the IM function; 9. CFIA-IS-ATI1-i6: Difficult to find and/or retrieve records that are older than "current", i.e., 2 years ago; [M301(CFIA-IS-ATI1-i1+i2+i5+i6): it is difficult to find and/or retrieve records created by the function/program that is responsible for managing records, i.e., the IM/RM function];
IS-ATI-2	3. CFIA-IS-ATI2-i1: A Subject File Classification System exists and is used for both hard-copy records and for RDIMS; [M302(CFIA-IS-ATI2-i1): not a functional classification system

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[428] "to find" means to know if the records exist and where they are.

[429] "to retrieve" means to be able to deliver records to ATI for review.

[430] OPI stands for office of primary interest, referring to offices/units that have direct control over records.

[431] Means to allow requester access to responsive records.

Data	Indicators → Memos & Substantive Codes
	based on BASCS]; 4. CFIA-IS-ATI2-i2: The ATIP unit does not use RDIMS; 5. CFIA-IS-ATI2-i3: No IM annual report;

IS-ATI-3.1 [432]	1. CFIA-IS-ATI3.1-i1: released 2 copies of the same policy, i.e., same title and same date; a paragraph by paragraph comparison revealed that
	    1.1. CFIA-IS-ATI3.1-i1.1: One copy has a "date modified: 2011-03-24";
	    1.2. CFIA-IS-ATI3.1-i1.2: Only one difference exists in content, i.e., the copy without "date modified" cites the rescinded National Archives of Canada Act and the one with "date modified" cites the current Library and Archives Canada Act; [M303(CFIA-IS-ATI3.1-i1+CFIA-IS-ATI3.1-i1.1+CFIA-IS-ATI 3.1-i1.2): version issue];
	    1.3. CFIA-IS-ATI3.1-i1.3: Both copies cite the outdated TBS "Management of Government Information Holdings Policy"; [M304(CFIA-IS-ATI3.1-i1.3): quality/accuracy issue]; [M305(CFIA-IS-ATI3.1-i1): the IM/RM function has record creation (= accuracy; quality) and management (= version distinguishing) issues];
	 2. CFIA-IS-ATI3.1-i2: Defines "record",[433] following the one provided by the rescinded National Archives of Canada Act,[434] with the addition of "electro-magnetic medium – including electronic mail"; →[M305(2)]; [M306(CFIA-IS-ATI3.1-i2): presence of electronic records: emails];
	 3. CFIA-IS-ATI3.1-i3: Defines "Recorded Information Management", for which the subject is definitively about "records";[435]

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[432] Recorded Information Management Policy 2001.

[433] "any information contained in any physical medium which is capable of preserving such information and includes any information contained in the original and in any copy of correspondence, memoranda, forms, directives, reports, drawings, diagrams, cartographic and architectural items, …, working papers, and any other documentary materials or electro-magnetic medium – including electronic mail, regardless of physical form and characteristics".

[434] GC, National Archives of Canada Act, R.S.C., 1985, c. 1, s(2).

[435] "is the planning, implementation and review of the function for administering the Agency's records system. The term includes the identification, classification and retrieval, storage and

Data	Indicators → Memos & Substantive Codes
	4. CFIA-IS-ATI3.1-i4: Does not define "recorded information"; [M307(CFIA-IS-ATI3.1-i2+CFIA-IS-ATI3.1-i3+CFIA-IS-ATI3.1-i4): confusing conceptual framework: no explanation on relationships b/w concepts]; 5. CFIA-IS-ATI3.1-i5: Defines "transitory records",[436] following LAC5-i2 and adds guidance such as no need to classify and can be deleted upon action completion, provided that they "are/will not be required for any pending or future access or legal actions"; [M308(CFIA-IS-ATI3.1-i5): see M103 (imprecise definition); the guidance here is problematic because an action may need a long time to be completed, thus not to classify the records means to rely on individual employees' manners of placing the records somewhere when there is a manner, or when there isn't, on their memories. And, the deletion here means to delete records individually (because no classification done), which in fact costs time, contrary to the assumption that not to classify records saves time. Moreover, how can individual employees know *the records "are/will not be required for any pending or future access or legal actions"?* → ineffective guidance; 6. CFIA-IS-ATI3.1-i6: "all recorded information" received or created by an employee of the Agency in the course of their duties is "the property of the Agency"; 7. CFIA-IS-ATI3.1-i7: The responsibility to meet these Recorded Information Management obligations (= "identification, classification and retrieval, storage and protection, receipt and transmission, retention, and disposal or preservation of materials") rests with all Agency employees and contractors; [M309(CFIA-IS-ATI3.1-i7): heavy workload for employees]; [M310(M309⇔CFIA-IS-ATI3.1-i6:

protection, receipt and transmission, retention, and disposal or archival preservation of the records. It also encompasses the policies, procedures, systems, operations, space, equipment and Recorded Information Management staff required to administer the records".

[436] "in any media (i.e., email, images, electronic documents/spreadsheets, etc.), are those that are required for a limited time to ensure the completion of a routine action or for the preparation of a subsequent document. As transitory documents normally do not require filing to the Subject Classification Plan, they can be disposed of at the completion of the routine action or when the approval of the final document has been complete. However, care should be taken to ensure that prior to any disposal of transitory document/messages, that these are/will not be required for any pending or future access or legal actions".

Data	Indicators → Memos & Substantive Codes
	seemingly illogical policy consideration: why put the majority responsibilities on the shoulders of individual employees? Both considered supporting function, IT does not require individual employees to manage the computers and software they use.[437]] [M311(M309): how practical are these requirements? Are they executable?← no released records showing *how to ensure* and *how to know if it's ensured*;];
	8. CFIA-IS-ATI3.1-i8: "CFIA Employees /Contractors" is the first of the two subsections under the section Responsibilities/Accountabilities;
	8.1. CFIA-IS-ATI3.1-i8.1: "Records are normally maintained by the employees who use them most often"; [M312(CFIA-IS-ATI3.1-i8.1): individual employee RM is the norm];
	8.2. "All employees … must ensure that the applicable policies are followed at all times"; →[M309: heavy workload for employees]; [M311: "must ensure" executable?];
	8.3. CFIA-IS-ATI3.1-i8.3: "Records (in electronic or paper format) [M306(CFIA-IS-ATI3.1-i8.3)]: presence of electronic records: in electronic format] in an employee's possession are considered on temporary charge-out to that employee, even in cases where they are the author of that document"; [M313(CFIA-IS-ATI3.1-i8.3): are there any mechanisms for ensuring the record to be returned to the control of the institution?]
	8.4. CFIA-IS-ATI3.1-i8.4: "Staff are responsible for contributing to the identification of the Agency's vital records and the development of appropriate Retention and Disposal Schedules"; [M314(CFIA-IS-ATI3.1-i8.4): "responsible for contributing to" is reasonable];
	9. CFIA-IS-ATI3.1-i9: The second subsection:
	9.1. "The President is accountable for all records created and received by the Agency";
	9.2. The Manager, Recorded Information Management, will conduct random monitoring of staff to ensure that they are complying with the Agency's policy;
	9.3. The Information Management Division "will undertake periodic reviews and may request Corporate Audit and Review Directorate to conduct internal audits of the Recorded

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[437] TBS, "Policy on Management of Information Technology,"

http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?section=text&id=12755 OPI stands for office of

primary interest.

Data	Indicators → Memos & Substantive Codes
	Information program to ensure it is complying with the contents of the Policy as well as ensure the effectiveness and efficiency of its implementation"; [M315(CFIA-IS-ATI3.1-i9): IM/RM does "random monitoring" and "periodic reviews", two mechanisms for ensuring the IM policy compliance including "the effectiveness and efficiency of its implementation"; no records telling how this is done + MAF data (M209(CFIA-IS3-i4.3)) show implementation is unsatisfactory; this may be caused by issues with IM/RM capacity (= resources as used in audit reports) or IM/RM capability/ability (D?= possession and application of RM disciplinary knowledge and skills defined by the present project, or both]; [M316(CFIA-IS-ATI3.1-i9): IM/RM does not perform any actual RM work; will this cause problems when providing guidance on employees' performing of the actual RM work? No records telling employees' opinions on this because no evaluations have been done for this purpose. Audit reports emphasized IM/RM capacity, i.e., unable to provide more training sessions due to resource constraints, yet here it is about IM/RM ability. One thing is factual that employees were unable to manage records to satisfaction, otherwise there would not be the IM crisis];

IS-ATI-3.2 [438]	1. CFIA-IS-ATI3.2-i1: the first sentence is "Under the "Policy on Information Management" all employees of CFIA are responsible for managing Agency information, which they hold in trust, on behalf of Canadians"; [M317(CFIA-IS-ATI3.2-i1):→ emphasizes employees' IM responsibility: to hold records "on behalf of Canadians"; yet, it's difficult to obtain records through ATI request; an issue of policy requirements vs. the reality, and the latter has never satisfied the former, so the individual employee RM did not work, has never worked, and will not work];
	 2. CFIA-IS-ATI3.2-i2: The first section is for "All Employees";
	    2.1. Every CFIA employee is responsible for the management of Agency information with the goals of ensuring: quality, accuracy, relevance, reliability, completeness, accessibility and security/protection; → [M309: heavy workload for employees; unreasonable/inexecutable requirement];
	    2.2. In addition, employees are responsible for the life-cycle management of the information they hold in trust;→[M309: heavy workload for employees; unreasonable/inexecutable requirement];

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[438] Information Management (IM) Roles and Responsibilities (date modified: 2010-12-20).

Data	Indicators → Memos & Substantive Codes
	2.3. CFIA-IS-ATI3.2-i2.3: 5 "must" requirements; basically in line with TBS requirements; 3. CFIA-IS-ATI3.2-i3: The second section is for "Departing Employees"; 3.1. Departing employees "must ensure that the information … is organized, classified, verified for access rights and transferred to the appropriate individuals for storage and ongoing lifecycle management"; → [M309: heavy workload for employees; unreasonable/inexecutable requirement]; 3.2. CFIA-IS-ATI3.2-i3.2: 7 "must" requirements; → [M309: heavy workload for employees; unreasonable/inexecutable requirement]; 4. CFIA-IS-ATI3.2-i4: The third section is for "Managers"; 4.1. CFIA-IS-ATI3.2-i4.1: 6 responsibilities/accountabilities 4.2. CFIA-IS-ATI3.2-i4.2: 5 "must" requirements; basically in line with TBS requirements; [M318(CFIA-IS-ATI3.2-i4.1+CFIA-IS-ATI3.2-i4.2): many responsibility and heavy workload for managers]; 5. CFIA-IS-ATI3.2-i5: The last section is for "Information Management Program"; The IM Program at CFIA is responsible for: 5.1. CFIA-IS-ATI3.2-i5.1: The development and implementation of IM policies, standards, practices and guidelines; [M319(CFIA-IS-ATI3.2-i5.1): what IM does: develop P-S-G; implement P-S-G, and "implementation" = the requiring of, in an explicit manner, employees and managers to do the actual RM work]; 5.2. CFIA-IS-ATI3.2-i5.2: Advice on the incorporating of IM practices and principles into Agency business processes; awareness and educational sessions and supporting materials on IM; [M320(CFIA-IS-ATI3.2-i5.2): what IM does: to advise "on the incorporating of IM practices and principles into Agency business processes"]; [M321(M320+all CFIA released records+CFIA-IS-ATI2-i1): subject classification system): no records demonstrating the RM's understanding of "Agency business processes"; besides, if IM/RM understands the business processes, should not it be more suitable to perform actual RM work such as classifying records?]; [M322(CFIA-IS-ATI3.2-i5.2): what IM does]; 5.3. CFIA-IS-ATI3.2-i5.3: Strategic advice and guidance regarding the introduction of innovative IM practices; 5.4. CFIA-IS-ATI3.2-i5.4: delivery of IM solutions and services; [I sent follow up request on this]; 5.5. CFIA-IS-ATI3.2-i5.5: No "must" requirements; [M323(CFIA-IS-ATI3.2-i5.5⇔CFIA-IS-ATI3.2-i2.3: "must"

