Appraisal of government records:
A study about how archivists, records managers, and employees appraise archival value and business value

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Abstract

This thesis explores the appraisal of federal government records in Canada. It explores how archivists, records managers, and employees contribute to the appraisal of government records. It also identifies strategies and criteria used to appraise records for business value and archival value. It adopts a qualitative research approach and uses semi-structured interviews, cognitive inquiry (i.e. think aloud) exercises, and document analysis to inform its findings. An interpretation of the findings suggests the appraisal of government records involves three interconnected layers: microappraisal (i.e. appraisal at the record level), mesoappraisal (i.e. appraisal at the series level), and macroappraisal (i.e. appraisal at the archives level). It concludes that effective appraisal relies on all three levels.

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A number of people, branches and divisions, must be involved in appraisal. There may be conflicting requirements. The values to be reflected in appraisal can be hidden or be assumptions that have not been articulated clearly for discussion. Financial and human resources may not be adequate for doing a thorough appraisal. The corporate will may not be strong enough to persevere in what can be seen to be not only a difficult task but also an expensive one. Without an obvious compelling need inaction may seem to be a natural option. Fate may take a controlling hand and even be welcomed as a silent partner. Nevertheless, however tempting it may be to delay the cost and effort of conscious appraisal, there is a greater risk if fate is invited to take an official role in the life of the organization and in shaping its memory.

Craig, 2004, p. 13

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List of Acronyms

BASCS	Business Activity Structure and Classification System
EDRMS	Electronic document and records management system
DIRKS	Designing and Implementing Recordkeeping Systems
FAT	Function-Activity-Transaction
GRDS	General Records Disposition Schedule
GVT	Generic Valuation Tools
IM	Information management
IRBV	Information resources with business value
IREV	Information resource with enduring value
ISDA	Institution-specific disposition authorization
LIS	Library and information science
MAF	Management Accountability Framework
MIDA	Multi-institution disposition authorization
NARA	National Archives and Records Administration
RM	Records management
RCM	Records Continuum Model
RSI	Record series identifier

1. Introduction

This thesis explores the appraisal of records[1] in the federal government of Canada. Specifically, it seeks to understand the roles of archivists, records managers, and employees in appraisal activities. It also seeks to identify the strategies and criteria that are used to appraise records for archival value and business value.

1.1. Problem

Every day, organizations create, receive, and collect records. These records contain valuable information about people, programs, projects, services, and special initiatives. Although every record is valuable only some records are considered to have business value and an even smaller subset of the records are considered to have archival value. These decisions about business and archival value impact the retention, disposition, and preservation of the records. They also impact organizational and public memory since records that are retained by their originating institution or preserved by an archival institution may be used for reference and research purposes.

There are several challenges with records appraisal. First, there are multiple groups involved in appraisal activities including archivists, records managers, and employees. Each of these groups has a different role. Second, the strategies and criteria used to assess business value and archival value are complex. This thesis seeks to clarify the roles and responsibilities of appraisal as well as the strategies and criteria used to appraise records for archival and business value.

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[1] This research uses the term “record” as a generic term to refer to documentary material generated by or for organizations regardless of medium or form. The term “record” includes documents, emails, presentations, spreadsheets, and other formats created, received, and collected by organizations.

1.2. Objective

The objective of this thesis is to better understand the appraisal of government records. This includes archival appraisal and appraisal for records management purposes. This research is guided by two research questions identified in the table below.

Table 1

Research Questions

Number	Question
1	How do archivists, records managers, and employees contribute to the appraisal of government records?
2	What strategies and criteria are used to appraise government records?

The first research question centers on the roles, responsibilities, and tasks of archivists, records managers, and employees as they relate to appraisal activities. This question seeks to clarify how each of the groups contributes to the appraisal of government records. The second research question centers on the theories, methodologies, strategies, and criteria used to appraise government records. This includes exploring the systems, tools, and indicators that are used to determine the value of government records.

1.3. Definitions

This thesis uses the term “record” to refer to documentary material generated by or for government organizations regardless of medium or form. It may occasionally refer to “information resources” which is defined as:

> 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, wikis, blogs, podcasts, etc.), publications (reports, books, magazines), films, sound recordings, photographs, documentary art, graphics, maps, and artefacts. (Treasury Board of Canada Secretariat, 2009)

The key difference between “records” and “information resources” are that the term “record” excludes publications whereas the term “information resource” includes published materials.

There are three types of information resources: transitory information resources, information resources of business value (IRBV), and information resources of enduring value (IREV). Information resources with enduring value (IREV) have long-term importance to society. These are also commonly referred to as information resources with archival value. Information resources with business value (IRBV) enable or document decision-making or support departmental reporting, performance or accountability requirements (Treasury Board of Canada Secretariat, 2009). Information resources with transitory value refer to information resources without business value. Information resources with transitory value are not required to control, support, or document the delivery of programs, carry out operations, make decisions, or provide evidence to account for the activities. In short, they do not enable or document decision-making or support departmental reporting, performance or accountability requirements. However, information resources with transitory value are useful for supporting business activities.

Last but not least, appraisal is the central concept in this study. Appraisal refers to the process of assessing the value of an information resource. The term “appraisal” is most often used in the context of archival appraisal. It is commonly understood as the process that archivists undertake to evaluate records for the purpose of preserving documentary heritage (Cumming & Picot, 2014). In this context, the purpose of appraisal is the identification of records for acquisition to the archives, permanent retention, or long-term preservation (e.g. Craig, 2004; Duranti, 1994). However, the concept of appraisal has also been used in the context of records management. In this context, appraisal is defined as “the process of evaluating business activities to determine which records need to be created and captured and how long the records need to be kept” (ISO 15489-1:2016, p. 10). This research uses the term “appraisal” in both senses. Appraisal for records management purposes determines how the record will be managed and maintained within the originating organization. Appraisal for archives administration determines whether the record is destined for long-term preservation by the archives upon its disposition from the originating organization. In this study, both types of appraisal contribute to the overall appraisal of government records.

2. Literature Review

This literature review defines and situates core concepts related to the appraisal of government records. It organizes the concepts into four themes: (1) archival appraisal theories, (2) functional classification schemes, (3) electronic document and record management systems, and (4) record retention schedules and disposition authorizations. This section draws from the literature on archival science and information science in North American, European, and Australian contexts with a special interest in Canada and federal government jurisdictions.

2.1. Archival appraisal theories

Archival appraisal has been widely studied in Canada and around the world. Much of the early archival methodology and theory comes from manuals and other instructional materials. Over time, the literature has grown to include a wide variety of works, including scholarly discourse on archival appraisal theory. Given the amount of literature on archival appraisal theory, the scope of this literature review is limited to key developments for the archival appraisal of government records with a focus on the Canadian context.

There are three manuals that are commonly considered to serve as the base for archival theory. These manuals, published between 1898 and 1956, were written by archivists working in federal government archives in the Netherlands, England, and the United States of America, respectively. They provided practical advice to archivists working in federal government archives. In doing so, they described and developed the base for many theoretical concepts that persist in the literature today.

First, Dutch archivists Samuel Muller, Johan Adriaan Feith and Robert Fruin released the groundbreaking *Handleiding voor het Ordenen en Beschrijven van Archieven* in 1898. It was translated to English under the title *Manual for the Arrangement and Description of Archives* and is commonly referred to as the “Dutch Manual”. The work provides practical instructions for Dutch archivists to manage records. To some extent, the title exposes its position on archival appraisal through its omission. Muller, Feith & Fruin (1898/1940) exclude archivists from the archival appraisal process. According to the Dutch Manual, the originating organization is responsible for appraising records in order to determine which records to send to the archives. The archives are solely responsible for managing the records they receive (Muller et al., 1898/1940). This positions archivists as keepers of records who are neutral parties in the appraisal process.

In 1922, British archivist Sir Hilary Jenkinson published his work, *A Manual of Archive Administration*, with revisions published in 1937 and 1966. According to Jenkinson (1937), the appraisal of archival value should be based exclusively on the primary value of a record. Primary value derives the value of a record from its creator for the creator’s own purposes (Jenkinson, 1937). In his definition of archives, Jenkinson (1937) stressed that archives are to contain records “preserved in their own custody for their own information by the person or persons responsible for that transaction and their legitimate successors” (p. 11). Similar to Muller, Feith & Fruin (1898/1940), Jenkinson’s (1937) stance on archival appraisal excludes archivists from the process. Instead, the originating organization is responsible for selecting records to

be sent to the archives (Jenkinson, 1937). This continues to position archivists as impartial in the archival appraisal process, essentially by excluding them from it.

In 1956, American archivist Theodore Roosevelt Schellenberg released his work *Modern Archives: Principles and Techniques* with reprints in 1975 and 2003. In some ways, Schellenberg's manual was a rebuttal to Jenkinson's manual (Tschan, 2002). In personal communications, Schellenberg dismissed Jenkinson as "an old fossil" whose manual was "not only unreadable but that has given the Australians a wrong start in their archival work" (Theodore R. Schellenberg, personal communication, July 7, 1954 as quoted in J. Smith, 1981). In contrast to Jenkinson (1937), who believes only records with primary value belong in archives, Schellenberg (1956/2003) believes public archives should contain two types of value: primary and secondary. These categories are sometimes referred to as Schellenberg's value taxonomy.

The primary value of a record is based on the need for which it was originally created (Schellenberg, 1956/2003). Organizations rely on records with primary value to meet requirements and demonstrate accountability. Organizational requirements are commonly divided into three categories: administrative, financial, and legal. Records with administrative value demonstrate decisions that were made and actions that took place. These records are generally considered useful or relevant in cases where a business process or program is being audited (Pearce-Moses, 2005b). Records with financial value (also known as fiscal value) contain financial information that is necessary to maintain operations or to serve as evidence of financial transactions (Pearce-Moses, 2005c). These records are generally considered useful or relevant in cases where the organization needs to account for its use of funds. Records with legal

value either demonstrate compliance with laws and regulations or provide evidence in litigation (Pearce-Moses, 2005d). These records are generally considered useful to protect the organization from legal action.

The secondary value of a record is based on the value of the record for any use beyond what it was originally created to achieve (Schellenberg, 1956/2003). Schellenberg (1956/2003) distinguishes between two types of secondary value: evidential (i.e. historical proof) and informational (i.e. research value). Evidential value is found in records that contain significant information about how an agency was created, how it developed, how it was organized, the functions it performed, and the consequences of its activities (Schellenberg, 1956/2003). A record with evidential value provides proof of government organizations or government functions (Schellenberg, 1956/2003). On the other hand, a record with informational value provides information about persons, places, subjects, or conditions, not necessarily about or for the agency itself (Schellenberg, 1956/2003).

In order to appraise secondary value, archivists rely on a broad understanding of records and their relationships (Schellenberg, 1956/2003). This includes knowledge of the position of each office in the administrative hierarchy, the functions performed by each office, and the activities carried out by each office (Schellenberg, 1956/2003). In addition, archivists are to consider other agencies as well as the social, economic, and other conditions relevant to the records (Schellenberg, 1956/2003). Considerations when appraising records for informational value include whether the records contain unique content, what use the records may serve to others, and the number of users the records may serve (Schellenberg, 1956/2003). As such, the appraisal of informational

value relies on knowledge of research resources, research needs, and research methods (Schellenberg, 1956/2003). This is a separate expertise from the knowledge required to appraise evidential value (Schellenberg, 1956/2003).

Schellenberg's value taxonomy established these criteria for archivists to assess the archival value of records. Since being introduced, many experts have referred to these value categories in their research. However, there are several criticisms of Schellenberg's value taxonomy and value taxonomies in general. Limitations of value taxonomies include: categories are non-mutually exclusive and may be difficult to distinguish from one another in the case of many documents (Eastwood, 1993), value taxonomies are limited in their ability to make broad appraisal decisions (Bearman, 1989), applying a taxonomic approach to appraisal involves processing an unmanageable volume of records (Caron & Brown, 2013; Cook, 1992), and the intellectual results may be problematic (Caron & Brown, 2013). Despite its limitations, the value taxonomy outlined in Schellenberg's manual was a significant contribution to archival appraisal theory in so far as identifying types of value and expanding on considerations for assessing these value categories.

In addition to his value taxonomy, Schellenberg made many observations on the roles of archivists, record managers, and employees in regards to the appraisal of primary and secondary record value. According to Schellenberg (1956/2003), government employees are prone to judge the value of a record in relation to their current administrative, legal, and fiscal uses. Schellenberg (1956/2003) acknowledges that records officers may provide helpful information for the appraisal of records but states they are not sufficiently trained as historians to make final appraisal decisions.

Schellenberg (1956/2003) argues that archivists are in a better position to assess primary and secondary value and ultimately appraise the archival value of records.

In terms of archival appraisal, Schellenberg (1956/2003) argues that archival value should be based on an assessment of current or anticipated research use. This approach suggests that the more records are used, the more valuable they are. In order to assess the real or anticipated use, Schellenberg (1956b) argues that the appraisal must consider the entire documentation on the matter. At the time Schellenberg published his manual, this was a reasonable ideal. First, because most archivists were trained historians (Schellenberg, 1956/2003). Second because the scope, while broad, was somewhat defined. As stated by Lockwood (1990),

> Although maintaining familiarity with the political, economic, and military events of history and the activities of America's leaders and elites was a formidable task, the appraiser of 1956 had the advantage of operating within a field with established periodization, themes, and priorities. (p. 395)

To fill gaps in the archivists' knowledge, Schellenberg (1956/2003) directed archivists to seek input from subject matter experts when they needed special expertise in unfamiliar subject areas. There are several limitations of Schellenberg's value-through-use approach to archival appraisal. First, it expects archivists to be experts in all subject areas, which is unrealistic (Jones, 1969). Second, it requires an impractically high level of resources (Caron & Brown, 2013; Cook, 2005). Third, it is impossible to anticipate future use and users (Cook, 2005).

Despite its limitations, Schellenberg's approach shifted archivists from keepers of archival history to shapers of archival history by assigning them the responsibility of

selecting the records for long-term preservation. Schellenberg's (1956/2003) approach guided appraisal at the U.S. National Archives and Records Administration (NARA) into the 1990s (Lockwood, 1990). During this time, Schellenberg's concepts were also used to guide appraisal at the National Archives of Canada (Caron & Brown, 2013). After Schellenberg, there were many years in North America where the development of archival appraisal theory was largely limited to the development and application of value taxonomies (Cook, 1992).

Documentation strategy breaks from the development of value taxonomies. It shifted from the Schellenbergian value-through-use approach to an approach that sought to document the most important societal functions, record creators, and record-creating processes (Cook, 1992). Its origins can be traced to the efforts of some archivists in the 1970s to document social movements, experiences of people from marginalized groups, popular concerns, and other lesser-represented topics in archives. In 1984, Larry Hackman and Helen Samuels coin the term "documentation strategy" during a session at the Society of American Archivists annual meeting. In 1986, Samuels publishes her article on documentation strategy, "Who Controls the Past." A large body of literature discusses documentation strategy, ranging from scholarly discourse to practical case studies.

Documentation strategy seeks to collaboratively produce a single documentation of an issue, activity, function, or subject (Hackman & Warnow-Blewett, 1987). It combines materials of different origins such as published information, government records, organizational records, personal manuscripts as well as materials from different media such as textual, photographic, audio, and audiovisual (Samuels, 1986). It calls for

appraisal to be a cooperative, multi-organizational activity where teams of archivists work together to document society (Samuels, 1986).

Documentation strategy is credited as an improvement from the fragmented, uncoordinated, random, and haphazard approach to archival appraisal that came before it (Cook, 1992). However, it has several limitations of its own. It has been criticized as impractical (Boles, 1987). It risks unmanageable levels of overlap between the events, regions, processes, or topics it seeks to document. It also relies on unsustainable levels of multi-institutional cooperation in a landscape of changing institutional priorities. Documentation strategy has also been criticized as not qualifying as a true archival appraisal theory (Cook, 1992). This criticism was met with the response that documentation strategy is not intended to be an archival appraisal theory. Instead, it is intended to provide a methodology for carrying out archival appraisal (Cox, 1996).

Canadian archivist Terry Cook leveraged elements of documentation strategy into another theory and methodology known as macroappraisal (Cox, 1996). Macroappraisal was adopted at then National Archives of Canada in 1991 (C. A. Bailey, 1997). Unlike other approaches to archival appraisal, macroappraisal assesses value based on the concept of provenance (Cook, 1994). According to Cook (1997), macroappraisal is based on the analysis of the creator, the functions, programs and activities they serve, and the interactions with clients. In doing so, macroappraisal "assesses the societal value of both the functional-structured context and the work-place culture in which the records are created and used by their creator(s), *and* the interrelationship of citizens, groups, organizations – 'the public' – with that functional-structural context" (Cook, 2005, p. 101). Macroappraisal assesses the value of records

based on the context of the record creation as opposed to external record criteria such as use, public opinion or historiographical trends (Cook 1997). The development of macroappraisal is a significant contribution to archival appraisal theory and methodology. It gained significant international prominence in the archival community (Caron & Brown, 2013). As a result, there is a large body of literature on macroappraisal. The literature is made up of many articles from Cook himself as well as contributions from several other archival appraisal experts.

Daniel Caron (2013), former Librarian and Archivist of Canada, credits macroappraisal with shifting archival appraisal from appraising “documentary content to documentary context” (p. 160). However, he criticized macroappraisal for being misaligned with the realities of public administration as well as questioned whether its results were sufficiently systematic and adequately societal in their perspective on valuable documentary heritage (Caron, 2011; Caron & Brown, 2013). Caron (2013) recommends using a broader and deeper understanding of societal context to guide appraisal. Caron (2011) proposed the whole of society model. Similar to documentation strategy, the whole of society framework is centered on inter-institutional collaboration. This model proposes that organizations work together to make collective decisions about appraisal or to at least enable organizations to understand the appraisal intentions made by other organizations (Caron & Brown, 2013). He suggests archives focus on records that demonstrate the democratic state, the broader inter-sectoral governance, ethics, and discourses expressed through actions and behaviours at various individual, group, and organizational levels (Caron & Brown, 2011). However,

the whole of society framework gained little traction in the archival literature in comparison to documentation strategy or macroappraisal.

To summarize, there is a large body of literature on archival appraisal theories and methodologies used to appraise government records. Cook (2011) summarizes trends in archival appraisal theory into four phases. In the first phase, appraisal is undertaken by record creators or records administrators and the archivist acts as a curator. This phase aligns with the early archival manuals of Muller, Feith & Fruin and Jenkinson. In the second phase, the archivists act as historians to appraise based on trends in scholarly history. This phase aligns with Schellenberg's value taxonomies and value-through-use approach. In the third phase, archivists act as experts to appraise value based on organizational functions, activities, and structures. This phase aligns with Cook's macroappraisal. Cook (2011) also suggests an emerging fourth phase, where archivists act as participators and appraisal includes input from the public.

2.2. Functional classification schemes

Classification refers to "the organization of materials into categories according to a scheme that identifies, distinguishes, and relates the categories" (Pearce-Moses, 2005a). Classification and classification schemes have been the subject of much research in library, archival, and information science. This literature review focuses on research about the development, implementation, and use of functional classification schemes for organizational (as opposed to personal) records.

Traditionally, organizations used subject-based classification schemes to organize their information holdings (Gunnlaugsdottir, 2012; Smyth, 2005). Subject-based classification schemes organize information based on the topic or subject of the

content. However, experts have shifted from subject-based classification to function-based classification (Gunnlaugsdottir, 2012). Functional classification is widely accepted as the dominant method of classifying records (Packalén, 2015) and the preferred approach among records management professionals (Orr, 2005). As a result, many organizations have replaced their former subject-based classification schemes with function-based classification schemes (Ifould & Joseph, 2016).

Functional classification schemes classify records according to the business activity they support (Shepherd & Yeo, 2003). These classification schemes are based on the organization's business processes and seek to identify the context of the record's creation (Alberts et al., 2010; Ifould & Joseph, 2016). The greatest advantage of functional classification is its stability (Alberts et al., 2010; Gregory, 2005; Orr, 2005; Park & Neal, 2012; K. Smith, 2016; Tough & Moss, 2006). The functions carried out by an organization experience less frequent change compared to organizational structures or subject matters. As a result, function-based classification schemes remain more relevant over time. In addition, function-based classification enables organizations to identify the business process from which the record derives (Alberts et al., 2010). Since appraisal relies on an understanding of business processes, function-based classification schemes provide insight into appraisal (Cumming & Picot, 2014). The use of functional classification schemes positions organizations to appraise their activities in order to determine the value of the records they produce (Man, 2010; K. Smith, 2016).

There are several methodologies for designing function-based classification schemes. The foundational model for function-based classification is the Function-Activity-Transaction (FAT) model devised by Schellenberg (1956/2003). Function is

defined as a responsibility of an organization to accomplish the broad purposes for which it was established (Schellenberg, 1956/2003). Activities are defined as a class of actions that are taken to accomplish a function (Schellenberg, 1956/2003). Transactions are the smaller, individual tasks to accomplish an activity. Schellenberg's FAT model serves as the foundation for subsequent methodologies developed by the Australian and Canadian federal government archives.

The National Archives of Australia and the State Records Authority of New South Whales developed the Designing and Implementing Recordkeeping Systems (DIRKS) process around the 2000s. DIRKS encourages strong records management practices in government organizations (Macintosh & Real, 2007). The DIRKS manual, *DIRKS: A Strategic Approach to Managing Business Information* (National Archives of Australia, 2001), outlines the process of studying a business and then developing a records management system that is compliant with ISO 15489. The approach is well-regarded but the process is time-consuming (Macintosh & Real, 2007) and resource-intensive (Tough & Moss, 2006). Like FAT, DIRKS also uses the terms "function," "activity," and "transaction." Although the methodology has been withdrawn, the DIRKS approach remains a valuable resource for organizations (Ifould & Joseph, 2016).

A third methodology for designing functional classification schemes is Library and Archives Canada's Business Activity Structure and Classification System (BASCS).[2] BASCS was intended to provide a consistent approach for government organizations to classify their records (Wilson, 2008). This would have enabled archivists to consistently interpret standardized classification schemes across government organizations in order

[2] According to Sabourin (2001), this acronym is pronounced the same as the word "basis".

to facilitate the macroappraisal process (Bak, 2012). BASCS approach uses the terms “function,” “sub-function,” and “activity.” However, it seems that BASCS has also been withdrawn, as the research has slowed and the resources are no longer published on the Library and Archives Canada website.

There are several challenges related to functional classification. For example, users typically think in terms of subjects (Calabria, 2004) or structures (Alberts et al., 2010) as opposed to functions. As a result, users find functional classification schemes unintuitive (Calabria, 2004; Gunnlaugsdottir, 2012; Joseph, 2010; Orr, 2005). Users struggle to understand function-based categories as a concept (Calabria, 2004; Foscarini, 2012; Orr, 2005) because they perceive them as intellectual abstractions as opposed to practical categories (Alberts et al., 2010). Users also struggle to understand how their work fits into a function-based scheme (Alberts et al., 2010) and express challenges classifying records using functional classification schemes (Calabria, 2004; Gunnlaugsdottir, 2012). Even in cases where users express they understand function-based classification schemes, they still express difficulty selecting the best function-based folder to store their records (Ifould & Joseph, 2016). Overall, users express the use of function-based classification have a negative impact on their productivity (Orr, 2005). Some experts suggest function-based classification better serves the needs of records management professionals than users (Bak, 2012; Orr, 2005). However, records management professionals also face challenges with function-based classification schemes (Packalén, 2015). To overcome these challenges, records management professionals rely on organizational guidelines, input from colleagues, input from subject matter experts, and their judgement (Packalén, 2015).