Data	Indicators → Memos & Substantive Codes
	requirements for employees+ CFIA-IS-ATI3.2-i3.2: "must" requirements for employees; CFIA-IS-ATI3.2-i4.2: "must" requirements for managers)]: RM has the fewest obligatory responsibilities];
IS-ATI-3.3 [439]	1. CFIA-IS-ATI3.3-i1: Defines record; the definition is different from CFIA-IS-ATI3.1-i2; [M324: confusing conceptual framework: inconsistent definition for record within the same institution]; 2. CFIA-IS-ATI3.3-i2: Categorizes records as "either official or transitory"; 3. CFIA-IS-ATI3.3-i3: Defines "official record";[440] [M325(CFIA-IS-ATI3.3-i3⇔CFIA-IS-ATI3.1-i5: Defines "transitory records"): these two definitions are not mutually exclusive; see also M308]; 4. CFIA-IS-ATI-3.3-i4: Points to the document "What to Keep, What not to Keep" (CFIA-IS-ATI-3.4) for "identifying official records"; 5. CFIA-IS-ATI3.3-i5: Defines/explains "transitory record"; [M326(CFIA-IS-ATI3.3-i5⇔ CFIA-IS-ATI3.1-i5): inconsistent guidance; similar to CFIA-IS-ATI3.1-i5 but with a different emphasis; it emphasize the deletion of transitory records especially transitory email messages; CFIA-IS-ATI3.1-i5 emphasizes the caution needed for deletion; 6. CFIA-IS-ATI3.3-i1.6: Explains RDIMS but did not explain the conceptual relationships b/w record, document, and information; [M327(CFIA-IS-ATI3.3-i1.6): confusing conceptual framework: did not explain the conceptual relationships b/w record, document, and information in RDIMS]; [TS$_3$-GC1: identifies the Request for Proposal (RFP) entitled Records/Documents/Information Management: Integrated Document Management System (RDIMS) for the Government of Canada – Software Requirements by LAC as one extended source for understanding the 3 terms]; 7. CFIA-IS-ATI3.3-i1.7: Explains "information lifecycle" and uses "information" as a general term; [M328(CFIA-IS-ATI3.3-i1.7): limited usefulness for application];

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[439] Records Management – Frequently Asked Questions (date modified: 2010-12-20).

[440] Official records document or provide evidence of the Agency's business activities. Official records must be saved according to Agency retention schedules.

Data	Indicators → Memos & Substantive Codes
	8. CFIA-IS-ATI3.3-i1.8: Explains TBS Policy on Information Management; the statement that "All federal government department and agencies must align themselves with this policy" is inaccurate, because the policy only "applies to departments as defined in section 2 of the *Financial Administration Act* (FAA)"; CFIA-IS-ATI3.3-i1.8→ M305(2); RM has record creation/accuracy issue];
TS$_3$-GC1	1. TS$_3$-GC1-i1: first uses RDIMS; 2. TS$_3$-GC1-i2: Does not define the 3 them or explain the relationships among them; 3. TS$_3$-GC1-i3: Defines "document management", [441] including disposition; 4. TS$_3$-GC1-i4: Does not define records management; 5. TS$_3$-GC1-i5: Does not define information management, yet states that IM "is not limited to a single discipline, rather, it <u>involves</u> program areas, libraries, records management and other areas of activity in the organization"; [M329(TS$_3$-GC1-i5⇔TBS 2007 definition for IM: the nature of IM has never been clearly defined]; [M330(TS$_3$-GC1-i5+4+2): incomplete conceptual framework]; 6. TS$_3$-GC1-i6: Identifies DM-RM relationship: the ideal electronic solution would be a document management system that would <u>contain</u> the necessary records management functionality; [M331(TS$_3$-GC1-i6): RM is part of RDIMS and is different from DM];[442] 7. TS$_3$-GC1-i7: Identifies IM-D/RM relationship: The ideal software should encompass more than <u>traditional document</u> and records <u>management</u>: the ideal software product would extend to … the treatment of <u>information as objects</u>. In this RFP, e-mail messages, word processing files, spread sheet files, images, voice and video files are all considered to be objects; [M332(TS$_3$-GC1-i7): could not find any reference in GC regarding traditional document management]; [M333(TS$_3$-GC1-i7): IM as an extension to DM and

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[441] Document management is defined as a system for controlling the capture (when created or received), classification (cataloguing), storage, retrieval, revision, sharing and reuse, protection and disposition of documents. Documents include electronic and non-electronic objects. Electronic objects include products of word processors, e-mail, imaged material, etc.

[442] See also, "The software also provides the tools required by the records management community".

Data	Indicators → Memos & Substantive Codes
	RM]; 7.1. TS$_3$-GC1-i7.1: Defines Object: According to context, may refer to an object in the generic sense (OLE, object-oriented, etc.) or to a "document". In the latter sense the object may be a paper or electronic document, a video, a sound recording, a photograph, a rock sample, or any other information item to be managed; [M334(TS$_3$-GC1-i7.1): confusing conceptual framework: no explanations on using a term (object) for another one that already exists (document)]; [M335{(TS$_3$-GC1-i7:information=object= e-mail messages, word processing files, spread sheet files, images, voice and video files+TS$_3$-GC1-i7.1: object=document= a video, a sound recording, a photograph+TS$_3$-GC1-i3: document = products of word processors, e-mail, imaged material): information = object = document}⇔ M333 → confusing conceptual framework: conflict conceptual relationships]; 8. TS$_3$-GC1-i8: Characterizes IM: Information management forms an integral part of a department s business plans; [M336(TS$_3$-GC1-i8): IM is linked to business]; 9. TS$_3$-GC1-i9: Outlines RM roles; [M337(TS$_3$-GC1-i9): RM is not linked to business but tightly constrained within the scope of "record keeping": [M338(TS$_3$-GC1-i9): what RM does: establish department RK policies and guidelines; provide trainings on RK; negotiate RDAs, set up transfers, etc.]; 10. TS$_3$-GC1-i10: For RDIMS (in electronic environment), RM ensures 1. set up and maintain classification system management, 2. retention/disposition management, and 3. Access based on need to know (security); [M339(TS$_3$-GC1-i10): ERM (RM in RDIMS) is not linked to business either]; [M340{(TS$_3$-GC1-i10⇔TS$_3$-GC1-i3): both RM and DM manages disposition (⇔TS$_3$-GC1-i6): yet they refer to different functionalities of RDIMS}→confusing conceptual framework: conflicting conceptual relationships]; 11. TS$_3$-GC1-i11: No roles outlined for DM or IM; TS$_3$-GC1-i11→M330(2): incomplete conceptual framework; 12. TS$_3$-GC1-i12: The requirements use the 3 terms and object without differentiation; [M341(TS$_3$-GC1-i12): is it safe to assume that it will be difficult for departments to apply? check departmental RDIMS documents for "difficult to apply" proofs]; 12.1. Document(s) appears 45 times, more than record(s) (33 times), even in cases where the subject is no doubt records;[443] 12.2. Information appears 77 times, more than document(s) 12.3. TS$_3$-GC1-i12.3: Object appears 135 times, more than

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[443] For example, There is a need to manage "classified" documents in the federal government.

Data	Indicators → Memos & Substantive Codes
	information; [M342(TS$_3$-GC1-i12.3+TS$_3$-GC1-i7.1: object defined as two "case"s): readers for 135 times need to figure out which case applies to the particular usage: difficult to apply concept]; 13. TS$_3$-GC1-i13: Defines "users"[444]; [M343(TS$_3$-GC1-i13): can be used as example of worst definition due to its extreme broadness; this definition makes commenting on the roles assigned to users (p. 10) literarily impossible];

IS-ATI-3.4 [445]	1. CFIA-IS-ATI3.4-i1: official records must be saved/kept;
	 2. CFIA-IS-ATI3.4-i2: gives 7 examples of "information" that qualifies as official records:
	   2.1. CFIA-IS-ATI3.4-i2.1: Reflects the Agency's position on an issue'
	   2.2. CFIA-IS-ATI3.4-i2.2: Documents a decision;
	   2.3. CFIA-IS-ATI3.4-i2.3: Initiates, authorizes or completes an Agency business transaction;
	   2.4. CFIA-IS-ATI3.4-i2.4: States policies or directives;
	   2.5. CFIA-IS-ATI3.4-i2.5: Originated from outside the Agency and forms part of a corporate record;
	   2.6. CFIA-IS-ATI3.4-i2.6: Provides evidence of the Agency's business activities;
	   2.7. CFIA-IS-ATI3.4-i2.7: Does not exist anywhere else in the Agency such as work schedules, status reports, meeting agendas and minutes, briefing notes, or final versions of documents and related recommendations; [M344(CFIA-IS-ATI3.4-i2): except CFIA-IS-ATI3.4-i2.4, none of these criteria can be readily applied; e.g., for CFIA-IS-ATI3.4-i2.7, how can an employee know that there are no other copies existing in the organization?; to apply CFIA-IS-ATI3.4-i2.5 need to know what "a corporate record" is, which is not defined]; [M345(CFIA-IS-ATI3.4-i2): these criteria are not mutually exclusive among themselves as CFIA-IS-ATI3.4-i2.6 can include everything]; [M346(CFIA-IS-ATI3.4-i2+…): are not mutually exclusive with the conditions specified in the definition of transitory records either; e.g., CFIA-IS-ATI3.4-i2.6 can only be needed for "a limited time to ensure the completion of a routine

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[444] User: Everyone utilizing the system, including knowledge worker, operational staff, records management specialist, the public, etc.

[445] What to Keep, What Not to Keep. (no date).

Data	Indicators → Memos & Substantive Codes
	action"→inadequate/confusing guidance: records identification (difficult if not impossible to distinguish "official records" from "transitory records" even for trained professionals, let alone employees)];
IS-ATI-3.5 [446]	1. CFIA-IS-ATI3.5-i1: Contains procedures for "records to be destroyed", "Destruction of records", "Disposition of records", "Preparation of records for transfer to archives or off-site storage", and "Classification"; 1.1. CFIA-IS-ATI3.5-i1.1: All steps are for business functions other than the IM/RM function to follow; 1.2. CFIA-IS-ATI3.5-i1.2: Records Management Services is to be contacted "for any information or assistant"; [M347(CFIA-IS-ATI3.5-i1.2): RM a passive service function]; 1.3. CFIA-IS-ATI3.5-i1.3: Explains the Subject File Classification as "subjects based on the operation of the Agency", and the classification structure refers to "the functions within the Agency and not to its specific organizational components"; [M348(CFIA-IS-ATI3.5-i1.3): inadequate/confusing guidance: subject-based vs. functional classification system]; [M349(CFIA-IS-ATI3.5-i1.3): no connection with LAC-4];
IS-ATI-3.6 [447]	1. CFIA-IS-ATI-3.6-i1: Introduces RDIMS functions to employees, including saving, profiling, finding, protection, etc; [M350(CFIA-IS-ATI3.6-i1+CFIA-IS-ATI3.5-i1.1): All policies and procedures are for employees and managers (i.e., none-IM specialists);[448]]

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[446] Procedures. (no date)

[447] RDIMS Training Outline, 2009.

[448] "The policy has been written to ensure that all employees are informed of this (= the effective capture, storage and management of information is not only essential to the Agency's success, but is also a legal obligation of the Agency)".