Despite challenges related to function-based classification schemes, several strategies support the successful development, implementation, and maintenance of function-based classification schemes. To improve user acceptance, users should be engaged in the development and implementation of the classification scheme (Gunnlaugsdottir, 2012; Smyth, 2005). If users are expected to classify records, they should be engaged in the development and implementation of the folder structure (Bedford & Morelli, 2006; Gunnlaugsdottir, 2012), and receive user training (Bedford & Morelli, 2006; Gunnlaugsdottir, 2012; Park & Neal, 2012) and ongoing support (Park & Neal, 2012). Organizations can also raise awareness (Park & Neal, 2012) and solicit support from senior management (Bedford & Morelli, 2006; Gunnlaugsdottir, 2012). In addition, function-based classification schemes require continuous updates over time (Packalén, 2015), meaning classification schemes should be reviewed regularly to reflect organizational developments (Gunnlaugsdottir, 2012) and revised to suit the users (Tough & Moss, 2006). This ongoing maintenance improves the classification scheme and ensures it remains relevant.

Many of the challenges faced by functional classification schemes are not unique to function-based approaches. For example, function-based classification has been criticized for its use of fixed hierarchies for aggregating records (Bak, 2012; Yeo, 2012). However, subject-based, structure-based, and function-based classification schemes all face challenges related to developing comprehensive categories, that are mutually exclusive, and where objects can be clearly assigned to the best category. Regardless of the conceptual grouping used to inform the classification scheme, there are

challenges related to creating categories that are specific enough to be meaningful but broad enough to remain stable over time.

Some challenges associated with traditional functional classification schemes could be reduced. Organizations originally developed classification schemes for managing paper or other physical records (Bak, 2012). These paper-based approaches may no longer be necessary nor practical. Transforming the current approach to classification by embracing ideas such as faceted classification (Alberts et al., 2010; Mas et al., 2011) or item-level classification (Bak, 2012) may address some of the limitations of classification in general.

Although function-based classification schemes remain dominant, few organizations use functional classification schemes organization-wide (Gunnlaugsdottir, 2012). Instead, organizations may implement a mixed approach to classification, where some records are classified by function, other records are classified according to a unit or employee's individualistic methods, and other records may not be classified at all (Gunnlaugsdottir, 2012). Until other methods gain traction, hierarchical function-based classification remains the dominant approach to classification despite its theoretical limitations and practical challenges.

2.3. Electronic document and records management systems

An electronic document and records management system (EDRMS) is a tool used to manage an organization's information holdings (Oliver & Foscarini, 2014). EDRM[S] are defined as a system:

> used to manage, protect and preserve information resources from 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. (Treasury Board of Canada Secretariat, 2010)

EDRMS is a prevalent topic in contemporary literature in information science. Given the practical nature of EDRMS, the discourse includes many discussions from practitioners on the implementation and use of EDRMS. These discussions often focus on practical approaches for implementing and maintaining systems rather than conceptual discussions of theories or methodologies related to these systems. Although specific EDRMS vary, they typically share many commonalities.

EDRMS can manage multiple formats such as paper documents, electronic documents, and other resources (Johnston & Bowen, 2005; Wilkins et al., 2009). The specific formats and types of records registered in a given system differ (Gunnlaugsdottir, 2008b). Typically, EDRMS offer index and search features (Smyth, 2005). However, the properties, features, and behaviours of different systems vary. EDRMS also provide a system to classify records according to the organization's classification scheme; either through a folder structure that aligns with the organization's classification scheme (Ifould & Joseph, 2016) or through the application of metadata to link records to its relevant classification (Joseph, 2010). To support retention and disposition, the EDRMS may have features to: assign a record to its associated retention period (Pan, 2017), automate the application of retention metadata (Shepherd & Yeo, 2003), or declare a record as final in order to fix its content and form as well as initiate the retention period (Johnston & Bowen, 2005). EDRMS also support disposition

by reducing unnecessary duplication of records since records are stored in a centralized, accessible system (Johnston & Bowen, 2005). Without a central repository, users may create several copies of a record over time (Smyth, 2005).

The implementation and use of an EDRMS provides an opportunity for an organization to learn about its records management procedures and re-establish control over its records (Smyth, 2005). Despite the advantages of implementing an EDRMS, there are several challenges. During the transition to an EDRMS, it is common for users to resist change from the old system (Gregory, 2005; Pan, 2017). Although employees may understand the potential benefits of using the EDRMS for the organization (Wilkins et al., 2009) they do not believe they will experience individual benefits from using the EDRMS; instead, they expect their work to become more difficult (Johnston & Bowen, 2005). Gregory (2005) describes a common scenario of resistance from users onboarded to a new EDRMS:

> There will always be people who ask if [using the EDRMS] is mandatory; if it affects them. Their section is different to others – did you not know that? [Their section] has special requirements and so they cannot use the system like everyone else. (Gregory, 2005, p. 84)

User reluctance may be due to fear (McLeod et al., 2011), concern that their work will become more difficult (Johnston & Bowen, 2005), or because the EDRMS is perceived as a threat (Johnston & Bowen, 2005; Pan, 2017; Wilkins et al., 2009).

As previously mentioned, EDRMS typically use a classification scheme to classify or organize records (Gregory, 2005). As a result, the difficulties users face related to the classification scheme often affect their use of the EDRMS (Pan, 2017).

Users struggle with EDRMS that are structured according to the organization's classification scheme (Ifould & Joseph, 2016) or that use classification metadata (Joseph, 2010). In fact, users struggle to work with the classification metadata field on the EDRMS so much that they request to remove this field (Joseph, 2010) or avoid capturing items in the EDRMS altogether (Pan, 2017). Regardless of the advantages of EDRMS, the EDRMS is only beneficial if users are willing to use it (Oliver & Foscarini, 2014). This means user acceptance is key for successful use of an EDRMS (Feng & Pan, 2016; Johnston & Bowen, 2005).

There are several strategies to improve user experience with EDRMS. It is helpful to remember that EDRMS are complex systems. However, the system should be as simple as possible (Maguire, 2005) and suitable for use by people with different levels of information technology skills (Johnston & Bowen, 2005). Organizations should assess their users' information technology skills and also assess the usability of the system (Johnston & Bowen, 2005; Wilkins et al., 2009). Since EDRMS are expected to be used by a large number of users (Leikums, 2012), records management professionals should prioritize user perspectives (Garrido, 2008). There are multiple approaches to consider user needs and inform system requirements such as: observing how users work, including user representatives in the design team, or involving users in the testing and evaluation (Leikums, 2012). The use of a sophisticated communications plan with several communication tools can also help with the transition to the EDRMS (Gregory, 2005). Communicate how the EDRMS will benefit users (Di Biagio & Ibiricu, 2008), otherwise known as the "what's in it for me" perspective (Bedford & Morelli,

2006). At the same time, it is important to manage user expectations (Downing, 2006) so records management professionals should refrain from overselling the system.

Another strategy to mitigate the challenges related to the EDRMS is training (Di Biagio & Ibiricu, 2008; Gregory, 2005; Gunnlaugsdottir, 2008a, 2009; Johnston & Bowen, 2005; Maguire, 2005; Smyth, 2005). Training is an opportunity to explain how to use the system, educate users on why it is implemented, and address any fears (Johnston & Bowen, 2005). Users are less likely to ask questions during generic group training sessions (Johnston & Bowen, 2005; Leikums, 2012), so it is useful to offer both general classroom training sessions and one-on-one training sessions. This helps users to understand how they will use the system as part of their work (Downing, 2006; Leikums, 2012) and gives them an opportunity to learn about their specific areas of interest (Johnston & Bowen, 2005). Because of the integration of the EDRMS with the classification scheme, training may include the EDRMS and the classification scheme (The National Archives, 2004).

It is worth noting that user concerns about the implementation of an EDRMS are more intense if the change is introduced into work that is already very challenging and demanding by nature (Pan, 2017). For better user adoption, some experts recommend implementing EDRMS in a way that minimizes significant changes to the way employees work (Johnston & Bowen, 2005) or transitioning users to new ways of working slowly. However, an approach that minimizes changes to the organizational workflows has consequences. According to Bailey (2009), EDRMS approaches are detrimentally similar to the systems that were designed to manage paper records. As a result, EDRMS do not maximize the potential benefits of managing electronic records.

From this point of view, organizations should leverage the advantages of the EDRMS to optimize business processes in a way that does not duplicate paper document circulation (Leikums, 2012). From this perspective, the implementation of an EDRMS should in fact result in changes to the way people work, think, and act (Gregory, 2005). The success of the EDRMS may therefore require a cultural shift towards new ways of thinking (Gregory, 2005).

There is some precedent for efforts to implement a consistent EDRMS across federal government organizations. The original EDRMS that was promoted for adoption was the Record and Document Information Management System (RDIMS) (Buckley, 2017; Jordan & de Stricker, 2013). The second EDRMS endorsed as the official EDRMS for federal government was GCDOCS (branded name to refer to OpenText Content Server) (Buckley, 2017; Jordan & de Stricker, 2013). Another EDRMS commonly used by government organizations is Microsoft SharePoint (Jordan & de Stricker, 2013).

In short, EDRMS are used by organizations to manage and store their information. EDRMS can make information more accessible, systems more efficient, and organizations more accountable (Johnston & Bowen, 2005). However, implementing an EDRMS does not guarantee strong records management (Di Biagio & Ibiricu, 2008). The success of the EDRMS depends upon sufficient planning, execution, and maintenance of EDRMS implementations (Johnston & Bowen, 2005). If the EDRMS is successfully implemented and maintained by the organization, the system can be used to manage records consistently and reliably.

2.4. Retention schedules and disposition authorizations

Retention and disposition are central to records management. Retention refers to the process of methodically maintaining records in a particular form or location. Disposition is the process of eliminating records from the organization's control. As a result, retention and disposition activities regulate the volume of records within an organization. Systematic retention and disposition rules ensure that records are managed by the organization for a duration that meets operational needs, complies with applicable requirements, and mitigates undue risks.

Some experts argue that organizations should retain all their records indefinitely. However, there are several arguments against permanent retention. Maintaining a large volume of records requires significant resources. There are also serious legal implications to indefinite retention. It is a common misconception that retaining all records alleviates legal risks. In reality, having a large volume of records increases the risk of breaches, liability lawsuits, and public relations scandals. As a result, disposition programs protect organizations as long as they are carried out in good faith according to routine procedures. Without established retention and disposition rules, disposition decisions may be based on unsystematic and arbitrary "local initiative" which puts organizations at risk for unauthorized and uncontrolled destruction of information (Shepherd & Yeo, 2003, p. 146). Any irregular destruction of records raises suspicion if the organization is involved in litigation (Shepherd & Yeo, 2003). To mitigate these risks, organizations establish and execute retention and disposition rules.

In the federal government, record retention and disposition programs date as far back as 1889 when the Post Office requested permission to destroy routine records. In

July 1890, an Order in Council was passed to authorize departments (in collaboration with Treasury Board and Privy Council) to create a schedule for records destruction (Public Archives of Canada, 1972). Retention schedules remain central to retention and disposition activities.

A retention schedule outlines an organization's rules for retaining and disposing of records. It identifies: the groups of records under an organization's control (i.e. the record series), the event that marks the beginning of the retention period (i.e. the retention trigger), and the period of time the records must be kept after the retention trigger has occurred (i.e. the retention period).[3] Record retention schedules may also contain: the justification for retaining the records (Montaña, 2016; Saffady, 2009), details about where or how to retain records (Saffady, 2009), and the method to dispose of records (McDonald, 2010). The disposition method, sometimes referred to as the "fate" of a record, is also commonly identified on the retention schedule.