Appendix 4 Alphabetic Organization of the Conceptual Building Blocks

1. Accountability-Related Activity

    1.1. Specification

        1.1.1.   One type of Non-RM Activity

        1.1.2.   It requires records to be disclosed to

            1.1.2.1.   the public (i.e., ATI requests) with respect to the conduct of their

                Creating Activity or

            1.1.2.2.   other authorities (e.g., the Parliament) with respect to the conduct

                of their Creating Activity

    1.2. Measurement

        1.2.1.   Degree of design quality

        1.2.2.   Degree of conduct effectiveness

2. Accountability-Related Activity Knowledge

    2.1. Composition

        2.1.1.   Same as those for Business Activity Knowledge

    2.2. Specification

        2.2.1.   Same as those for Business Activity Knowledge

    2.3. Measurement

        2.3.1.   Same as that for Business Activity Knowledge

3. Activity Time Boundary

    3.1. Specification

        3.1.1.   Activities can take place in records creating institutions or archival

            institutions

        3.1.2.   They are distinguishable by their running/operating time

            3.1.2.1.   A Past Activity = one that has been completed

            3.1.2.2.   A Present Activity = one that is currently taking place

            3.1.2.3.   A Future Activity = one that will take place either according to

                design/plan or unexpectedly

            3.1.2.4.   The ending of a Present Activity changes it to a Past Activity

            3.1.2.5.   The beginning of a Future Activity changes it to a Present Activity

       3.1.2.6.   The ending and beginning times may be determined by activity design

    3.1.3.   The time period is determined by activity design

    3.1.4.   Time can also be used for sub-activities or processes of an activity

  3.2. Measurement

    3.2.1.   Degree of recognition by Organizational RM

4. Archival Appraisal

  4.1. Specification

    4.1.1.   An activity carried out by an Archival Institution

       4.1.1.1.   Archival Institution = an organization established to preserve and provide access to records transferred to it by records creating organization

    4.1.2.   Assesses Record Reuse-Distant Value

    4.1.3.   Requires assistance from Organizational RM

    4.1.4.   Relies on Record(s) Maintaining Activity

    4.1.5.   Is the foundation of Records Disposition Authority

  4.2.   Measurement

    4.2.1.   Timeliness

5. Business Activity

  5.1. Specification

    5.1.1.   One type of Operational Activity

    5.1.2.   Designed to achieve specific, mandate-related objectives of an institution

    5.1.3.   Objectives are not primarily for RM Activity

       5.1.3.1.   *Primarily* indicates inclusion of some RM Activity

    5.1.4.   Objectives are not for Accountability-related Activity

    5.1.5.   Objectives are not for Investigation-related Activity

  5.2. Measurement

    5.2.1.   Degree of design quality

    5.2.2.   Degree of conduct effectiveness

6. Business Activity Knowledge

6.1. Composition

    6.1.1.   Business Activity Design Knowledge

    6.1.2.   Business Activity Execution Knowledge

6.2. Specification

    6.2.1.   Part of RM Extended Knowledge

6.3. Measurement

    6.3.1.   Degree of understanding adequacy by Organizational RM (through RM Personnel)

7. Business Activity Design Knowledge

  7.1. Specification

    7.1.1.   Understanding of the design of Business Activity

       7.1.1.1.   The understanding is necessary for Record Identification

       7.1.1.2.   The obtaining of the understanding relies on RM participation in the design of Business Activity

       7.1.1.3.   The level of understanding is determined by the goals set for Organizational RM

    7.1.2.   Business Activity Design can be of constant modification

  7.2. Measurement

    7.2.1.   Degree of understanding adequacy by Organizational RM (through RM Personnel)

8. Business Activity Execution Knowledge

  8.1. Specification

    8.1.1.   Understanding of the execution of Business Activity is necessary for the Unit RM to conduct RM Maintaining Activities and Record(s) Retrieval Activity including the supervision of Employee RM and Technology RM

    8.1.2.   The obtaining of the understanding relies on RM participation in the execution of Business Activity

        8.1.2.1.1.   The participation is carried out through the establishment of Unit RM

    8.1.3.   The level of understanding is determined by the goals set for Organizational RM

8.2. Measurement

    8.2.1.   Degree of understanding adequacy by Organizational RM (through RM Personnel)

9. Central Digital Records Management System (CDRMS)

  9.1. Specification

    9.1.1.   Operated by Central RM

    9.1.2.   Part of Record(s) Maintaining Technology

    9.1.3.   An information system where information on all records is available

    9.1.4.   It physically contain records created by Central RM

    9.1.5.   It does not physically contain records of Non-RM Activity

    9.1.6.   It can be integrated with Unit Digital Records Management System for access

  9.2. Measurement

    9.2.1.   Degree of design optimization

    9.2.2.   Degree of operation effectiveness

10. Central RM

  10.1.   Specification

    10.1.1.   An independent administrative configuration

    10.1.2.   Relies on authority established by RM Governance Structure for operation

    10.1.3.   Fulfills responsibilities outlined in RM Responsibility Arrangement

    10.1.4.   Operates Central Digital Records Management System

    10.1.5.   Relies on dedicated RM Personnel for operation

  10.2.   Measurement

    10.2.1.   Degree of establishment adequacy

    10.2.2.   Degree of operation effectiveness

11. Centralized Records

  11.1.   Specification

    11.1.1.   Physically in the database of an Organizational Digital Records Management System

  11.2.   Measurement

11.2.1.   Existence of justifications (for to be centralized or not)

12. Decentralized Records

12.1.   Specification

12.1.1.   Not physically in the database of an Organizational Digital Records Management System

12.1.2.   Managerially controlled by an Unit Digital Records Management System

12.2.   Measurement

12.2.1.   Existence of justifications (for to be centralized or not)

13. Digital Record

13.1.   Specification

13.1.1.   One type of records

13.1.2.   Currently the predominate type

13.1.3.   Existence relies on Organizational Information Technology

13.1.4.   Complexity determined by OIT

13.2.   Measurement

13.2.1.   Degree of existence recognition

13.2.2.   Degree of complexity recognition

13.2.3.   Percentage among identified records

14. Employee RM

14.1.   Composition

14.1.1.   Creation of record content in compliance with record-making rules

14.1.2.   Carry out the portion of RM Maintaining Activity that can be quickly completed (e.g., Record Capture, Record Titling).

14.2.   Specification

14.2.1.   Structurally part of Non-RM Operational Activity

14.2.2.   Structurally also part of Unit RM

14.2.3.   Fulfills responsibilities outlined in RM Responsibility Arrangement

14.2.4.   Carrying out is assisted by RM Procedure

14.2.5.   Carrying out is assisted by Record Titling Template

14.2.6.   Carrying out is integrated with the conduct of the creating activity

14.2.7.   Carrying out is supervised by Unit RM

14.3.   Measurement

14.3.1.   Degree of operation effectiveness

15. Investigation-Related Activity

15.1.   Specification

15.1.1.   One type of operational activity

15.1.2.   It requires records to be admissible as evidence in administrative or legal investigations concerning their Creating Activity

15.2.   Measurement

15.2.1.   Degree of design quality

15.2.2.   Degree of operation effectiveness

16. Investigation-Related Activity Knowledge

16.1.   Composition

16.1.1.   Same as those for Business Activity Knowledge

16.2.   Specification

16.2.1.   Same as those for Business Activity Knowledge

16.3.   Measurement

16.3.1.   Same as that for Business Activity Knowledge

17. Local RM

17.1.   Composition

17.1.1.   Unit RM

17.1.2.   Employee RM

17.1.3.   Technology RM

17.2.   Measurement

17.2.1.   Degree of operational effectiveness

18. Non-RM Activity

18.1.   Composition

18.1.1.   Accountability-Related Activity

18.1.2.   Investigation-Related Activity

18.1.3.   Business Activity

18.2.   Specification

18.2.1. One type of Operational Activity

18.3. Measurement

18.3.1. Degree of deign quality

18.3.2. Degree of components being distinguished

18.3.3. Degree of conduct effectiveness

19. Non-RM Activity Knowledge

19.1. Composition

19.1.1. Business Activity Knowledge

19.1.2. Accountability-Related Activity Knowledge

19.1.3. Investigation-Related Activity Knowledge

19.2. Specification

19.2.1. Part of RM Extended Knowledge

19.3. Measurement

19.3.1. Degree of understanding adequacy

20. Non-RM Technology Knowledge

20.1. Specification

20.1.1. Understanding of Organizational IT used by Non-RM Activity

20.1.2. Level of understanding limited to software/information system functionality

20.2. Measurement

20.2.1. Degree of understanding adequacy

21. Operational Activity

21.1. Composition

21.1.1. Non-RM Activity

21.1.2. RM Activity

21.2. Specification

21.2.1. Operational Activity is owned by an institution

21.2.2. Operational Activity is designed by the institution

21.2.3. The design is executed by the institution

21.2.4. Operational Activity is Record Creating Activity

21.2.5. Conduct relies on information technology

21.2.6. RM Application-Oriented Work (of RM Activity) is part of Non-RM Activity

21.3. Measurement

21.3.1. Degree of deign quality in terms of satisfying organizational needs

21.3.2. Degree of components being distinguished

21.3.3. Degree of relationship between components being recognized

21.3.4. Degree of conduct effectiveness

22. Organizational Information Technology (OIT)

22.1. Composition

22.1.1. Non-RM Technology

22.1.1.1. Business Activity Technology

22.1.1.2. Accountability-related Activity Technology

22.1.1.3. Investigation-related Activity Technology

22.1.2. RM Technology

22.2. Specification

22.2.1. Relating to computer or computer-like devices

22.2.2. Relating also to the Internet

22.2.3. Centrally managed in organization

22.2.3.1. Manage = plan, purchase, implement, maintain, upgrade and disposal

22.2.3.2. Maintain = routine, daily work that ensures normal operation

22.3. Measurement

22.3.1. Degree of optimization for Operational Activity

23. Organizational Digital Records Management System (ODRMS)

23.1. Composition

23.1.1. Central Digital Records Management System

23.1.2. Unit Digital Records Management System

23.2. Specification

23.2.1. Can be more than one

23.2.2. Requires Record(s) Maintaining Technology

23.2.3. Requires integration with Record Creating Technology

23.3.   Measurement

    23.3.1.   Degree of design optimization

    23.3.2.   Degree of operation effectiveness

24. Organizational RM

  24.1.   Composition

    24.1.1.   Central RM

    24.1.2.   Local RM

  24.2.   Specification

    24.2.1.   Relies on RM Governance Structure for establishment

    24.2.2.   Relies on RM Responsibility Arrangement for operation

    24.2.3.   Determines RM Capacity

  24.3.   Measurement

    24.3.1.   Degree of establishment adequacy

    24.3.2.   Degree of operation effectiveness

25. Record Capture

  25.1.   Specification

    25.1.1.   Particularly relevant to Digital Record

    25.1.2.   Part of Record(s) Maintaining Activity

    25.1.3.   Records can be managerially captured in UDRMS

      25.1.3.1.   = metadata about the records created in UDRMS

    25.1.4.   Records can also be technologically captured in UDRMS

      25.1.4.1.   = an actual copy created in UDRMS

        25.1.4.1.1. Triggered by saving (in the sense of computer operation)

    25.1.5.   Relies on Record Identification for capturing accuracy with respect to

      25.1.5.1.   Record content

      25.1.5.2.   Record documentary form

      25.1.5.3.   Record Metadata

    25.1.6.   Conducted by Local RM

      25.1.6.1.   by human beings or RM Technology or combination of human and technology

  25.2.   Measurement

25.2.1. Degree of comprehensiveness (percentage of captured records against identified records)

25.2.2. Degree of capture accuracy

26. Record Classification

26.1. Specification

26.1.1. Implementation of Records Classification Scheme

26.1.1.1. Classifying records into classes

26.1.2. Classifying applies only to individual records

26.1.3. Follows RM Procedure

26.1.4. Carried out by RM Personnel of Unit RM

26.1.5. Can also be carried out by Technology RM

26.1.5.1. Records auto-classification

26.2. Measurement

26.2.1. Degree of comprehensiveness (percentage of classified records against captured records)

26.2.2. Degree of timeliness

26.2.3. Degree of accuracy

27. Record Creation Purpose

27.1. Specification

27.1.1. To create a record is to satisfy the need of an Operational Activity

27.1.2. The Operational Activity is its creating activity

27.2. Measurement

27.2.1. Existence of decision for the creation

27.2.2. Existence of justification(s) for the creation

28. Record Identification

28.1. Composition

28.1.1. Identification of record content

28.1.2. Identification of record documentary form

28.1.3. Identification of Record Metadata

28.2. Specification

28.2.1. Relies on understanding of Record Creation Purpose

28.2.2. Relies on understanding of Record Instrumental Value

28.2.3. Relies on Unit RM/Dedicated RM Personnel to be conducted

28.3. Measurement

28.3.1. Degree of importance recognition by organization (through Organizational RM)

28.3.2. Degree of identification comprehensiveness

28.3.3. Degree of identification quality

29. Record Instrumental Value

29.1. Specification

29.1.1. A record possesses Instrumental Value when it is demanded by an Operational Activity for its conduct

29.1.1.1. The demand is part of the design[449] of the Operational Activity

29.1.1.2. The Operational Activity is its Creating Activity

29.1.1.3. The Operational Activity is a Present Activity

29.1.2. Record Instrumental Value is exclusive to Creating Activity/Present Activity

29.1.3. Record Instrumental Value is relevant to productivity and effectiveness

29.2. Measurement

29.2.1. Degree of recognition by organization (through Organizational RM)

29.2.2. Degree of realization

30. Record Metadata

30.1. Specification

30.1.1. Recorded information about individual records

30.1.2. Intended for representation and maintenance

30.1.3. In the form of discrete piece

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[449] The focus here is design. Design can be impacted or influenced by a variety of factor in or outside the organization. It therefore implies constant change and the need for analytical skills to accommodate the change.

30.1.4. Can be combined in accordance with defined rules to achieve a defined goal

30.1.5. Recorded means being affixed to a medium

30.1.6. Relies on RM Application-Oriented Work for development

30.1.7. Facilitates Record Retrievability development

30.1.8. Benefits record preservation and access in archival institution

30.1.9. Is managerially integrated with RCS

30.1.10. Can be technologically integrated with RCS

30.2. Measurement

30.2.1. Degree of accuracy in terms of representing the record

30.2.2. Degree of completeness in terms of enabling management

31. Record Nature

31.1. Specification

31.1.1. Illustrates Record Creation

31.1.2. Illustrates Record Maintenance

31.1.3. Illustrates Record Use

31.1.4. Relies on RM Collective Ability for development

31.1.4.1. Developed as a subject

31.2. Measurement

31.2.1. Degree of being understood by organization

32. Record Reuse Value

32.1. Composition

32.1.1. Record Reuse-Immediate Value

32.1.2. Record Reuse-Distant Value

32.2. Specification

32.2.1. Record Reuse Value is relevant to Future Activity

32.3. Measurement

32.3.1. Degree of recognition by organization

32.3.2. Degree of components being distinguished

32.3.3. Degree of realization by Organizational RM

33. Record Reuse-Distant Value

33.1.   Composition

    33.1.1.   Record Reuse-Distant-Accountability Value

    33.1.2.   Record Reuse-Distant-Investigation Value

    33.1.3.   Record Reuse-Distant-Resource Value

33.2.   Specification

    33.2.1.   The reuse is distant when records are used by a Future Activity taking place in an Archival Institution

33.3.   Measurement

    33.3.1.   Degree of components being distinguished

    33.3.2.   Degree of recognition by organization

    33.3.3.   Degree of recognition by Archival Institution

    33.3.4.   Degree of realization by Organizational RM

34. Record Reuse-Distant-Accountability Value

34.1.   Specification

    34.1.1.   A record possesses Reuse-Distant-Accountability Value when it is used by an Accountability-Related Activity in an Archival Institution

        34.1.1.1.   The use is a Future Activity with reference to the Creating Activity

        34.1.1.2.   This type of Future Activity cannot be predicted

    34.1.2.   The value can be assessed independently by Archival Appraisal

    34.1.3.   The value is relevant to legislative compliance

    34.1.4.   The value is relevant to government transparency

    34.1.5.   The value is relevant to society democracy

34.2.   Measurement

    34.2.1.   Degree of recognition by organization (through Organizational RM)

    34.2.2.   Degree of recognition by Archival Institution

    34.2.3.   Degree of realization

35. Record Reuse-Distant-Investigation Value

35.1.   Specification

    35.1.1.   A record possesses Reuse-Distant-Investigation Value when it is used by an Investigation-Related Activity in an Archival Institution

35.1.1.1.   The Investigation-Related Activity is a Future Activity with
reference to the Creating Activity

35.1.1.2.   This type of Future Activity is unpredictable

35.1.2.   The value should not be assessed independently by Archival Appraisal

35.1.3.   It is relevant to legal/juridical compliance

35.2.   Measurement

35.2.1.   Degree of recognition by organization (through Organizational RM)

35.2.2.   Degree of recognition by Archival Institution

35.2.3.   Degree of realization

36. Record Reuse-Distant-Resource Value

36.1.   Specification

36.1.1.   A record possesses Reuse-Distant-Resource Value when it is used by a
Business Activity in an Archival Institution

36.1.1.1.   Resource = information resource/knowledge resource/business
asset

36.1.1.2.   This type of resource maintains the characteristics of being records

36.1.2.   The value can be assessed independently by Archival Appraisal

36.1.3.   It is relevant to productivity and effectiveness

36.2.   Measurement

36.2.1.   Degree of recognition by organization (through Organizational RM)

36.2.2.   Degree of recognition by Archival Institution

36.2.3.   Degree of realization

37. Record Reuse-Immediate Value

37.1.   Composition

37.1.1.   Record Reuse-Immediate-Accountability Value

37.1.2.   Record Reuse-Immediate-Investigation Value

37.1.3.   Record Reuse-Immediate-Resource Value

37.2.   Specification

37.2.1.   The reuse is immediate when records are used by a Future Activity that
takes place within the records creating organization and/or other
organizations as determined by the design of the activity

37.2.1.1.   The other organizations are not an archival institution

37.2.2.   The types are distinguishable, but not mutually exclusive

37.3.   Measurement

37.3.1.   Degree of components being distinguished

37.3.2.   Degree of recognition by organization

37.3.3.   Degree of realization by Organizational RM

38. Record Reuse-Immediate-Accountability Value

38.1.   Specification

38.1.1.   A record possesses Reuse-Immediate-Accountability Value when it is used by an Accountability-Related Activity

38.1.1.1.   The Accountability-Related Activity is a Future Activity with reference to the Creating Activity

38.1.1.2.   This type of Future Activity can be regular

38.1.2.   This value should not be assessed independently by RM Appraisal because

38.1.2.1.   It is originated from Record Instrumental Value, and

38.1.2.2.   It co-exists with other Record(s) Reuse-Immediate Value

38.1.3.   The value is relevant to legislative compliance

38.1.4.   The value is relevant to government transparency

38.1.5.   The value is relevant to society democracy

38.2.   Measurement

38.2.1.   Degree of recognition by organization (through Organizational RM)

38.2.2.   Degree of realization (inherited)

39. Record Reuse-Immediate-Investigation Value

39.1.   Specification

39.1.1.   A record possesses Reuse-Immediate-Investigation Value when it is used by an Investigation-Related Activity

39.1.1.1.   The Investigation-Related Activity is a Future Activity with reference to the Creating Activity

39.1.1.2.   This type of Future Activity is usually unpredictable

39.1.2. This value should not be assessed independently by RM Appraisal because

39.1.2.1. It is originated from Record Instrumental Value, and

39.1.2.2. It co-exists with other Record(s) Reuse-Immediate Value

39.1.3. It is relevant to legal/juridical compliance

39.2. Measurement

39.2.1. Degree of recognition by organization (through Organizational RM)

39.2.2. Degree of realization (inherited)

40. Record Reuse-Immediate-Resource Value

40.1. Specification

40.1.1. A record possesses Reuse-Immediate-Resource Value when it is used by a Business Activity

40.1.1.1. Resource = information resource/knowledge resource/business asset

40.1.1.2. This type of resource maintains the characteristics of being records

40.1.2. The value is relevant to productivity and effectiveness

40.1.3. It is the primary reason for records retention and maintenance beyond their Creating Activity

40.2. Measurement

40.2.1. Degree of recognition by organization (through Organizational RM)

40.2.2. Degree of realization (inherited)

41. Record Titling

41.1. Specification

41.1.1. Part of classifying

41.1.2. Applies titling template

41.1.3. Carried out by Employee RM

41.1.4. Can also be carried out by Technology RM (when integrated with Record Creating Technology)

41.1.5. Supervised by Unit RM

41.2. Measurement

41.2.1. Degree of comprehensiveness (percentage of named records against all classified records)

41.2.2. Degree of timeliness

41.2.3. Degree of consistence

42. Record Titling Guidelines

    42.1. Specification

        42.1.1. Guide the development of titling templates with structured place holders for descriptive facets

            42.1.1.1. Templates developed by Unit RM

        42.1.2. Relies on Record Identification

    42.2. Measurement

        42.2.1. Degree of pertinence to Creating Activity/Operational Activity

43. Record Usability

    43.1. Composition

        43.1.1. Being authentic

            43.1.1.1. Record content remains unchanged

            43.1.1.2. Record documentary form remains unchanged or changed as planned/expected (thus are traceable and can be documented)

        43.1.2. Being contextualized

            43.1.2.1. Exists in relationships with other records of its creating activity

        43.1.3. Being human readable

            43.1.3.1. Able to survive technological obsolescence

            43.1.3.2. Relies on Record(s) Long-Term Preservation

        43.1.4. Specification

            43.1.4.1. Relies on Record(s) Maintaining Activity

            43.1.4.2. Part of RM Control

    43.2. Measurement

        43.2.1. Degree of comprehensiveness (percentage of useful records against all identified records)

44. Record Value

    44.1. Composition

46.2.3.   Carrying out relies on RM Procedure

46.3.   Measurement

46.3.1.   Degree of completion effectiveness

47. Record(s) Maintaining Technology

47.1.   Composition

47.1.1.   Business Process Management System (BPMS)[450] for Record Identification

47.1.2.   Digital Records Management System (DRMS) for all other Record(s) Maintaining Activities

47.2.   Specification

47.2.1.   Part of OIT used by Record(s) Maintaining Activity

47.2.2.   Design and implementation require understanding of Non-RM Activity

47.2.3.   Design and implementation require understanding of RM Activity

47.2.4.   Can be integrated with Record Creating Technology

47.2.5.   May cause changes to record documentary form originally determined by Record Creating Technology

47.3.   Measurement

47.3.1.1.   Degree of optimization

47.3.1.2.   Degree of integration

47.3.1.3.   Percentage of users using the technology against all users with granted access

48. Record(s) Maintenance Purpose

48.1.   Specification

48.1.1.   To maintain a record (or a class of records) is to permit its use by its creating activity/Present Activity

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[450] The type of software application specializes on the design and management of business processes. James. F. Chang. *Business Process Management Systems: Strategy and Implementation*. Auerbach Publications, Taylor & Francis Group, Boca Raton, FL, 2006, 49-69.

48.1.2. To maintain a record (or a class of records) is also to permit its use by Future Activity

48.1.3. Maintenance needs to be performed at both individual and class level

48.2. Measurement

48.2.1. Existence of decision for maintenance

48.2.2. Existence of justification(s) for maintenance

49. Record(s) Metadata

49.1. Composition

49.1.1. Record Metadata

49.1.2. Records Class Metadata

49.2. Specification

49.2.1. Necessary for RM Activity

49.3. Measurement

49.3.1. Degree of accuracy

49.3.2. Degree of completeness

50. Record(s) Purpose

50.1. Composition

50.1.1. Record Creation Purpose

50.1.2. Record(s) Maintenance Purpose

50.2. Specification

50.2.1. Derived directly from Record Nature

50.2.2. Interrelated with Record Value

50.2.3. Interrelated with RM Nature

50.3. Measurement

50.3.1. Degree of components being distinguished

51. Record(s) Retrievability

51.1. Composition

51.1.1. Record Retrievability

51.1.2. Records Class Retrievability

51.2. Specification

51.2.1. Development of access points based on Record Metadata enabled by Record Identification

51.2.2. Development of access points based on Records Class Metadata enabled by RCS

51.2.3. Development of location information based on Record Capture and the configuration of ODRMS

51.3. Measurement

51.3.1. Degree of comprehensiveness (percentage of records with retrievability against all identified records)

52. Record(s) Retrieval Activity

52.1. Composition

52.1.1. Record Retrieval

52.1.2. Records Class Retrieval

52.2. Specification

52.2.1. Facilitates obtaining of records

52.2.2. Relies on Record(s) Retrievability

52.2.3. Follows RM Procedure (e.g., access/security rules)

52.2.3.1. Conducted by non-RM personnel

52.2.3.2. Conducted also by Employee RM and Technology RM

52.2.3.3. Conducted also by Unit RM when Employee RM and Technology[451] RM is ineffective

52.2.3.4. In compliance with access rules

52.3. Measurement

52.3.1. Degree of retrieval timeliness

52.3.2. Degree of retrieval completeness (Recall)

52.3.3. Degree of retrieval precision

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[451] It needs to link the conduct to the types of activity. Non-RM personnel retrieves records when conducting the records creating activity/present activity; RM Personnel retrieves records for other types of activities.