Retention schedules vary by organization (C. A. Bailey, 2013).[4] Given the need to account for a multitude of factors, retention schedules are often long and complex with hundreds or thousands of lines to account for the different types of records under the organization's control and their particular retention specifications (Diamond, 2019). They are commonly based on the organization's classification scheme (Man, 2010; McDonald & Léveillé, 2014; Myler, 2006). Once established, they must be reviewed

[3] For example, a retention schedule may outline that: financial records (i.e. record series) are to be kept until the last day of the fiscal year (i.e. the retention trigger) plus an additional six years (i.e. the retention period). The retention specifications are based on the requirements outlined in the *Income Tax Act* (R.S.C., 1985, c. 1 (5th Supp.) sec. 230). By combining the retention period and the retention trigger, an organization has a clear understanding about how long to maintain their various types of records.
[4] To see some retention schedules from federal government organizations, refer to Librarianship.ca (https://librarianship.ca/resources/rds/).

regularly to ensure they remain up to date based on changes to operational needs as well as legislated, regulated, and other requirements (Merrill, 2019).

In addition to organization-specific retention schedules, there are also the Generic Valuation Tools (GVTs). Much like retention schedules, the GVTs identify common business processes, common types of business records, and suggested retention specifications (Giesbrecht & Smith, 2017). The GVTs support the government disposition program and serve as reference for government organizations to develop and maintain their retention schedules. It is important to note that the GVTs do not authorize the disposition of records.

In the federal government, the government archives are responsible for authorizing the disposition of records (C. A. Bailey, 2013; Caron & Brown, 2013; Loewen, 2005). As a result, the government archives must identify what records under a government organization's control have archival value. Upon their disposition from the originating organization, archival records must be transferred to the government archives. In 1963, the government archives released the General Records Disposition Schedule (GRDS) to authorize the disposition of administrative records across government organizations. (*General records disposal schedules of the Government of Canada*, 1986). The GRDS underwent several revisions over the thirty-five years they were in effect (C. A. Bailey, 2013). The GRDS were replaced by the Multi-Institutional Disposition Authorities (MIDAs) during the 1990s (Sabourin, 2001). The MIDAs authorized the destruction of records related to common administrative functions (Sabourin, 2001). In combination with MIDAs, the government archives issued Institution-Specific Disposition Authorities (ISDAs) to authorize the destruction of

operational records produced by government organizations that were not covered by the MIDAs.

Although the federal government archives had many successful appraisal and disposition projects between 1990 and 2009, its government disposition program was untenable (Giesbrecht & Smith, 2017) and insufficient (Nahuet, 2015). Most government organizations had outdated or problematic disposition authorizations, and projects were taking several years to complete (Giesbrecht & Smith, 2017). The auditor's report in November 2003 (Chapter 6 on The Protection of Cultural Heritage in the Federal Government) and Fall 2014 (Chapter 7 on Documentary Heritage of the Government of Canada – Library Archives Canada) identified issues related to disposition of government records. In short, they reported that archival records are not being systematically and routinely transferred to the government archives for long-term preservation. The government archives understood that if organizations were not managing their records effectively, they would be unable to acquire archival records (Giesbrecht & Smith, 2017).

3. Conceptual Framework

This study uses the records continuum model (RCM) as its conceptual framework. This chapter provides background on the RCM, describes the elements in the model, and justifies its use in this study.

3.1 Background

In the context of public records administration, continuum thinking can be traced to Australian archivist Ian Mclean in the 1950s (Maclean, 1959). In the 1990s, Frank Upward, Sue McKemmish, and Livia Iacovino develop the concept of a records continuum.[5] Initially, the concept of a records continuum was used as a metaphor to express the continuities between the work of records managers and archivists (McKemmish, 2001). Then, Upward published his two-part article "Structuring the records continuum" (1996, 1997). This consolidated the separate stages of the records lifecycle into connected elements and transformed the continuum from a metaphor to a model.

Upward draws from several well-known theorists to ground the RCM. Most notably, he builds off the British sociologist Anthony Giddens's structuration theory, a conceptual framework in sociology that is used to examine human social behaviours. According to structuration theory, action and structure interact recurrently to shape each other. In other words, human actions construct society, but are also constrained by it. By recognizing this duality of structure, Giddens presents a lens for analyzing social actions across time and space. Time and space are essential elements for

[5] A list of publications related to the Records Continuum Research Group (RCRG) at the School of Information Management and Systems at Monash University in Melbourne, Australia is available at: http://www.recordscontinuum.info/publications.

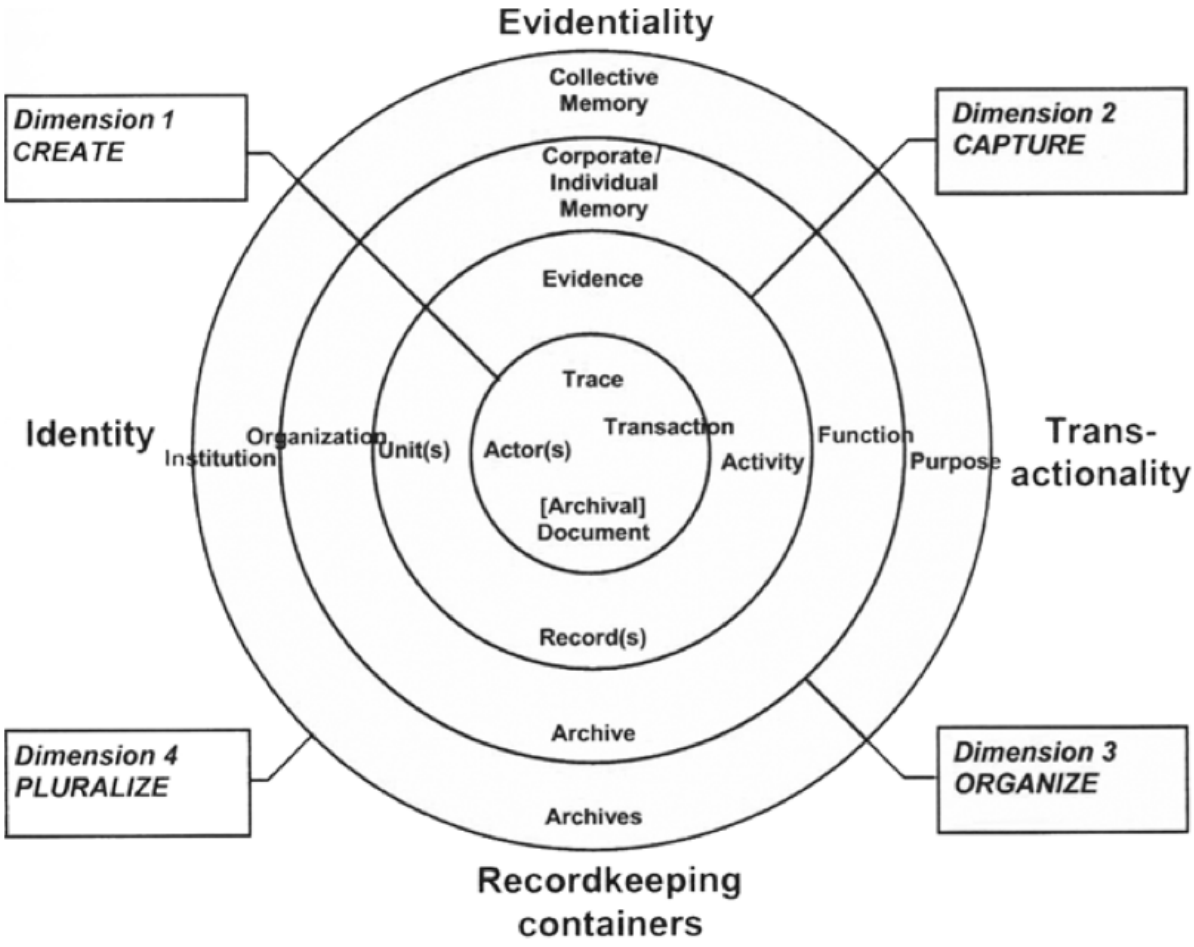
understanding social behaviour in structuration theory. Time-space refers to the temporal and spatial dimensions that form constitutive elements of all social action. Time-space distanciation is the passage of behavioural patterns in space and time. Upward draws from the ideas of structuration theory and interprets them to into the records continuum model (RCM).

3.2 Description

The RCM has four axes and four dimensions. The four axes are: recordkeeping containers, evidentiality, transactionality, and identity. The four dimensions are: create, capture, organize, and pluralize. The RCM is positions its elements so they pass seamlessly pass through one another. Upward developed the model to create a visual representation of the way records move from initial form and thread outwards in time and space through the activities related to managing records (Upward, 1997).

Figure 1

Frank Upward's Records Continuum Model (2005)



The recordkeeping containers axis identifies the types of objects used to store recorded information (Upward, 1996). The coordinates are: document, record, archive, and archives. A document has content, structure, and context of creation (Upward, 1996). It is based in an act, thus it is a pseudo representation of that act (Upward, 1996). A record should have additional contextualization when compared to the document (Upward, 1996). In addition, a record is commonly linked to other records (Upward, 1996). An archive is an aggregated body of records (Upward, 1996). An

archive may pertain to an individual, function, organization, or otherwise (Upward, 2005). Finally, the archives refer to a collection of more than one archive. Archives contain records based out of multiple organizations. They are a result of spatial spread or temporal transmission (Upward, 1996).

The evidentiality axis identifies the extent to which the record demonstrates proof of an action or actions. The coordinates of this axis are: trace, evidence, organizational memory, and collective memory. It suggests that records are created as traces of an action, captured to form an evidential record, organized to form corporate memory, and pluralized to contribute to collective memory (Upward, 1996).

The transactionality axis identifies how records derive from the conduct of affairs (Upward, 1996). The coordinates represent the record as a product of an action or category of actions. The coordinates are: act, activity, function, and purpose. It reflects the breakdown of organizational objectives. In doing so, it represents the common thread that records share with other records that are products of the same type of transaction, both at the specific and broad level.

The identity axis handles the structural provenance of the record (Upward, 1996). It does so by identifying those who have authority over the record at different points in time and space. The coordinates of the identity axis are: actor, unit, organization, and institution. These are some of the key actors associated with the records.

The create dimension refers to the situated action of creation. It covers the points where individuals engage in activities and produce recorded information from these activities. This dimension includes the actors who perform the action, the action, the

representation of the action, and the documents produced by the action (McKemmish, 1997).

The capture dimension covers the point where a record enters a framework of consistent and coherent use by groups (Upward, 2000). It covers the points where a record is entered into systems and where controls are applied to capture the context of the record in order to demonstrate evidence of the activities performed by the responsible units (McKemmish, 1997). In this dimension, additional contextual information is added about the record (Upward, 1997).

The organise dimension covers the points where records are part of organizational processes and organized as memory. In this dimension, the record forms part of a larger whole (Karabinos, 2018). This dimension relies on systems to share information across time and space. This makes the document more accessible across the organization (Upward, 1997). The organise dimension also involves the controls related to the maintenance of the records such as reliability and integrity (Upward, 1996).

The pluralize dimension covers points where information is multiplied in the sense of making it accessible beyond its original context and into broader society. This occurs when records are connected with other memory banks (Upward, 1997). It is the dimension where archives provide a collective cultural, historical, and social memory of the purposes and roles of individuals and institutions (McKemmish, 2001). In this dimension, the use of information is less predictable or controllable than other dimensions. It is an unclear region that forms memory across social totalities (Upward,

2000). The pluralize dimension has the broadest reaches of space and time (Upward, 2000).

3.3 Evaluation

The RCM is suitable for use in this study because it seeks to present a worldview of records activities that transcends the dichotomies between records management and archives administration. In doing so, it accounts for overlapping roles of archivists, records managers, record creators, and other groups involved in record activities. The RCM also accounts for the dynamic and recursive nature of records including the possibility of a record being in multiple dimensions or at multiple coordinates simultaneously. The RCM has been used in several studies however it has not yet undergone rigorous testing (Karabinos, 2018; Piggot, 2012). Despite its criticisms, it is recognized as “the best available approximation to a Theory of Everything (to do with records)” (Piggot, 2012, p. 187) until a better model takes its place.

4. Methodology

This chapter presents the research design, ethics approval, sampling strategies, recruitment approaches, data collection methods, data analysis methods, the criteria used to assess research quality, and the limitations of the study.

4.1. Research Design

This thesis research is undertaken as part of a larger research project by Dr. Inge Alberts, Associate Professor at the School of Information Studies at the University of Ottawa. The larger research project involves two phases. The first phase is a qualitative study of the appraisal of government records in multiple government organizations. The second phase involves experiments to test the validity of using automation to support the classification of emails. This thesis aligns with the first phase of Professor Alberts's research project. Due to the relationship between the thesis research and the broader research project, the data collection instruments and ethics approvals refer to the name of the larger project.

This research adopts a qualitative and explorative approach to examine the appraisal of government records. An exploratory research approach was chosen because of the limited research in this subject area and the challenges with collecting sufficient data to reach conclusive results. The exploratory research approach provided sufficient flexibility to obtain relevant insights into the research questions. Qualitative research methods were selected in order to allow the researcher to collect and analyze suitable data that would provide a rich and detailed understanding of the phenomenon under study.

This research was conducted by an individual with experience working in federal government information management (IM). As a result, the researcher was familiar with many of these concepts in this study which enabled a richer understanding of the complex phenomena being studied.

4.2. Ethics Approval

All research that involves human participants is required to undergo review and approval by a research ethics board (Canadian Institutes of Health Research et al., 2014). Two of the data collection methods used in this study (i.e. semi-structured interviews and cognitive inquiries) involved collecting data from human participants. The Office of Research Ethics and Integrity at the University of Ottawa granted the ethics certificate for this research on April 7, 2017 (see Appendix A: Ethics Certificate 2017). The ethics certificate was renewed on April 7, 2018 (see Appendix B: Ethics Certificate 2018). By April 2019, data collection for the thesis research was complete.

4.3. Sampling and Recruitment

This study involved two populations. The first population is federal government employees. This population is made up of more than 250,000 employees (Treasury Board of Canada Secretariat, 2018) from over 200 departments, agencies, crown corporations, and special operating agencies (Government of Canada, 2018). For the purpose of this study, the population of government employees is divided into three groups: archivists, records managers, and employees. Archivists are employees whose core duties involve managing government records in the context of the government archives. Records managers[6] are employees whose core duties involve managing

[6] The term “records manager” is commonly used in the literature on the topic however these employees may be more commonly recognized as records management or information management professionals.

government records in the context of the originating government organization. The third group is made up of employees whose core duties do not involve managing government records for the purpose of organizational records management or government archives.

The second population under study in this thesis research is textual documents related to the management of government records in government organizations and government archives. These documents include government-wide legislation, policy instruments, and supplementary guidance materials, as well as organization-specific guidelines and procedures. These textual materials are stored within record repositories, shared on internal government sites, or posted publicly online. They direct or influence the appraisal of government records.

The researcher employed a nonprobability strategy sampling to create samples for both these populations. Specifically, the researcher used purposive sampling for both populations. The advantage of purposive sampling is the ability to select information-rich cases that can provide significant information about the research topic (Patton, 2002). Although it is advantageous to select units that are relevant to the topic of the study, it is equally important to seek units that may demonstrate different viewpoints (Guest et al., 2013).

The sample size of human participants in library and information science (LIS) research is generally between twelve and twenty-six participants (Maurel, 2006). For this study, the researcher planned to have a sample of ten human participants. The human sample size was based on having a sample large enough to provide valuable data for analysis but small enough to remain manageable and practical for a master's level thesis. The participants were recruited (See Appendix C: Recruitment Letter for

Organizations and Appendix D: Recruitment Letter for Participants) and the sample of government employees was divided into three groups: archivists, records managers, and employees. The researcher expected the sample to consist of three archivists, three records managers, and four regular employees. The final sample comprised of nine participants: three archivists, three records managers, and three regular employees.

Purposive sampling was also used to create a sample of textual documents related to the appraisal of government records. The documents were selected for their ability to provide relevant data to answer the research questions. An initial list of documents was identified from the Policy on Information Management (Treasury Board of Canada Secretariat, 2007) which includes relevant legislation and policy instruments. The selection of documents was revised to focus on those that influenced the appraisal of government records. It was then expanded to include additional documentary sources that provided input into the appraisal of government records. These units were selected based on the researcher's knowledge and judgement. In the end, the researcher purposively selected a sample of twelve documents made up of one act, one policy, two directives, six informational webpages, one disposition authorization, and the Generic Valuation Tools (see Appendix E: List of Documents).

4.4. Data Collection

Three types of data were collected in this study: semi-structured interview data, cognitive inquiry data, and textual document data. Using these three data collection methods, the researcher collected 25 sources of data (See Appendix F: List of Sources).

Interviews have been a core methodology in social science research since the 1920s (Beck & Manuel, 2008) and are a common research method in LIS research (Chu, 2015). This thesis research used semi-structured interviews, so the researcher prepared an interview guide but had sufficient flexibility to incorporate and adapt to new insights as they arose. All nine participants were invited to participate in individual, semi-structured interviews. The records managers and employees accepted the invitations to participate in individual interviews, while the archivists requested to participate in a group interview.

Compared to individual interviews, group interviews have limited use in social science research. There are several advantages to group interviews. First, interviewees can be stimulated by the input of other respondents to recall and recount otherwise forgotten events. Another advantage of group interviews is that they are a more efficient use of resources because the researcher is able to interview multiple participants simultaneously and therefore collect several responses at one time. A disadvantage of group interviews is the potential impact of the group dynamics on the data that is collected. For example, the size of the group, the background of the participants, and the seniority among interviewees may influence individual responses during a group interview. The group dynamics may lead interviewees to conform their views as opposed to present diverse opinions. Based on the archivists' request, the strengths and weaknesses of a group interview were considered and the researcher accommodated the request for a group interview.

To prepare for the semi-structured interviews, the interview guide was tested with four respondents. The tests were conducted between April and May 2017. Following the

tests, minor changes were made to the interview guide to clarify the wording of some questions. The final interview guide had eight questions (See Appendix H: Semi-Structured Interview Guide).

The researcher intentionally refrained from asking participants to provide demographic information about themselves such as their age, gender, race, or highest level of education. Although demographic information can provide useful context about the participants and their viewpoints, collecting this information without the intention to validate the sample population may be an undue invasion of privacy. The small and non-representative sample of this thesis research does not produce generalizable results. Therefore, the interviewees were not asked to disclose any identifying demographic information.

The setting of an interview can affect the responses. Eight of the nine participants participated in face-to-face interviews. One participant requested to complete the interview over the phone; their request was accommodated. Several steps were taken to foster a comfortable environment and minimize potential distractions. The in-person interviews took place in meeting rooms which were located at the employees' workplaces. The boardrooms provided familiar, private, and quiet settings to conduct the interviews. The participant who completed their interview over the phone was also in a private and quiet environment during their semi-structured interview.

Before each interview, the participant(s) were briefed on the research topic, research objectives, voluntary nature of the research, confidentiality of the research, and risks associated with their participation. During this briefing, the interviewee(s) were informed that they were permitted to refrain from answering any questions that they did

not feel comfortable answering. The participants were presented the consent form and given an opportunity to review it (see Appendix I: Participant Consent Form). Interviews were audio recorded with the consent of the participants. The audio recordings were used to produce transcripts.

The interview data was collected between May 2017 and January 2018. The semi-structured interviews were expected to span 75 minutes. The actual duration of the group semi-structured interview was 120 minutes. The actual duration of the individual semi-structured interviews ranged from 40 to 65 minutes.

The second data collection method was cognitive inquiry exercises. The cognitive inquiry exercise is an adaptation of protocol analysis which is traditionally used in psychology (Ericsson & Simon, 1993). Protocol analysis is a methodology based on thought verbalization to elicit verbal reports of thought as a data source (Ericsson & Simon, 1993). With verbal reports, a participant is asked to complete a task and to give a verbal expression of their thoughts during the exercise. The subjects are not asked to explain how or why they think their thoughts. The purpose of this method is to understand the cognitive processes involved in the performance of a task (Ericsson & Simon, 1993). Although the verbalization of thoughts does not provide genuine access to the participant's ongoing cognitive process, the desired outcome is to access short-term memory (Ericsson & Simon, 1993). The results are most valid when a subject completes a task with concurrent, think-aloud verbalizations. The more time that passes between completing the task and providing a verbal report, the less accurate the recall of prior thoughts. Alberts (2009) as well as Vellino and Alberts (2016) use cognitive

inquiry in their research and demonstrate its validity in the study of appraisal behaviours.

A guide was prepared to direct the cognitive inquiry exercise (see Appendix J: Cognitive Inquiry Guide). All nine participants were invited to participate in cognitive inquiry (i.e. think aloud) exercises. The three archivists declined the invitation to participate in the cognitive inquiry exercises. The three records managers and the three regular employees accepted the invitation. The cognitive inquiry exercises were completed on the same day as the semi-structured interviews. Each participant was given the option to take a break or begin the cognitive inquiry (i.e. think aloud) exercise immediately after they completed their interview.

Because the cognitive inquiries took place shortly after the semi-structured interview, the participants had already been briefed on the research topic, research objectives, voluntary nature of the research, confidentiality of the research, and risks associated with their participation. Prior to beginning the exercise, participants were briefed on the purpose of the cognitive inquiry exercise and given instructions on how to perform the task. The instructions were to appraise a subset of their own records and sort them into two categories: (1) business value and (2) no business value. During this time, participants were asked to continuously verbalize their thoughts while they made appraisal decisions. They were also informed that they were permitted to skip any items they did not want to discuss. The researcher suggested the participants appraise their emails. All but one participant appraised their emails. The exception was one participant who was unable to access their emails at the time and chose to appraise their documents as an alternative.

The five participants who completed the cognitive inquiry exercise in-person used a computer that was located in the same boardroom where their interview took place. When the participant indicated they were ready to begin the exercise, the researcher started the audio recording. The cognitive inquiry exercises were audio recorded with the consent of the participants. The researcher planned to act as a silent observer during the exercises. However, some participants engaged the researcher at various points. In most cases, the researcher responded in attempt to foster a comfortable environment for the participants.

Like the interview data, the cognitive inquiry data was collected between November 2017 and January 2018. The expected duration of the cognitive inquiry exercises was 30 minutes. The actual time ranged from 19 to 31 minutes. The number of items the participants appraised varied widely, even in the small sample. One participant appraised fewer than 10 items, whereas another participant appraised over 100 items.

The third type of data that was collected for this research was documents. Document analysis involves collecting existing sources of information about the research topic. In this study, the documents that were collected included acts, policy instruments, and guidance materials related to the appraisal of government records. In total, the researcher collected twelve documents related to the appraisal of government records for this research (See Appendix E: List of Documents). The documents were collected between May 2017 and April 2018. All these documents were publicly available on government websites.

4.5. Data Analysis

Several steps were taken to prepare and analyze the data. The researcher transformed the audio data into a textual format by producing non-verbatim transcripts. As part of the decision to generate non-verbatim transcripts, the transcriber removed filler words and speech repetitions when they did not significantly impact the meaning. In some cases, filler words and speech repetitions were included in the transcripts. For example, some expressions were made up primarily of speech repetitions and filler words so they did not have clear meaning without them.