53. Records Class Metadata

    53.1.   Specification

        53.1.1.   Recorded information describing records classes in Records Classification Scheme

        53.1.2.   In the form of discrete piece

        53.1.3.   Can be combined according to defined rules to structurally present the description

        53.1.4.   Development relies on the part of Record Metadata that describe the records in the class

        53.1.5.   Recorded means being affixed to a medium

    53.2.   Measurement

        53.2.1.   Degree of accuracy

        53.2.2.   Degree of completeness

54. Records Classification Scheme (RCS)

    54.1.   Specification

        54.1.1.   Developed to organizes records

        54.1.2.   Contains and/or points to Record Metadata and Records Class Metadata

        54.1.3.   Development reflects the design of Operational Activity, which determines the relationships between records and records classes

            54.1.3.1.   When the design of Operational Activity changes, the class structure of RCS changes accordingly

            54.1.3.2.   Changes need to be documented

        54.1.4.   Development relies on RM Application-Oriented Work as input, thus is jointly developed by Central RM & Unit RM

        54.1.5.   Supports Record(s) Retrieval

        54.1.6.   Supports Records Disposition through integrating with Records Retention

        54.1.7.   An Organizational RM has only one RCS

        54.1.8.   Implemented by conducting Record Classifying

        54.1.9.   Implementation is desired to be assisted by digital technology

    54.2.   Measurement

54.2.1. Degree of completeness (coverage of Operational Activity or records)

54.2.2. Degree of representation accuracy of relationships between records and their Creating Activity

54.2.3. Degree of currency

55. Records Destruction

55.1. Specification

55.1.1. Removes records from Organizational Digital Records System

55.1.2. The removing intends to disable recoveries of destructed records

55.1.3. Performed at the level of records class

55.1.4. May include (portion of) Records Metadata

55.1.5. Follows RM Procedure

55.1.6. Carried out by Unit RM and Central RM

55.2. Measurement

55.2.1. Degree of comprehensiveness (percentage of records destructed against all records with expired Records Retention)

55.2.2. Degree of timeliness

56. Records Disposition Activity

56.1. Composition

56.1.1. Records Destruction

56.1.2. Records Transfer

56.2. Specification

56.2.1. Relies on Records Disposition Authority

56.3. Measurement

56.3.1. Degree of timeliness

57. Records Disposition Authority (RDA)

57.1. Specification

57.1.1. Issued by Archival Institution to records creating organization

57.1.2. Relies on Archival Appraisal

57.1.3. Can be multiple

57.1.4. Need to be pertinent to records type

57.1.5. Obtaining RDA requires RCS with RRs

57.1.6.   Execution of RDA is to conduct Records Disposition Activity

57.2.   Measurement

57.2.1.   Degree of comprehensiveness (percentage of covered records against all identified records)

57.2.2.   Degree of pertinence to records type

57.2.3.   Degree of currency

58. Records Retention (RR)

58.1.   Specification

58.1.1.   Time periods for records maintenance

58.1.2.   Relies on RM Appraisal for scheduling

58.1.3.   Scheduling jointly carried out by Central RM & Unit RM

58.1.4.   Scheduling can be aided by risk analysis

58.1.5.   RRs are applicable to records classes

58.1.5.1.   Records are individually scheduled along with Record Identification

58.1.6.   RRs need to be integrated with RCS for disposition

58.1.7.   Re-scheduling occurs when legal hold of discovery order takes place

58.1.7.1.   Discovery is applicable to both physical and digital records

58.2.   Measurement

58.2.1.   Degree of comprehensiveness (percentage of scheduled records against identified records)

58.2.2.   Degree of retention period appropriateness (existence of justifications)

58.2.3.   Degree of currency

59. Records Retention Calculation

59.1.   Specification

59.1.1.   Implementation of Records Retentions

59.1.2.   Desired to be assisted by digital technology

59.1.3.   Can be suspended when needed

59.2.   Measurement

59.2.1.   Degree of accuracy

60. Records Transfer

60.1.   Composition

    60.1.1.   Records Legal Transfer

        60.1.1.1.   the handing over of rights attached to records

    60.1.2.   Records Physical Transfer

        60.1.2.1.   the changing of records storage

60.2.   Specification

    60.2.1.   Takes place between records creating organizations and the archival institution

    60.2.2.   Requires formal terms and conditions

    60.2.3.   Only to be performed at level of records class

    60.2.4.   Must include Records Class Metadata

    60.2.5.   Must include Record Metadata

    60.2.6.   Carried out by Central RM

    60.2.7.   Relies on RDA

60.3.   Measurement

    60.3.1.   Percentage of transferred records against records selected for transfer

    60.3.2.   Degree of transfer timeliness

61. RM Academia

61.1.   Specification

    61.1.1.   Offers Formal RM Education

    61.1.2.   Conducts RM Research

61.2.   Measurement

    61.2.1.   Degree of adequacy to support Organizational RM

62. RM Activity

62.1.   Composition

    62.1.1.   RM Requirement-Oriented Work

    62.1.2.   RM Application-Oriented Work

62.2.   Specification

    62.2.1.   The conduct of RM Activity determines the achievement of RM Control

62.3.   Measurement

    62.3.1.   Degree of components being distinguished

65.2.1. Determination relies on RM Function Design

65.2.2. Determination relies on establishment of Organizational RM

65.2.3. Critical to the operation of Organizational RM

65.3. Measurement

65.3.1. Degree of adequacy for RM Activity completion (i.e., the number of position)

65.3.2. Degree of technology optimization for Organizational RM operation

66. RM Collective Ability

66.1. Composition

66.1.1. RM Functioning Ability

66.1.2. RM Community Ability

66.2. Specification

66.2.1. Complimentary to each other

66.2.2. Supportive to each other

66.3. Measurement

66.3.1. Degree of adequacy to enable Organizational RM

67. RM Community

67.1. Composition

67.1.1. RM Academia

67.1.2. RM Profession

67.2. Specification

67.2.1. Complimentary with each other

67.2.2. Supportive to each other

67.3. Measurement

67.3.1. Degree of collaboration adequacy

68. RM Community Ability

68.1. Specification

68.1.1. Able to train RM Professionals, through

68.1.1.1. offering formal and continued education

68.1.1.2. conducting research

68.2. Measurement

68.3.   Degree of adequacy to support Organizational RM

69. RM Conceptual Framework

69.1.   Composition

69.1.1.   Concepts

69.1.2.   Conceptual relationships

69.2.   Specification

69.2.1.   Developed by articulating/codifying RM Requisite Knowledge & Skill

69.2.2.   Maintained by keeping consistent with RM Requisite Knowledge & Skill advancement

69.2.3.   A prerequisite for RM Activity

69.2.4.   The concepts may possess relationships of being

69.2.4.1.   Interrelated

69.2.4.1.1. e.g., Record Value & Record Purpose

69.2.4.2.   Derivable

69.2.4.2.1. e.g., RM Nature from Record Nature

69.2.4.3.   Mutually exclusive

69.2.4.3.1. e.g., Reuse-Immediate Value vs. Reuse-Distant-Value

69.2.4.4.   Inclusive

69.2.4.4.1. e.g., Local RM = Unit RM + Employee RM + Technology RM;

69.2.4.5.   Hierarchical

69.2.4.5.1. e.g., Operational Activity > RM Activity > Record(s) Maintaining Activity > Record Identification

69.2.4.6.   Multiple

69.2.4.6.1. e.g., Organizational RM > Local RM > = Unit RM > + Employee RM

69.2.4.7.   Synonymous

69.2.4.7.1. e.g., Information Technology = Digital Technology)

69.3.   Measurement

69.3.1.   Degree of articulation[452] precision

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[452] Here the choice of term is "articulated", not understood as used for Record Nature, due to the

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consideration that understanding can be mentally acquired yet to establish a RM Function, the understanding needs to be clearly articulated. The clear articulation is needed for all kinds of RM products, policy, directive, procedure, tool, or performance evaluation.

75.3.   Measurement

      75.3.1.   Degree of design adequacy

76. RM Functioning Ability

  76.1.   Specification

      76.1.1.   Command of RM Requisite Knowledge & Skill by Organizational RM (through RM Personnel)

  76.2.   Measurement

      76.2.1.   Degree of adequacy for RM Activity completion

77. RM Governance Structure

  77.1.   Specification

      77.1.1.   Reporting relationship b/w Unit RM & Central RM

      77.1.2.   Reporting relationship b/w Employee RM & Unit RM

      77.1.3.   Reporting relationship b/w Technology RM & Unit RM

      77.1.4.   Reporting relationship b/w Unit RM & Business Activity

      77.1.5.   Reporting relationship b/w Unit RM & Accountability-Related Activity

      77.1.6.   Reporting relationship b/w Unit RM & Investigation-Related Activity

      77.1.7.   Administrative relationship b/w Central RM and Business Activity, Accountability-Related Activity, and Investigation-Related Activity is one that is jointly responsible for =

         77.1.7.1.   the conduct of Business Activity, Accountability-Related Activity, and Investigation-Related Activity

      77.1.8.   Reporting relationship b/w Central RM and the highest level of decision making body in the organization

  77.2.   Measurement

      77.2.1.   Degree of design adequacy in terms of specification comprehensiveness (authority)

78. RM Legislative Base

  78.1.   Specification

      78.1.1.   Provisions regarding record nature in dedicated RM legislation

      78.1.2.   Provisions regarding RM in dedicated RM legislation

         78.1.2.1.   Dedicated = enacted as an independent piece of legislation

        78.1.2.2. Dedicated = not included as part of an act that establishes an archival institution

        78.1.2.3. Dedicated = not included as part of an act that stipulates access to/freedom of information

  78.2.   Relies on RM Collective Ability

  78.3.   Support RM Collective Ability

  78.4.   Measurement

    78.4.1.   Degree of adequacy

79. RM Nature

  79.1.   Specification

    79.1.1.   RM is indispensible

        79.1.1.1. Managing records is part of any operational activity[453]

    79.1.2.   RM is professional

        79.1.2.1. Managing records requires specialized knowledge and skill

    79.1.3.   RM is managerial

        79.1.3.1. RM is a management filed and management includes not only records but also personnel and technology

    79.1.4.   RM is organizational

        79.1.4.1. Records are managed for the organization as a whole

    79.1.5.   RM is dedicated

        79.1.5.1. The ubiquitous presence of organizational records requires dedication of RM Activity

        79.1.5.2. The volume of digital records requires dedication of RM Activity

        79.1.5.3. The complexity of digital records requires dedication of RM Activity

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[453] This includes the RM decision to retain the record for a very short time. This means that whenever a record is determined to be created (made or affiliated), a RM decision must be made about its retention. This also means that non-records should never be created (made or affiliated) in the first place. For information resources controlled also by the organization for business purposes, typically items in in-house library, the term is collected or gathered, not created.