The documents (i.e. the sample of purposively selected documents) also underwent preparation for data analysis. The content was copied from its original source and pasted into Microsoft Word for basic, textual content then the data was cleaned and formatted. Aspects that were considered significant to the content and form were maintained. This included titles, headings, and tables. Aspects that were not considered significant to the content and form were omitted. This included pagination, alignment, and spacing. If a document was English-French bilingual, only the English content was collected.

In total, the three data collection methods resulted in 25 data sources. The researcher assigned source code (i.e. a unique identifier to refer to the source) to each source. The source code followed the naming convention “S” (for source) followed by a two-digit number (e.g. 01, 02, 03… 23, 24, 25). These source numbers are presented below (see also Appendix F: List of Sources). They are used as references in the findings section.

Table 2

List of Sources

Source Name	Source Code
Interview – Archivists	S01
Interview – Records manager 1	S02
Interview – Records manager 2	S03
Interview – Records manager 3	S04
Interview – Employee 1	S05
Interview – Employee 2	S06
Interview – Employee 3	S07
Exercise – Records manager 1	S08
Exercise – Records manager 2	S09
Exercise – Records manager 3	S10
Exercise – Employee 1	S11
Exercise – Employee 2	S12
Exercise – Employee 3	S13
Document – Library and Archives Canada Act	S14
Document – Policy on Information Management	S15
Document – Directive on Information Management Roles and Responsibilities	S16
Document – Directive on Recordkeeping	S17
Document – The Government Records Disposition Program of Library and Archives Canada: Program Synopsis	S18
Document – Government Records Disposition – Frequently Asked Questions (FAQs)	S19
Document – Appraisal Methodology: Macro-appraisal and functional analysis Part A: Concepts and Theory	S20
Document – Appraisal Methodology: Macro-appraisal and functional analysis Part B: Guidelines for Performing an Archival Appraisal on Government Records	S21
Document – A Brief History of the LAC Macroappraisal Methodology for Government Records	S22
Document – Multi-Institution Disposition Authorizations	S23
Document – Disposition Authorizations 20016/001 for transitory records	S24
Document – Generic Valuation Tools	S25

To undertake coding, the researcher reviewed the textual data to define the unit of analysis. The unit of analysis determines the level at which codes are applied to the data. There are many potential units of analysis for qualitative coding of textual data such as words, phrases, sentences, paragraphs, responses to a question, entire documents, or another segment of text. In this study, selecting words, phrases, or sentences as the unit of analysis for qualitative coding was deemed unsuitable because it would have resulted in fragmented data segments that lacked sufficient contextual information to act as meaningful data. Units of analysis such as entire interview transcripts, entire cognitive inquiry transcripts, or entire documents were also deemed unsuitable because they covered a large number of topics and themes. As a result, the researcher organized the data into segments. The segments varied in size between one sentence and several pages.

The data were coded using thematic analysis approaches. Thematic analysis was selected because it is well suited for analysing small, purposively selected samples (Zhang & Wildemuth, 2017). Codes may be developed deductively or inductively. Deductive (also known as a priori) codes are developed prior to the beginning of the coding process whereas inductive (or emergent) cods are developed as the researcher codes the data. This thesis research used a mixed approach for developing its codes which is common in qualitative research (Stuckey, 2015). With the mixed approach, the researcher generates an initial set of codes and adds new codes inductively during data analysis (Miles & Huberman, 1994). The initial set of codes were established based on the research questions and literature review. The codes were further developed and refined during the iterative coding process (See Appendix G: List of Codes).

After testing several coding tools, the researcher decided to perform manual coding using paper, highlighters, and pencil. The coding was conducted by one person. Data analysis is stronger when the data is coded by more than one person because it allows for measuring intercoder reliability. However, the decision for a single coder was justified due to the limited resources of the master's level thesis.

4.6. Research Quality

The legitimacy of the results is dependent upon the research quality. The researcher took several measures to support the credibility, dependability, confirmability, and transferability of the study. Credibility refers to the extent the research studies what it intends to study (Lincoln & Guba, 1985). In this study, the researcher three data collection methods (i.e. semi-structured interviews, cognitive inquiry exercises, and document analysis) the findings are not the result of a single source, but rather findings emerged from iterative analyses of multiple data sources, searching for patterns, and conflicting ideas. Dependability is the degree to which the research would reliably repeat the same outcomes if it was reproduced following this same methodology and data analysis (Lincoln & Guba, 1985). To support reliability, the researcher provided details about the study to enable another researcher to reproduce the results if they were in the same context. This included describing the research methodology. Confirmability refers to the degree of neutrality to mitigate bias. Transparency about the position of the researcher ensures the research is not unduly skewed by individual bias or interest. This research was conducted by an individual with experience working in federal government information management (IM). Transferability refers to refers to the extent to which results can be generalized. Because the study

used was non-probabilistic sampling strategies and was relatively small, the findings are not generalizable.

4.7. Limitations

The researcher acknowledges several limitations in this study. First, the results are non-generalizable. The sample was very small, especially in relation to the large number of government organizations and employees so a larger sample would have provided richer data. However, there was a need limit the scope of the project since the research was undertaken as a master's thesis.

Another limitation is the potential unreliability of primary source data from human participants. Although measures were taken to make participants feel comfortable sharing their honest responses (such as removing identifying information), it is possible participants felt nervous or reluctant, and therefore refrained from disclosing certain realities. There is also a risk that individuals self-censor to share favourable responses as opposed to their authentic responses. This is especially true if participants are concerned their responses could harm them, their organization, or the government in general.

Another limitation is the modification to one of the data collection methods. Specifically, the use of individual interviews for six participants and the use of group interview for the other three participants. Ideally, all nine participants would have participated in the same type of interview interviews to ensure consistent data collection methods. However, due to the limited resources of a master's level thesis, the decision was made to accommodate the request from the archivists but continue with individual interviews for the other participants.

Data collection is the lower-than-expected amount of data generated from the cognitive inquiry exercises. This is due to three archivists declining to participate in the think aloud exercises. The study also lacked organization-specific RM documentation. It would have been beneficial to analyze organization-specific functional classification schemes, retention schedules, and disposition authorizations. The analysis of these materials would have provided more insight into how the tools contribute to the appraisal of government records. They were excluded because they were not readily available on the web, but they could be collected for future research.

Some of the government policy instruments analyzed as part of the document analysis have been superseded. Specifically, the Directive on Recordkeeping was replaced by the Directive on Service and Digital on April 1, 2020. This policy instrument has a broader focus; however, it includes a section on recordkeeping which resembles the requirements that listed in the Directive on Recordkeeping.

The focus on electronic, text-based record formats (such as documents, emails, presentations, and spreadsheets) is another limitation of the study. The research did not specifically probe into hard-copy formats (such as paper records) or non-text-based record formats (such as audiovisual files, audio files, image files, or datasets). Although many appraisal theories and methods claim to appraise records regardless of format, an effort to gather more information about the appraisal of other formats could have been beneficial to ensure the results adequately cover the appraisal of government records in a wide variety of formats.

5. Findings

This chapter presents the findings of this research. The findings derive from these data sources collected for this study: the semi-structured interview transcripts, cognitive inquiry (i.e. think aloud) exercise transcripts, and documents. They are organized in three thematic subsections to group the results based on the two research questions.

5.1 Roles and Responsibilities

The first research question seeks to understand how archivists, records managers, and employees contribute to the appraisal of government records. To answer this question, this subsection contains findings from the semi-structured interviews, cognitive inquiry exercises, and document analysis. Since all three data collection methods contained information about the roles and responsibilities of archivists, records managers, and employees, the findings from the three methods were merged and presented in paragraphs (as opposed to bullets or tables) to facilitate readability.

5.1.1 Archivists

Government archives have the power to authorize the disposition of government records. In order to authorize the disposition of government records, the archives issue disposition authorizations.[7] The archivists are responsible for developing and maintaining these disposition authorizations.

Each archivist is assigned to a portfolio of organizations. The number of organizations in each portfolio varies. There are some portfolios with a single

[7] Disposition authorizations are discussed in greater detail in section 5.2.3 Disposition Authorizations.

organization and some portfolios with several. In some cases, multiple archivists are assigned to one portfolio. Factors that influence the composition of a portfolio include: the size of the organization, the complexity of the organization, the likeness to other organizations, and the organization's demands for archives activities. In addition to developing and maintaining disposition authorizations for organizations in their portfolio, archivists may also be tasked to work on additional disposition authorizations, such as a disposition authorization that applies to multiple organizations.

When archivists prepare disposition authorizations, they may consult with members of senior management, information management professionals, and other employees to collect information about the records. The specific groups consulted, the breadth of the groups consulted, and depth of those consultations vary. When consulted, groups may provide input and insight, but they do not have the authority to decide what records have archival value. The archivists stressed this point, with one of them stating:

> … [archivists] make it very clear whenever we meet with government institution that their input may be welcome in terms of identifying the information value to them as part of the operational purpose. As part of business process analysis, you have to sit and talk to a user and a creator and find out why that piece of information is important to them for their job. And that's where it stops. [Archivists] are the ones that decide through appraisal what is going to survive for the long-term preservation and what is not. (S01)

In short, only archivists make archival appraisal decisions.

Although archivists are responsible for authorizing the disposition of records, archivists are not responsible for specifying when organizations are expected to transfer their archival records to the archives. In other words, archivists are not responsible for establishing record retention parameters. However, the archivists have expertise and experience that positions them to understand various factors that should be considered when defining retention periods. When requested and where possible, archivists may share provide advice to records mangers to inform them of relevant considerations for the organizational retention of records. One of the ways archivists do this is through a set of tools, known as GVTs, which include suggested retention periods for various types of government records.[8]

Although archivists are not responsible for setting organizational retention periods, the archives have the authority to compel the transfer of archival records in situations where the records are deemed at risk of damage or destruction. According to the archivists, the archives do not have a precedent for taking this action.

Archivists are not involved in monitoring or enforcement activities related to disposition of records. As one another archivist stated: “We don’t have archives police” (S01). Another archivist shared the anecdote “I’ve had people tell me to my face ‘I’m going to destroy these records’ or ‘I did destroy these records, what are you going to do about it?’” (S01).

Archivists contribute towards several other activities related to the appraisal of records. When organizations conduct disposition activities that include the transfer of archival records to the archives, archivists are responsible for facilitating the acquisition

[8] For more information about the GVTs, see section 5.2.2. Generic Appraisal.

of the archival records. Archivists also contribute to the development of disposition policy, participate in an institutional disposition committee, develop tools for conducting appraisal, publish information about disposition and appraisal on the government website, provide input on EDRMS considerations for transfer of archival records, as well as respond to questions related to appraisal and disposition from the public.

5.1.2 Records Managers

Organizations are responsible for managing records under their control. Within the organization, records managers are responsible for records management activities. This included the development and application of the record retention schedule and disposition activities.[9] The degree to which records managers are involved in retention and disposition activities vary from repository to repository. In cases where records managers have administrative control over a repository, they are able to provide more hands-on support. In these cases, they are also able to design and implement controls within the system to facilitate retention and disposition tasks. In cases where records managers lack administrative privileges to a repository, they are limited in how they can support the retention and disposition of records within it.

For example, the records managers are responsible for administering the organization's EDRMS.[10] Since the records managers have administrative control over the repository, they are able to design and implement controls to retain and dispose of records stored within it. On the other hand, there are record repositories (such as email, shared drives, and special web platforms) where records managers have no

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[9] For more information about retention schedules see section 5.2.4. Retention Schedules.

[10] For more information about EDRMS, see section 5.2.5. Electronic Document and Record Management Systems.

administrative control. As a result, they are unable to implement controls related to retention and disposition in these repositories.

Records managers also contribute to several other activities related to the appraisal of records. They develop and maintain records management controls (e.g. classification scheme, retention schedule, EDRMS folder structure, EDRMS metadata, etc.). Records managers also provide advice and training about records management within their organization. For example, there is a course referred to as “what to keep and what to delete” (S03) that is intended to educate employees on how to appraise records for business value or transitory value.