79.1.6. RM is centralized

    79.1.6.1. Every record must be known to the Organizational RM regardless its physical location

79.2. Measurement

    79.2.1.1. Degree of recognition by organization (through organizational RM)

80. RM Performance Evaluation

80.1. Composition

80.1.1. Periodical Review

80.1.2. On-demand Audit

80.2. Specification

80.2.1. Design relies on RM Conceptual Framework

80.2.2. Design relies on RM Application-Oriented Work

80.2.3. Conduct relies on RM authority

80.3. Measurement

80.3.1. Existence of involvement of RM Professional

80.3.2. Degree of specificity

81. RM Personnel

81.1. Specification

81.1.1. Recognized as RM Professional

81.1.2. Qualified as RM Professional

81.2. Measurement

81.2.1. Existence of recognition

81.2.2. Degree of qualification

82. RM Policy Instrument

82.1. Specification

82.1.1. Typically in forms of mandatory policy, directive, and standard

82.1.2. Transforms RM Governance Structure into compliance requirements

82.1.3. Transforms also RM Responsibility Arrangement into compliance requirements

82.1.4. Contains also enforceable penalties for incompliance

82.1.5. Relies on RM Conceptual Framework

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82.2. Measurement

    82.2.1. Degree of development adequacy in terms of comprehensiveness

    82.2.2. Degree of development adequacy in terms of clarity

83. RM Procedure

  83.1. Specification

    83.1.1. Transforms mandatory compliance requirements in RM Policy Instrument into specific, executable steps on when, how and by whom

    83.1.2. Relies on RM Conceptual Framework

    83.1.3. Relies on RM Application-Oriented Work

  83.2. Measurement

    83.2.1. Degree of development adequacy for RM Activity completion in terms of specificity

84. RM Profession

  84.1. Specification

    84.1.1. Supports Organizational RM

    84.1.2. Participates in RM Research

  84.2. Measurement

    84.2.1. Degree of adequacy to support Organizational RM

85. RM Professional

  85.1. Specification

    85.1.1. Possession of RM Functioning Ability as qualification

    85.1.2. Requires support from RM Profession

    85.1.3. Requires support from RM Academia

  85.2. Measurement

    85.2.1. Degree of qualification

86. RM Research

  86.1. Specification

    86.1.1. Being scientific

    86.1.2. Supports Organizational RM

    86.1.3. Contributing to RM Requisite Knowledge & Skill

  86.2. Measurement

88.1.7.   Employee RM is responsible for saving/capturing records into
    designated space(s)

    88.1.7.1.   For paper records, a designated space can be a physical folder
        pre-labelled by Unit RM or a physical location for records drop off

        88.1.7.1.1. Pre-labelled = classified

    88.1.7.2.   For digital records, a designated space can be a digital folder
        pre-named by Unit RM in Organizational Digital Records Management
        System for records drop-off

        88.1.7.2.1. Pre-named = classified

    88.1.7.3.   Central RM is responsible for designating space(s)

    88.1.7.4.   Unit RM is responsible for classifying dropped off records

88.1.8.   Unit RM is responsible for Technology RM

88.1.9.   Technology RM is responsible for titling records according to
    pre-determined templates attached to pre-determined workflow and rules

    88.1.9.1.   Technology RM is responsible for capturing records according to
        pre-determined workflow and rules

        88.1.9.1.1. Capture by Technology RM replaces saving records into
        designated space by Employee RM

88.1.10.   Technology RM is responsible for classifying records according to
    pre-determined workflow and rules

    88.1.10.1. Classification by Technology RM replaces classification by Unit
        RM

88.2.   Measurement

88.2.1.   Degree of design adequacy in terms of specification comprehensiveness
    (balanced work division)

89. RM Requisite Knowledge & Skill

89.1.   Composition

89.1.1.   RM Core Knowledge

89.1.2.   RM Extended Knowledge

89.1.3.   RM Skill

89.2.   Specification

89.2.1.　Relies on RM Collective Ability to be understood/recognized by organization

89.3.　　Measurement

89.3.1.　Degree of existence adequacy in organization

90. RM Skill

90.1.　　Specification

90.1.1.　Analytic, managerial, and technological techniques identified based on RM Core Knowledge for completing RM Activity

90.1.2.　Analytic, managerial, and technological techniques identified based on RM Extended Knowledge for completing RM Activity

90.2.　　Measurement

90.2.1.　Degree of possession adequacy by Organizational RM (through RM Personnel)

91. RM Technology

91.1.　　Composition

91.1.1.　Record Creating Technology

91.1.2.　Record(s) Maintaining Technology

91.2.　　Specification

91.2.1.　A type of IT

91.2.2.　Part of OIT

91.2.3.　Record Creating Technology is part of the Non-RM Technology that is directly relevant to the creation of record [454]

91.3.　　Measurement

91.3.1.　Degree of optimization for completing RM Activity

92. RM Tool

92.1.　　Composition

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[454] For example, a database designed for marketing is of the nature of Non-RM Technology because its primary purpose is not for the management of records but for reaching the goal of a Business Activity. However, the functions of the database that are designed to generate reports are Record Creating Technology.

94.1.   Specification

    94.1.1.   Structurally part of Non-RM Activity

    94.1.2.   Structurally also part of Unit RM

    94.1.3.   Carries out a portion of RM Maintaining Activity

    94.1.4.   Fulfills responsibilities outlined in RM Responsibility Arrangement

    94.1.5.   Carrying out is assisted by Central RM in the form of RM Procedure

    94.1.6.   Carrying out may be integrated with Record Creating Technology

    94.1.7.   Carrying out is supervised by Unit RM

94.2.   Measurement

    94.2.1.   Degree of operation effectiveness

95. Unit Digital Records Management System (UDRMS)

95.1.   Specification

    95.1.1.   Operated by Unit RM

    95.1.2.   Manages records of Non-RM Activity

    95.1.3.   Manages also records of Local RM (i.e., records created by RM Application-Oriented Work)

    95.1.4.   The relationship between UDRMS and the activities can be one-to-many[455] or many-to-one[456]

    95.1.5.   The system and the activity must be managerially integrated, and may also be technologically integrated

    95.1.6.   The systems must be managerially integrated with each other, and may also be technologically integrated

    95.1.7.   The systems must be managerially integrated with Central Digital Records Management System, and may also be technologically integrated with Central Digital Records Management System

95.2.   Measurement

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[455] An EDRMS is the typical example of this type.

[456] An example can be a complex activity that crosses the boundaries of many units or institutions.

95.2.1.   Degree of design optimization

95.2.2.   Degree of operation effectiveness

96. Unit RM

96.1.   Specification

96.1.1.   Structurally part of the Unit

96.1.1.1.   A Unit is an administrative configuration responsible for a portion of a, or a complete, Non-RM Activity

96.1.2.   Structurally also part of the Organizational RM

96.1.3.   Operated by dedicated RM Personnel

96.1.4.   Fulfills responsibilities as outlined in RM Responsibility Arrangement

96.1.5.   Carries out the portion of RM Application-Oriented Work that is not assigned to Technology RM and Employee RM

96.1.6.   Carries out the entire RM Application-Oriented Work when Technology RM and Employee RM are absent

96.1.7.   Operates Unit Digital Records Management System

96.2.   Measurement

96.2.1.   Degree of operation effectiveness

Appendix 5 Subject Grouping of Conceptual Building Blocks

The concepts describing the RM function in institutions are grouped in relation to the major RM tasks and into five groups. The categorizations of "simple" and "compound" are used to further divide the concepts into groups of concepts containing no component concepts and of concepts containing component concepts. The numbers of the concepts associated with the groups indicate, in a simplistic yet straightforward manner, the different levels of complexity of the tasks.

Group 1: **RM Function Design** Related (22)

- Simple concepts
  - RM Functioning Ability
  - RM Governance Structure
  - RM Nature
  - RM Personnel
  - RM Professional
  - RM Responsibility Arrangement
  - RM Skill
- Compound Concepts
  - Operational Activity
    - Non-RM Activity
    - RM Activity
  - Organizational Information Technology
    - Non-RM Technology
    - RM Technology
  - Organizational Digital Records Management System
    - Central Digital Records Management System
    - Unit Digital Records Management System
  - Organizational RM

- Central RM
- Local RM

- o Record(s) Metadata
  - Record Metadata
  - Records Class Metadata

- o Record(s) Purpose
  - Record Creation Purpose
  - Record(s) Maintenance Purpose

- o RM Activity
  - RM Requirement-Oriented Work
  - RM Application-Oriented Work

- o RM Capacity
  - RM Personnel
  - RM Technology

- o RM Conceptual Framework
  - Concepts
  - Conceptual relationships

- o RM Core Knowledge
  - Understanding of RM Foundational Concept
  - Understanding of RM Activity
  - Understanding of RM Technology

- o RM Extended Knowledge
  - Non-RM Activity Knowledge
  - Non-RM Technology Knowledge

- o RM Foundational Concept
  - Concept of Record Nature
  - Concepts derived from Record Nature
    - Record(s) Purpose
    - Record Value
    - RM Nature

- - - Concept interrelated with the derived concepts
      - RM Value
  - RM Function Design
    - RM Governance Structure
    - RM Responsibility Arrangement
    - RM Activity
  - RM Requisite Knowledge & Skill
    - RM Core Knowledge
    - RM Extended Knowledge
    - RM Skill
  - RM Technology
    - Record Creating Technology
    - Record(s) Maintaining Technology

Group 2: **RM Requirement-Oriented Work** (of RM Activity) Related (13)

- Simple Concepts
  - Central Digital Records Management System
  - Central RM
  - Centralized Records
  - Record Titling Guidelines
  - Records Classification Scheme
  - Records Disposition Authority
  - Records Retention
  - RM Development Plan
  - RM Policy Instrument
  - RM Procedure
- Compound Concepts
  - RM Performance Evaluation
    - Periodical Review
    - On-demand Audit
  - RM Tool

- Records Classification Scheme (RCS)
- Records Retention (RR)
- Records Disposition Authority (RDA)

Group 3: **RM Application-Oriented Work** (of RM Activity) Related (38)

- Simple Concepts
  - Business Activity Execution Knowledge
  - Decentralized Records
  - Employee RM
  - Record Capture
  - Record Classification
  - Record Titling
  - Record(s) Long-Term Preservation
  - Record(s) Maintenance Purpose
  - Records Class Metadata
  - Records Destruction
  - Records Retention Calculation
  - RM Appraisal
  - Technology RM
  - Unit Digital Records Management System
  - Unit RM
- Compound Concepts
  - Local RM
    - Unit RM
    - Employee RM
    - Technology RM
  - Record(s) Maintaining Activity
    - Record Capture
    - Record Classification
    - Record Titling
    - RM Appraisal

- - Records Retention Calculation
  - Records Disposition Activity
    - Records Destruction
    - Records Transfer
  - Record(s) Long-Term Preservation
  - Unit Digital Records Management System operation
- Record(s) Maintaining Technology
  - Organizational Digital Records Management System
  - Other technologies suitable for Record(s) Maintaining Activities
- Record(s) Retrieval Activity
  - Record Retrieval
  - Records Class Retrieval
- Records Transfer
  - Records Legal Transfer
  - Records Physical Transfer

Group 4: **Record Identification** (of RM Application-Oriented Work) Related (17)

- Simple Concepts
  - Accountability-Related Activity
  - Accountability-Related Activity Knowledge
  - Business Activity
  - Business Activity Knowledge
  - Business Activity Design Knowledge
  - Digital Record
  - Investigation-Related Activity
  - Investigation-Related Activity Knowledge
  - Record Creation Purpose
  - Record Instrumental Value
  - Record Metadata
- Compound Concepts
  - Record Identification

- - - Identification of record content
  - - Identification of record documentary form
  - - Identification of Record Metadata
- o Activity Time Boundary
  - - Past Activity
  - - Present Activity
  - - Future Activity
- o Non-RM Activity
  - - Accountability-Related Activity
  - - Investigation-Related Activity
  - - Business Activity
- o Non-RM Activity Knowledge
  - - Business Activity Knowledge
    - • Business Activity Design Knowledge
    - • Business Activity Execution Knowledge
  - - Accountability-Related Activity Knowledge
    - • Accountability-Related Activity Design Knowledge
    - • Accountability-Related Activity Execution Knowledge
  - - Investigation-Related Activity Knowledge
    - • Investigation-Related Activity Design Knowledge
    - • Investigation-Related Activity Execution Knowledge
- o Non-RM Technology
  - - Business Activity Technology
  - - Accountability-Related Activity Technology
  - - Investigation-Related Activity Technology
- o Non-RM Technology Knowledge
  - - Business Activity Technology Knowledge
  - - Accountability-Related Activity Technology Knowledge
  - - Investigation-Related Activity Technology Knowledge

Group 5: **Records and RM Value** Related (16)

- Simple Concepts
  - Archival Appraisal
  - Record Reuse-Distant-Accountability Value
  - Record Reuse-Distant-Investigation Value
  - Record Reuse-Distant-Resource Value
  - Record Reuse-Immediate Value
  - Record Reuse-Immediate-Accountability Value
  - Record Reuse-Immediate-Investigation Value
  - Record Reuse-Immediate-Resource Value
  - Record Usability
  - Record(s) Retrievability
- Compound Concepts
  - Record Value
    - Record Instrumental Value
    - Record Reuse Value
  - Record Reuse Value
    - Record Reuse-Immediate Value
    - Record Reuse-Distant Value
  - Record Reuse-Distant Value
    - Record Reuse-Distant-Accountability Value
    - Record Reuse-Distant-Investigation Value
    - Record Reuse-Distant-Resource Value
  - Record Reuse-Immediate Value
    - Record Reuse-Immediate-Accountability Value
    - Record Reuse-Immediate-Investigation Value
    - Record Reuse-Immediate-Resource Value
  - RM Control
    - Realization of Record(s) Retrievability
    - Realization of Record Usability
  - RM Value