5.1.3 Employees

Employees are responsible for assessing the value of the records they create and receive. If a record has business value, it must be captured in a suitable repository. If a record has transitory value, the employee may either store it in a suitable record repository or destroy it if it is no longer operationally required. Employees store records in several repositories including but is not limited to email, EDRMS, shared drives, email, and other web platforms.

Employees are responsible for following established protocols when entering records in record repositories. The specific steps vary based on the repository. In order to capture a record in the EDRMS, the employees must select where the file is to be stored and enter metadata to describe the file (e.g. title, document type, language). These decisions impact the classification, retention, and disposition of the records.

Employees also contribute to the appraisal of government records in other ways. For example, employees may be invited to provide input in the development and

maintenance of various appraisal-related tools, such as disposition authorizations, retention schedules, and EDRMS configurations. In some cases, employees proactively reach out to records managers to notify them of significant changes to their operations which could impact organizational records management controls. There are also some employees who provide additional support to colleagues in their units with tasks such as assessing the information under their control and using the EDRMS.

5.2 Strategies and Tools

The second research question seeks to understand the strategies and criteria used to appraise government records. To answer this question, the findings have been separated into two parts. The first part is the theories, methodologies, strategies, and tools that are used. The findings for this subsection draw on data collected from the three data collection methods (i.e. semi-structure interviews, cognitive inquiry exercises, and document analysis). Since all three data collection methods yielded information about the strategies and tools used to appraise government records, the interpretive themes resulting from the three types of data analysis are presented and discussed under the following themes.

5.2.1 Macroappraisal

Archivists use Terry Cook's macroappraisal to assess records for archival value. With macroappraisal, the value of a record is based on the context in which the record was created. In order to analyze the context of creation, archivists seek to understand how records are generated, how they relate to other records, how they interact with groups, and how they impact the people of Canada. In order to understand these factors, archivists research the records. This research involves collecting and reviewing

documentation about organizations, functions, activities, and subject areas. This includes consulting missions, mandates, legislation, organizational structures, policies, disposition authorities, and transfer records that pertain to the records. The goal is to identify the sites most likely to generate archival records. This macro-level approach enables archivists to identify records with archival value without examining them document by document.

Archivists work with organizations to obtain documentation as necessary. They do not have a standard list of required documents, but examples of documentation commonly obtained from the originating organizations include: legacy program alignment architectures, functional decompositions, business process analysis maps, classification schemes, retention schedules, lists of information resources of business value, and reports produced as part of the management accountability framework. Archivists are flexible when obtaining information that could help them carry out their archival appraisal.

When using macroappraisal to appraise records, the assessment must be rooted in a structure that provides a broad context for situating the appraisal. It is important for the structure to make sense to the archivists who conduct the archival appraisal of the records as well as the organizations that would carry out the disposition activities for those records. Suitable structures may be organization-based, activity-based, or subject-based. There are several government-wide frameworks that provide useful reference points for conducting macroappraisal. Examples include the: Management Accountability Framework (MAF), Program Alignment Architectures (PAA), and

Directive on Recordkeeping.[11] The availability and quality of the documentation related to these frameworks varied across government organizations. Some government organizations, such as crown corporations, are not required to produce PAAs so these organizations lacked related documentation. In addition, PAAs vary in quality, are not stable over time, and are no longer in effect at the time of the study. As a result, the archivists underscore the need for flexibility when seeking sources from organizations to inform their macroappraisal.

5.2.2 Generic Appraisal

Archivists and records managers use the GVTs to support their respective appraisal activities. The GVTs outline common government functions, activities, IRBV, and retention considerations. They are organized by function and activity then list IRBV commonly generated as part of those activities. They also provide a suggested retention period and retention trigger for the records based on a generalized assessment of constraints and considerations such as legislation, regulations, and policies.

Archivists may consult the GVTs when conducting archival appraisal. However, the GVTs do not account for organization-specific factors. As a result, the GVTs do not replace the archivists' need to examine the organization-specific contexts or structures that may affect the archival value of the records. However, the GVTs reduce duplication of effort related to appraising common government activities. This allows archivists to focus on the organization-specific functions, activities, contexts, and structures.

[11] At the time of the study, PAA and MAF do not apply to all federal government organizations. The Directive on Recordkeeping applied widely across government organizations at the time of the study but it was replaced by the Directive on Service and Digital and the Policy on Service and Digital on April 1, 2020.

Records managers also consult the GVTs for their appraisal activities. Since the GVTs contain information about common functions, activities, IRBV, and retention parameters, they are useful starting points for the development of organizational retention schedules. However, the GVTs are not intended to replace organization-specific retention schedules. They are unsuitable to do so because they do not cover all functions, activities, or IRBV, and they do not root their analysis in a specific organizational context. Records managers can consult the GVTs when developing retention schedules while ensuring they account for their organization's specific needs and requirements.

5.2.3 Disposition Authorizations

Archivists document their archival appraisal decisions in disposition authorizations. Disposition authorizations sanction the disposition of government records. They specify whether the records must be transferred for long-term preservation or whether they may be disposed of using another method (e.g. destruction or alienation). A disposition authorization may apply to a single organization (a.k.a. an institution-specific disposition authorization, ISDA) or multiple organizations (a.k.a. a multi-institution disposition authorization, MIDA). In the case of ISDAs, the disposition authorization centers around the work activities of one particular organization. In the case of MIDAs, the disposition authorization centers around activities or records generated by more than one organization. Government organizations are typically subject to multiple disposition authorizations because some disposition authorizations apply across government organizations.

Disposition authorizations are the product of an archival appraisal. Previously, it took an average of two and a half years to complete an archival appraisal and produce a disposition authorization. According to the participating archivists, the government archives acknowledged that many of their DAs were outdated in response to an audit from 2014. The archives modernized their approach to developing and updating disposition authorizations. They split the process of developing a disposition authorization into two parts. The first part is an initial, high-level appraisal that identifies activities that may produce archival records. The initial reviews are done primarily through the archivists' research, with little to no consultation. After the initial review, the first part of the disposition authorization is issued. This authorizes the destruction of non-archival records and pauses the destruction of potentially archival records until a second review is complete. Part two involves an in-depth validation of activities flagged as potentially producing archival records. In this validation, archivists closely examine the activities to identify government records they deem to have archival value. Since implementing this new approach to issuing disposition authorizations, the archives are able to produce them more efficiently.

5.2.4 Retention Schedules

Retention schedules outline an organization's record retention rules. A retention schedule may be organized based on the organization's functional classification scheme. These retention rules are designed to ensure the records are maintained to meet operational needs and comply with timelines established in legislation, regulations, policy instruments, and other requirements. In addition to identifying retention rules, retention schedules often mention the authorized disposition method for each series of

records based on the relevant disposition authorization. The retention schedules evolve over time to reflect changes to internal and external requirements that affect the records.

5.2.5 Electronic Document and Records Management Systems

Organizations store their records in a variety of repositories. Record repositories vary by organization, but examples include: EDRMS, emails, shared drives, and other web platforms. EDRMS are designed to support records management activities. For example, organizations can leverage the folder structure to arrange records according to their organizational owner and function. Folders can also be assigned classification values and record series identifiers. This approach enables the organization to link records to the organization's classification scheme and retention schedule. The organization can also use custom controlled metadata fields. For example, a "document type" field for employees to select a document type when they add a record to the system. When a record is added to a folder, it may inherit metadata from the folder by default or it may rely on employees to enter metadata values.

In the organization under study, employees are required to capture records with business value in a suitable record repository, such as the EDRMS. When uploading a record to the EDRMS, the employee selects the folder where the record will be stored. Based on this selection, the record inherits a classification code. The employee is also required to select a document type from a list of over 100 options. Some metadata is automatically applied but can be modified. For example, the system will suggest the default document language, which can be modified as required. Once these metadata are applied to the record, the system is designed so that the combination of these

values inform the retention and disposition of the record. Once configured, the records manager can run reports to identify which records are eligible for disposition in the EDRMS. The development and maintenance of the controls in the EDRMS require ongoing effort. As organizational structure change, business processes transform, and organization requirements for managing records evolve, the controls in the EDRMS must be updated to ensure they reflect the latest realities and requirements.

However, it is important to note that the EDRMS is not the only repository used to store records. In fact, several types of records were not suited for the EDRMS. For example, some records had security designations that surpassed the maximum security level permitted in the EDRMS, some datasets were not supported in the EDRMS, and some records were captured in separate special systems. Alternative repositories for storing government information included shared drives, local machines, email system, and proprietary computer applications. As a result, the approach of managing records in EDRMS does not apply to all of the organization's information holdings.

5.3 Criteria and Indicators

The second research question seeks to understand the strategies and criteria used to appraise government records. To answer this question, the findings have been separated into two distinct sections. The second section includes the criteria and indicators that are used to appraise the value of government records. The findings for this subsection draw on data collected from the three data collection methods (i.e. semi-structure interviews, cognitive inquiry exercises, and document analysis). Since all three data collection methods contained information about the strategies and tools used to

appraise government records, the findings are discussed thematically and are presented in paragraphs.

5.3.1 Archival Value and Non-Archival Value

A record either has archival value or does not. This study uses the terms "archival value" and "non-archival value" as the labels for archival appraisal decisions.[12] The archival appraisal decisions are based on macroappraisal which assesses the value of a record based on the context of creation. Macroappraisal seeks to identify the sites that are most likely to generate archival records. There are four criteria that are commonly considered during macroappraisal: significance, societal impact, sufficiency, and sustainability.

The significance of records is based on the extent the record contains informational, intrinsic, or legal value. Informational value is based on the information about events, ideas, people, or places captured in the record. In order for records to be deemed archival based on their significant informational value, the records must be created, collected or maintained exclusively by the federal government. In addition, the records must have national significance, which means they "substantially enrich our understanding about Canada's history, society, culture, ideas, and people at the level of nation-wide prominence or major national activity" (S21). Examples of records with significant informational value include: patents of inventions, shipwreck registers, and wildlife observational data. Intrinsic value refers to records that have aesthetic or high monetary value. This applies to a very small fraction of records but examples include: sealed proclamations and hand-painted scrolls. Legal value refers to records with

[12] The terms "archival value," "historical value," and "enduring value" are used interchangeably in some contexts.

significant implications for legal actions. Examples of records with significant legal value include land records. In addition, some records may be subject to a legal requirement for on-going or permanent retention. In cases where the government has a legal requirement to keep records, the archives may acquire them to support their long-term maintenance and preservation.

The societal impact of records is based on the extent the records demonstrate the impact of a function or program on an institution, government, or Canadian society. It can be assessed using functional analysis or based on the function or program's prominence in annual reports, profiles of cabinet minister, parliamentary debates, commissions, tribunals, court appeals, and media coverage. Another factor is the level of seniority of the senior official responsible for the function or program.

The sufficiency criterion seeks to identify enough records with enough value without accepting all records. As one archivist mentioned "it comes back to that key principle of sufficiency. We might love to keep everything but we just can't" (S01). There is a consistent consideration for limiting the amount of archival content to "sufficient evidence." Sufficiency also sought to avoid collecting duplicated or overlapping records where the overlap did not contain significance.

Sustainability was another criterion used to appraise records for archival value. This criterion centers around acquiring records the archives have the resources to maintain, preserve, and make accessible. It considers factors which may hinder the long-term preservation of and accessibility to these records such as: technical limitations, costs associated with preservation and access, and legal impediments

related to preserving and sharing the records. The archivists also emphasize that the archives are publicly-funded so they are mindful of how government spends its money.

Another criterion, known as the fifth “s” is suitability. It centers around whether the government archives are the appropriate institution to preserve a series of records. The archivists consider this criterion redundant in the context of archival appraisal of federal government records because the government archives are responsible for the long-term preservation of archival government records. As one archivist said, “Frankly, the fifth S never works for any of us in government. And we got quite upset about it because we are the [government archives] so suitability is a no-brainer for us” (S01). From this perspective, they are the suitable destination for archival government records.