- RM Constant Value
- RM Regular Value
- RM Occasional Value
- RM Recurrent Value
- RM Longer-Term Value

Appendix 6 Hypotheses in Propositions

Within a particular institution in the Government of Canada:

1. When Record Nature is *adequately understood* by the institution, the RM Functioning Ability, i.e., the command of RM Requisite Knowledge & Skill, can *adequately exists* in organization =

    1.1. RM Core Knowledge adequately exists =

        1.1.1.   The understanding of RM Foundational Concept adequately exists =

            1.1.1.1.   The understanding of Record(s) Purpose adequately exists

            1.1.1.2.   + The understanding of Record Value adequately exists

            1.1.1.3.   + The understanding of RM Nature adequately exists

            1.1.1.4.   + The understanding of RM Value adequately exists

        1.1.2.   + The understanding of RM Activity adequately exists =

            1.1.2.1.   The understanding of RM Requirement-Oriented Work adequately exists

            1.1.2.2.   + The understanding of RM Application-Oriented Work adequately exists

        1.1.3.   + The understanding of RM Technology adequately exists

            1.1.3.1.   The understanding of Record Creating Technology adequately exists =

                1.1.3.1.1.   The understanding of the part/module of Non-RM Technology directly relevant to records creation adequately exists

            1.1.3.2.   + The understanding of Record(s) Maintaining Technology adequately exists =

                1.1.3.2.1.   The understanding of Business Process Management System (BPMS) adequately exists

                1.1.3.2.2.   + The understanding of Digital Records Management System (DRMS) adequately exists

    1.2. + RM Extended Knowledge adequately exists =

      1.2.1.   The understanding of Non-RM Activity adequately exists =

          1.2.1.1.   Business Activity Knowledge adequately exists =

             1.2.1.1.1. Business Activity Design Knowledge adequately exists

             1.2.1.1.2. + Business Activity Execution Knowledge adequately exists

          1.2.1.2.   + Accountability-Related Activity Knowledge adequately exists

          1.2.1.3.   + Investigation-Related Activity Knowledge adequately exists

      1.2.2.   + The understanding of Non-RM Technology adequately exists

   1.3. + RM Skill adequately exists =

      96.2.1.   Analytic, managerial, and technological techniques identified based on RM Core Knowledge adequately exists

      1.3.1.   Analytic, managerial, and technological techniques identified based on RM Extended Knowledge adequately exists

   1.4. adequately = sufficient in both scope and depth

2. When the RM Requisite Knowledge & Skill adequately exists, the RM Conceptual Framework (part of RM Requirement-Oriented Work) can be *adequately codified*

   2.1. adequately = with precision, comprehensiveness and coherence

3. When the RM Conceptual Framework is adequately articulated, the RM Function can be *adequately designed* =

   3.1. RM Governance Structure can be adequately designed

     3.1.1. adequately = with all specifications = with sufficient authority

   3.2. + RM Responsibility Arrangement can be adequately designed

     3.2.1. adequately = with all specifications = with balanced work division

   3.3. + RM Activity can be adequately designed

     3.3.1.   adequately = with both components = sufficiently recognized by organization as necessary and professional

4. When the RM Governance Structure and RM Responsibility Arrangement are adequately designed, the Organizational RM can be *adequately established* =

   4.1. adequately = with all components =

     4.1.1.   Central RM

     4.1.2.   + Local RM =

          4.1.2.1.1. Unit RM

       4.1.2.1.2. + Employee RM

       4.1.2.1.3. + OIT RM

5. When the Organizational RM is adequately established, the RM Capacity can be *adequately determined* =

5.1. RM Personnel can be adequately determined =

   5.1.1.   adequate = sufficient number of positions

5.2. + RM Technology can be optimally determined

   5.2.1.   optimal = most suitable technology

6. When the RM Capacity is adequately determined, other RM Requirement-Oriented Work can be *effectively accomplished* =

6.1. RM Policy Instrument can be *adequately developed*

   6.1.1.   adequately =

      6.1.1.1.   clearly outlined compliance requirements

      6.1.1.2.   + clearly outlined penalties for incompliance

6.2. + with also input from RM Application-Oriented Work, the RM Procedure can be *adequately developed*

   6.2.1.   adequately = with sufficient specifics for completing RM Activities

6.3. + with also input from the RM Application-Oriented Work, the RM Tool can be *adequately developed* =

   6.3.1.   Records Classification Scheme (RCS) can be adequately developed =

      6.3.1.1.   adequately =

         6.3.1.1.1. RCS structure is fully consistent with the design of Operational Activity

         6.3.1.1.2. + RCS covers all records of an Operational Activity

         6.3.1.1.3. + RCS covers all Operational Activities of the organization

         6.3.1.1.4. + Records Class Metadata are consistently represented

         6.3.1.1.5. + The RCS is current

   6.3.2.   + Records Retention (RR) can be adequately developed

      6.3.2.1.   adequately =

         6.3.2.1.1. Identified records are all scheduled

         6.3.2.1.2. + Retention periods are all justifiable

6.3.2.1.3. + Retention periods are all current

6.3.3. + Record(s) Disposition Authority (RDA) can be adequately developed

6.3.3.1. adequately =

6.3.3.1.1. Identified records are all covered

6.3.3.1.2. + RDAs are all pertinent

6.3.3.1.3. + RDAs are all current

6.4. + with also input from Record Identification (part of RM Application-Oriented Work), Record Titling Guidelines can be *adequately developed*

6.4.1. adequately =

6.4.1.1. Record titling templates are developed with pertinence to Creating Activity/Operational Activity

6.4.1.2. + Record titling templates are developed for all types of identified records

6.5. + with also input from the RM Application-Oriented Work, the RM Development Plan can be *adequately development*

6.5.1. adequately = with sufficient specifics permitting execution

6.6. + with also input from RM Application-Oriented Work, the RM Performance Evaluation can be *adequately designed* and *conducted*

6.6.1. adequately =

6.6.1.1. led by RM Professionals

6.6.1.2. focusing on specificity (i.e., concrete results and detailed problem reporting)

7. When the RM Requirement-Oriented Work is effectively accomplished, the RM Application-Oriented Work can be *effectively accomplished* =

7.1. Record Identification can be effectively conducted =

7.1.1. effectively =

7.1.1.1. Record Creating Activity is fully understood

7.1.1.2. + Record Creating Technology is fully understood

7.1.1.3. + Records needed by the Operational Activity are all identified with =

7.1.1.3.1. record content

7.1.1.3.2. + record documentary form

7.1.1.3.3. + Record Metadata

7.2. When Record Identification is effectively conducted, the Record(s) Maintaining
Activities can be *effectively accomplished* =

    7.2.1.   Record Capture can be effectively accomplished

        7.2.1.1.   effectively =

            7.2.1.1.1. identified records are all captured (either managerially only or
both managerially and technologically)

            7.2.1.1.2. + records are captured with all identified components (i.e.,
content, documentary form, metadata)

    7.2.2.   + Record Classification can be effectively accomplished

        7.2.2.1.   effectively =

            7.2.2.1.1. captured records are all classified

            7.2.2.1.2. + classification is timely

            7.2.2.1.3. + classification is accurate

    7.2.3.   + Record Titling can be effectively accomplished

        7.2.3.1.   effectively =

            7.2.3.1.1. classified records are all titled

            7.2.3.1.2. + titling is timely

            7.2.3.1.3. + titling is consistent (i.e., in accordance with titling template)

    7.2.4.   + RM Appraisal can be effectively accomplished =

        7.2.4.1.   Record Reuse-Immediate Value can be effectively assessed

        7.2.4.2.   effectively =

            7.2.4.2.1. identified records are all appraised

            7.2.4.2.2. + appraisal is timely

            7.2.4.2.3. + decisions are justifiable

    7.2.5.   + Records Retention Calculation can be effectively accomplished

        7.2.5.1.   effectively =

            7.2.5.1.1. calculations are accurate

    7.2.6.   + Records Disposition Activity can be effectively accomplished =

        7.2.6.1.   Records Destruction can be effectively accomplished

7.2.6.1.1.   effectively =

7.2.6.1.1.1. records with expired Records Retentions are all destructed

7.2.6.1.1.2. + destruction is timely

7.2.6.2.   + Records Transfer can be effectively accomplished

7.2.6.2.1.   effectively =

7.2.6.2.1.1. records selected for transfer are all transferred

7.2.6.2.1.2. + transferring is timely

7.2.7.   + Record(s) Long-Term Preservation can be effectively accomplished

7.2.7.1.   effectively =

7.2.7.1.1.   records determined for long-term preservation all possess continued RM Control

7.2.8.   + Operation of Unit Digital Records Management System can be effectively accomplished

7.2.8.1.   effectively =

7.2.8.1.1.   objectives of implementing the system are all achieved

7.3. + When the Record(s) Maintaining Activity is effectively accomplished, the Record Retrievability can be *fully developed*

7.3.1.   fully = identified records all possess retrievability

7.4. + When the Record(s) Maintaining Activity is effectively accomplished, the Record Usability can be *fully developed*

7.4.1.   fully = identified records all possess usability

7.5. + When the Record Retrievability is fully developed, the Record(s) Retrieval Activity can be effectively accomplished

7.5.1.   effectively =

7.5.1.1.   records are retrievable by RM personnel and/or non-RM personnel

7.5.1.2.   + retrieval is fast

7.5.1.3.   + retrieval is comprehensive (i.e., all relevant records are retrieved)

7.5.1.4.   + retrieval is precise (i.e., only relevant records are retrieved)

7.6. + When the Record Usability is fully developed, the record use is fully enabled

7.6.1.   fully =

7.6.1.1.   records authenticity is readily approvable

7.6.1.2.　records contextual information is readily presentable

7.6.1.3.　records human-readable copies are readily presentable

8. When Record Retrievability Activity is effectively accomplished and Record Usability is fully enabled, the RM Control, or the goal of the Organizational RM, is *fully achieved*;

9. When the RM Control is fully achieved, all types of Record Value can be *fully* and *effectively* realized;

10. When Record Value is fully and effectively realized, RM Value can be *fully* and c*oncretely* demonstrated;

11. When RM Value is fully and concretely demonstrated, the justification for RM Function Design can be confirmed.

Beyond a particular institution:

- When RM Value is fully and concretely demonstrated,
  - Archival Function or Archival Institution can be supported for performing Archival Activity;
  - + Advancement of RM Community Ability can be supported =
    - RM Research can be supported
    - + RM Formal Education can be supported
    - + RM Continuing Education can be supported;
  - + Record Community can be supported =
    - RM Profession can be supported
    - + RM Academia can be supported can be supported;
  - + RM Legislative Base can be adequately established, and
  - + RM Legislative Base can be continuously reinforced.

Appendix 7 The IM Crisis in Measurements

1. In the Government of Canada, because the Record Nature is *inadequately understood*, the RM Functioning Ability, i.e., the command of RM Requisite Knowledge & Skill, *inadequately exists* in institutions =

    11.1.   RM Core Knowledge *inadequately* exists =

        11.1.1.   The understanding of RM Foundational Concept *inadequately* exists =

            11.1.1.1. The understanding of Record(s) Purpose *inadequately* exists

                11.1.1.1.1. The understanding of Record Creation Purpose *inadequately* exists

                11.1.1.1.2. + The understanding of Record(s) Maintenance Purpose *largely* exists

            11.1.1.2. + The understanding of Record Value *inadequately*[457] exists

                11.1.1.2.1. The understanding of Record Instrumental Value *inadequately* exists

                11.1.1.2.2. + The understanding of Record Reuse Value *largely* exists

                    11.1.1.2.2.1.   The understanding of Record Reuse-Immediate Value *largely* exists

                    11.1.1.2.2.1.1.   The understanding of Record Reuse-Immediate-Accountability Value *largely* exists

                    11.1.1.2.2.1.2.   + The understanding of Record Reuse-Immediate-Investigation Value *largely* exists

                    11.1.1.2.2.1.3.   + The understanding of Record Reuse-Immediate-Resource Value *largely* exists

                  11.1.1.2.2.2.   + The understanding of Record Reuse-Distant Value *largely* exists

            11.1.1.3. + The understanding of RM Nature *inadequately* exists

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[457] It is overall inadequate because of the inadequate understanding of the instrumental value, which is the foundation for the reuse value.

11.1.1.3.1. The understanding of "RM is indispensible" *inadequately* exists

11.1.1.3.2. + The understanding of "RM is professional" *partially* exists

11.1.1.3.3. + The understanding of "RM is managerial" *partially* exists

11.1.1.3.4. + The understanding of "RM is organizational" *inadequately* exists

11.1.1.3.5. + The understanding of "RM is dedicated" *inadequately* exists

11.1.1.3.6. + The understanding of "RM is centralized" *inadequately* exists

11.1.1.4. + The understanding of RM Value *inadequately* exists

11.1.2. + The understanding of RM Activity *inadequately* exists =

11.1.2.1. The understanding of RM Requirement-Oriented Work *partially* exists

11.1.2.2. + The understanding of RM Application-Oriented Work *does not* exists

11.1.3. + The understanding of RM Technology *inadequately* exists

11.1.3.1. The understanding of Record Creating Technology *does not* exists =

11.1.3.1.1. The understanding of the part/module of Non-RM Technology directly relevant to records creation *does not* exists

11.1.3.2. + The understanding of Record(s) Maintaining Technology *inadequately* exists =

11.1.3.2.1. The understanding of Business Process Management System (BPMS) *does not* exists

11.1.3.2.2. + The understanding of Digital Records Management System (DRMS) *inadequately* exists

11.2. + RM Extended Knowledge *does not* exists =

11.2.1. The understanding of Non-RM Activity *does not* exists =

11.2.1.1. Business Activity Knowledge *does not* exists =

11.2.1.1.1. Business Activity Design Knowledge *does not* exists

11.2.1.1.2. + Business Activity Execution Knowledge *does not* exists

11.2.1.2. + Accountability-Related Activity Knowledge *does not* exists

11.2.1.3. + Investigation-Related Activity Knowledge *does not* exists

11.2.2. + The understanding of Non-RM Technology *does not* exists

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11.3.   + RM Skill adequately exists =

    96.2.2.   Analytic, managerial, and technological techniques identified based on RM Core Knowledge *inadequately* exists

    11.3.1.   Analytic, managerial, and technological techniques identified based on RM Extended Knowledge *does not* exists

2. Because the RM Requisite Knowledge & Skill *inadequately* exists, the RM Conceptual Framework (part of RM Requirement-Oriented Work) is *inadequately* codified

    2.1. inadequate = unclear/indistinguishable, incomplete, contradicting

3. Because the RM Conceptual Framework is inadequately articulated, the RM Function is *inadequately designed* =

    3.1. RM Governance Structure is *partially* designed

        3.1.1.   partial = the part for RM is insufficient

    3.2. + RM Responsibility Arrangement is *partially* designed

        3.2.1.   partial = the part for RM is insufficient

    3.3. + RM Activity is *inadequately* designed

        3.3.1.   inadequate = the component RM Application-Oriented Work does not exist

12. Because the RM Governance Structure and RM Responsibility Arrangement are inadequately designed, the Organizational RM *is inadequately* established =

    12.1.   not all components are established =

        12.1.1.   Central RM is established

        12.1.2.   Local RM is not established =

            12.1.2.1.1. Unit RM is not established

            12.1.2.1.2. + Employee RM is not established

            12.1.2.1.3. + OIT RM is not established

13. Because the Organizational RM is inadequately established, the RM Capacity is *inadequately* determined =

    13.1.   RM Personnel is *inadequately* determined =

        13.1.1.   the number of positions is insufficient

    13.2.   + RM Technology is *not optimally* determined

13.2.1.　the technology selected is not the most suitable configuration

14. Because the RM Capacity is inadequately determined, the other RM Requirement-Oriented Work is *ineffectively* conducted =

14.1.　　RM Policy Instrument is *inadequately* developed

14.1.1.　compliance requirements are not clearly outlined

14.1.2.　+ penalties for incompliance are not clearly outlined

14.2.　　+ because there is no input from the RM Application-Oriented Work, the RM Procedures are *inadequately* developed

14.2.1.　inadequate = no sufficient specifics for completing RM Activities

14.3.　　+ because there is no input from the RM Application-Oriented Work, the RM Tools are *inadequately* developed =

14.3.1.　　Records Classification Scheme (RCS) is *inadequately* developed =

14.3.1.1.　inadequate =

14.3.1.1.1. RCS structure is not fully consistent with the design of Operational Activity

14.3.1.1.2. + not all records of an Operational Activity are covered

14.3.1.1.3. + not all Operational Activities of the organization are covered

14.3.1.1.4. + Records Class Metadata are not consistently represented

14.3.1.1.5. + The RCS is not current

14.3.2.　　+ Records Retention (RR) is *inadequately* developed

14.3.2.1.　inadequate =

14.3.2.1.1. not all records are scheduled

14.3.2.1.2. + not all retention periods are justifiable

14.3.2.1.3. + not all retention periods are current

14.3.3.　　+ Record(s) Disposition Authorities are *inadequately* developed

14.3.3.1.　inadequate =

14.3.3.1.1. not all records are covered

14.3.3.1.2. + not all RDAs are current

14.4.　　+ because there is no input from Record Identification (part of RM Application-Oriented Work), Record Titling Guidelines are *inadequately* developed or *do not exist*

14.4.1.   inadequate =

    14.4.1.1.   Record titling templates are not developed with pertinence to Creating Activity/Operational Activity

    14.4.1.2.   + Record titling templates are not developed for all types of records

14.5.   + because there is no input from the RM Application-Oriented Work, the RM Development Plan is *inadequately* development

    14.5.1.   inadequate = insufficient specifics permitting execution

14.6.   + because there is no input from the RM Application-Oriented Work, the RM Performance Evaluation is *inadequately* designed and conducted

    14.6.1.   inadequate =

    14.6.1.1.   not led by RM Professionals

    14.6.1.2.   not focused on RM but generally on IM, and in most cases, on IT

15. Because the RM Requirement-Oriented Work is not effectively conducted, the RM Application-Oriented Work is *ineffectively* conducted =

15.1.   Record Identification *is not* conducted =

    15.1.1.   Record Creating Activity is not understood

    15.1.2.   + Record Creating Technology is not understood

    15.1.3.   + Records created do not have complete record content, record documentary form, or Record Metadata

15.2.   Because Record Identification is not conducted, the Record(s) Maintaining Activities is *ineffectively* conducted =

    15.2.1.   Record Capture is *not effectively* conducted =

    15.2.1.1.   Not all records are captured (neither managerially only nor both managerially and technologically)

    15.2.1.2.   Not all records are captured with all identified components (i.e., content, documentary form, metadata)

    15.2.2.   + Record Classification is *not effectively* conducted =

    15.2.2.1.   Not all captured records are classified

    15.2.2.2.   + classification is time consuming

    15.2.2.3.   + classification is inaccurate

    15.2.3.   + Record Titling is *not effectively* conducted =

15.2.3.1.   Not all classified records are titled

15.2.3.2.   + titling is time consuming

15.2.3.3.   + titling is inconsistent (i.e., in accordance with titling template)

15.2.4.   + RM Appraisal is *not effectively* conducted =

15.2.4.1.   Record Reuse-Immediate Value is not effectively assessed =

15.2.4.2.   Not all records are appraised

15.2.4.3.   + not all appraised records have justifiable decisions

15.2.5.   + Records Retention Calculation is *not effectively* conducted

15.2.5.1.   calculations are not timely

15.2.5.2.   + calculations are not accurate

15.2.6.   + Records Disposition Activity is *not effectively* conducted =

15.2.6.1.   Records Destruction is *not effectively* conducted

15.2.6.1.1. Not all records with expired Records Retentions are destructed

15.2.6.1.2. + destruction is not timely

15.2.6.2.   + Records Transfer is *not effectively* conducted

15.2.6.2.1. Not all records selected for transfer are transferred

15.2.6.2.2. + transferring is not timely

15.2.7.   + Record(s) Long-Term Preservation is *not effectively* conducted

15.2.7.1.   Not all records determined for long-term preservation possess
            continued RM Control

15.2.8.   + Operation of Unit Digital Records Management System *is not
            effectively* conducted

15.2.8.1.   Not all objectives of implementing the system are met

15.3.   + Because the Record(s) Maintaining Activity is ineffectively conducted, the
          Record Retrievability is *not fully* developed =

15.3.1.   Not all records possess retrievability

15.4.   + Because the Record(s) Maintaining Activity is ineffectively conducted, the
          Record Usability is *not fully* developed =

15.4.1.   Not all records possess usability

15.5.   + Because the Record Retrievability is not fully developed, the Record(s)
          Retrieval Activity is *not effectively* completed =

15.5.1.   records are not fully retrievable by RM personnel and/or non-RM personnel

15.5.2.   + retrieval is time consuming

15.5.3.   + retrieval is incomplete

15.5.4.   + retrieval is inaccurate

15.6.   + Because the Record Usability is not fully developed, the record use is *not fully* enabled =

15.6.1.   records authenticity is not readily approvable

15.6.2.   records contextual information is not readily presentable

15.6.3.   records human-readable copies are not readily presentable

16. Because the Record Retrievability Activity is ineffectively conducted and the Record Usability is not fully enabled, the RM Control is not *fully achieved*;

17. Because the RM Control is not fully achieved, the Record Value is *not fully or effectively* realized;

18. Because the Record Value is not fully or effectively realized, the RM Value is not *fully or concretely* demonstrated.

In a circular way, because the RM Value is not fully or concretely demonstrated, the justification for the RM Function Design cannot be established, and the lack of an adequate RM Functioning Ability will continue to exist in the institutions of the Government of Canada.

Appendix 8 List of Acronyms

AANDC	Aboriginal Affairs and Northern Development Canada (former Indian and Northern Affairs Canada)
ARMA	Association of Records Managers and Administrator
ATI	Canadian Access to Information
ATI-DR Data	ATI disclosed records data
ATI-PR Data	ATI process responsive Data
ATI-RH Data	ATI request handling data
BASCS	Business Activity Structure Classification System
CBSA	Canada Border Services Agency
CFIA	Canadian Food Inspection Agency
CIDA	Canadian International Development Agency
CIC	Citizenship and Immigration Canada
CRA	Canada Revenue Agency
CSC	Correctional Service of Canada
CSIS	Canadian Security Intelligence Service
CSPS	Canada School of Public Services
DFO	Fisheries and Oceans Canada
DPR	Departmental Performance Reports
DRMS	Digital records management system
EDRMS	Electronic document and record management system
EC	Environment Canada
ERMS	Electronic records management system
eGov	electronic government
FAA	Financial Administration Act
FAITC	Foreign Affairs and International Trade Canada

HCan	Health Canada
HRSDC	Human Resources and Social Development Canada
GC	Government of Canada (the Canadian Federal Government)
GEDS	Government Electronic Directory Services
GOL	Government On-Line
GT	Grounded theory
IC	Industry Canada
IM	Information Management
IM/RM	Refers to the indiscriminating manner by which some GC sources discuss IM and RM.
IM(RM)	Refers to the IM-including-RM-as-a-part situation in GC, when IM is discussed as a whole yet it is necessary to make RM visible.
InterPARES	International Research on Permanent Authentic Records in Electronic Systems
LAC	Library and Archives Canada
MAF	Management Accountability Framework
NAA	National Archives of Australia
ND	National Defence
OAG	Office of the Auditor General of Canada
OIC	Office of the Information Commissioner of Canada
OPI	office of primary interest
OSTA	On Second Thought Advisory
PAA	Program Activity Architecture
PCH	Canadian Heritage
PCO	Privy Council Office
PS	Public Safety Canada
PWGSC	Public Works and Government Services Canada
RCMP	Royal Canadian Mounted Policy
RDIMS	Records, Document and Information Management System
RM	Records Management

RM(IM)	Refers to the RM-as-part-of-IM situation in GC, when RM is indeed the real/sole focus yet it is necessary to point out its GC context.
PRN	Program Record Number
RPP	Reports on Plans and Priorities
SC	Substantive code
sG	Starting group
TBS	Treasury Board Secretariat of Canada
tsG	Theoretical sampling groups