Other criteria used in the context of archival appraisal include: authenticity, dates and time span, completeness and comprehensiveness, extent, fixity, relationship to other records, uniqueness, usability, manipulability, and physical conditions.

5.3.2 Business Value and Transitory Value

This study uses the terms “business value” and “transitory value” as the two labels for records management appraisal decisions. Business value is defined as “created or acquired because [the records] enable and document decision-making in support of programs, services and ongoing operations, and support departmental reporting, performance and accountability requirements” (S17). Transitory value is defined as an absence of business value. For example, one of the documents described transitory records by stating:

> Transitory records are not of business value. They may include records that serve solely as convenience copies of records held in a government institution

> repository, but do not include any records that are required to control, support, or document the delivery of programs, to carry out operations, to make decisions, or to provide evidence to account for the activities of government at any time. (S24)

The categories “business value” and “transitory value” are binaries. This means that a record either has business value or transitory value.

Records are assessed for business value at two points. First, the employee who creates, receives, or collects the record during their work activities appraises it for business value. This is record-level appraisal. Second, records managers appraise the record in the context of its record series for business value. This is series-level appraisal.

There are several criteria and indicators used to assess business value at the record level. Common criteria include: record owner, evidence of decisions, transactions, legal activities, financial activities, record status, and record audience. These criteria and their descriptions are presented in the table below.

Table 3

Criteria and indicators used to assess business value at record level

Name	Description
Owner	The individual that is responsible for the creation, receipt, or collection of the record
Decision	Evidence of an approval, decision, or direction Evidence of advice, recommendation, justification, or context for key decisions
Transaction	Evidence of an action or transaction Evidence of common output for an activity

Legal	Pertains to legal activities
Financial	Pertains to financial activities
Status	Final or fixed version
Audience	Intended for senior government official, executives, external client, or public

The criteria used to assess business value at the record level also apply at the series level. For series-level appraisal, there is a greater emphasis on the structural and functional assessment of the organization and its record series. The criteria at the series level are: record owner, function, activity, document type, and status.

Table 4

Criteria used to assess business value at series level

Name	Description
Owner	The unit that is responsible for the creation, receipt, or collection of the record
Function	The broad business function that is served by creation, receipt, or collection of the record
Activity	The narrow business activity that results in the creation, receipt or collection of the record
Document Type	The specific document type based on the record's purpose, content, and format
Status	The condition of completeness for the record based on expected or actual developments

Records with transitory value are records that lack business value. They may be useful to complete a task, contribute to another document, or evolve into another

document. There are several indicators used to signal transitory value. These criteria include: personal (non-work-related), duplicate information, inferior version, routine task, and non-owner. The following table identifies the criteria used to identify records with transitory value.

Table 5

Criteria and indicators for transitory value

Criteria	Description
Personal	Pertains to personal (i.e. non-work-related) activities Pertains to private professional activities
Inferior Version	Record is an exact copy or duplicate Record is better captured elsewhere, in another record or in another repository (i.e. more reliable, trustworthy, contextualized, concise) Record is a partial version that contains no unique evidence of the decision-making process (e.g. recommendations, directions)
Routine task	Record is generated as part of a routine task Record is generated as part of scheduling or coordination Record is generated to acknowledge thanks or compliment for routine task
Non-owner	Record is the responsibility of another individual or unit

Records pertaining to the individual's personal life are widely understood as transitory. Examples include records related to personal appointments and correspondence with family or friends about non-work topics. This also includes records that pertain to private professional activities. For example, emails from job boards and emails about obtaining or providing letters of reference.

Another criterion for assessing transitory value revolves around the concept of inferior versions. Records with multiple versions may have superior and inferior versions. This includes records that contain similar, same, or related information. A superior version refers to a record which contains the most complete and contextualized representation of a record and its information. In order to determine which record is the superior version, individuals consider whether other there are other records that contain the same, similar, or related information as well as other records stored in other record repositories. For example, duplicates are commonly recognized as having transitory value based on them being an inferior or redundant version. Many records were identified as having only transitory value based on the information being better represented elsewhere.

Another criterion used to assess the transitory value of records is whether the record is generated as part of a simple and routine task. Examples of records that could be deemed transitory based on this criterion include: electronic calendar documents, emails about scheduling meetings, and emails offering thanks for completing routine tasks. In addition, some of this information may be captured elsewhere.

Finally, transitory value is also assessed based on the record owner. Similar to archival value, distinguishing between records with business value and transitory value relies in part on an assessment of the office of primary interest. If an individual does not consider themselves or their unit responsible for a record, and they could reasonably expect someone from the responsible unit to have access to another version of the record, the individual could deem their version as transitory. As a result, the same

record could be considered transitory value to one individual and business value to another individual.

In addition to these general criteria used to assess business value and transitory value, several indicators were suggested as tips for conducting appraisal for records management purposes. The suggested indicators include: file format, history of electronic record (i.e. audit trail), last accessed, modified date, and author. These could provide some information about the record and its use.

6. Discussion

This chapter presents an interpretation of the findings. It suggests that the appraisal of government records occurs at three levels – the record level, the series level, and the archives level. The research refers to these three levels as microappraisal (record level appraisal), mesoappriasal (series level appraisal) and macroappraisal[13] (archives level appraisal). The discussion section outlines the individuals and activities involved in each of these layers.

6.1 Microappraisal – Appraising at the record level

Microappraisal refers to appraisal activities at the record level. Employees conduct microappraisal as part of their day-to-day work. They are responsible for capturing records with business value in suitable record repositories based on operational needs and records management requirements. This means they are expected to recognize whether or not an individual record has business value. In addition, employees may need to make decisions regarding the description, arrangement, and classification of a record when they capture it in a repository. These decisions also impact the record's overall appraisal.

For example, an employee must select the appropriate folder location when they upload a record to an EDRMS. The EDRMS folder structure may organize records based on the organizational structure, functional classification scheme, retention schedule, and other factors. Records can then inherit information based on the parent folder where they are stored. The employee may also apply metadata (such as the file

[13] The term "macroappraisal" is also widely known for being an archival appraisal strategy developed by Terry Cook. However, in this integrated appraisal model, the term "macroappraisal" is used to refer to appraisal activities at the archives level.

name, document type, and language). By carrying out these tasks, the employee is making decisions about the description, arrangement, and classification of the record. These decisions impact the retention and disposition of records.

This example demonstrates how the microappraisal activities conducted by employees as part of their day-to-day work significantly impact the appraisal of government records. As a result, it is essential that employees make informed and accurate appraisal decisions. In some cases, employees are able to carry out these activities quickly and easily. In other cases, employees struggle to conduct microappraisal. The employees may struggle with deciding whether a record has business value or transitory value, where to store the record, or how to describe it. If an employee makes an incorrect decision, it could result in the loss of government records due to misclassification or destruction.

Unfortunately, employees face significant challenges with making microappraisal decisions. First, employees are confronted with a constant flow of records. Since employees are focused on their primary work objectives, the need to assess, sort, and organize records is often considered a secondary task. In addition, employees perceive records management as onerous and time-consuming. As a result, records management duties are sometimes neglected or rushed, so there is a risk that these tasks are completed poorly or omitted altogether.

Another challenge for employees is subjectivity. Several employees expressed that microappraisal decisions are subjective. When asked to describe how they appraise records, employees said they rely on their knowledge and experience to know whether or not a record has business value. They also said it is a skill they refine over

time. This suggests that new or less experienced employees are at a disadvantage when it comes to making well-informed and well-rounded appraisal decisions at the record level.

Although several employees acknowledged that appraisal was a skill they developed over time, employees also mentioned that units occasionally delegate appraisal-related tasks (such as capturing legacy records in the EDRMS) to short-term staff (such as students or term employees). From one perspective, this could seem like a reasonable task for new or short-term employees since appraisal activities are decentralized which suggests that any and all employees should be capable of carrying out this work. However, employees agreed that staff who were new to their roles were in a worse position to make sound appraisal decisions.

Levels of user acceptance towards the EDRMS also factor into appraisal activities. The level of user acceptance varies widely. EDRMS culture varies between different units and different employees within the same unit. Some employees consider the system user-friendly and conduct their records management duties without complaints. Other employees express that the system is non-user-friendly, creating barriers to completing their records management tasks. These users are more likely to avoid using the system. If employees avoid the system, they are likely abstaining from routinely capturing records with business value in this designated records repository.

Several employees identified issues and opportunities to improve the EDRMS. For example, employees admit they feel the folder structure based on the organizational structure and the functional classification scheme is difficult to navigate. They feel the top-level folders (controlled by records managers and based on organizational structure

and functional classification scheme) are unintuitive. Employees express that finding and sorting records in the system is challenging. Although records managers attempt to design folder structures that are as user-friendly as possible, it is difficult since records managers also need to ensure the EDRMS architecture aligns with the organization's RM controls. Records managers attempt to provide greater flexibility at lower-levels of the folder structure to empower employees to create and use substructures that make sense to them. However, this resulted in folder proliferation which employees feel is unruly and difficult to navigate. Employees also identified their struggles with selecting a document type when capturing a record in the EDRMS. With approximately 100 options, employees find the list both too long and not long enough. There are concerns that some options are too detailed while other options are too vague. Some employees advocate for eradicating the list. However, the records managers rely on the document type for descriptive metadata in order to ensure the holdings can be managed according to organizational RM controls. Records managers therefore decided it is necessary to keep this mandatory metadata field. This highlights the need for records managers to juggle multiple priorities when designing the EDRMS folder structures.

Records managers could work with units to improve the usability of the EDRMS. However, some complaints are outside of the control of records managers. For example, employees expressed concerns regarding poor connectivity, non-functioning features (such as drag and drop), poor interfaces (such as visual clutter due to how document versions were displayed), and confusing terminology (such as the names of actions or buttons in the system). These issues negatively impact the user experience and the user acceptance of the system. Unfortunately, records managers do not have

control over these aspects and are therefore very limited in how they could address these issues.

An employee's decision to capture a record in the EDRMS was not strictly objective. There were incentives and deterrents. If an employee feels storing a record in the EDRMS is useful because it allows their colleagues to more easily access the record, the employees are more likely to store it there. On the other hand, if the employee felt storing the record in the EDRMS provided little benefit, they are less interested in storing their records in the system. For example, employees with poor connectivity to the EDRMS are reluctant to save their records in the system because they worry they do not have reliable access to the records.

The rules around storing transitory records in the EDRMS are less clear than the rules for storing records with business value. When it comes to records with transitory value, employees are permitted to store them in records repositories but they are not required to store them there. Records managers recommend that employees store transitory records in the system if the employee is uncertain or they believe the record may be useful to others. As such, the decision to capture transitory records in the system is based on the perceived usefulness of the record for work purposes and the perceived usefulness of the system as a storage location. The perceived benefits of the system as a storage location are based on individual attitudes, acceptance, and avoidance of the system. Employees who are comfortable using the EDRMS and believe there are advantages to storing their information in a central place seem more likely to capture records they perceive to be useful in the system. Employees who do not feel comfortable using the EDRMS, feel there are significant barriers to using the

system, and feel they are the only person who needs to access the information seem less likely to store transitory records in the EDRMS.

Overall, microappraisal activities are complicated by the individual needs, preferences, and RM competencies of the employees carrying out the task. In fact, when employees were asked to appraise records for business value during the cognitive exercises, employees consistently veered away from assessing whether the record contained business value. Instead, employees commonly reflected on whether they considered the record useful. There were many criteria to judge the perceived usefulness of records. Examples of considerations for evaluating the perceived usefulness of a record included: whether the employee anticipated the need to easily access the record, whether the employee anticipated the need to keep it for their own memory, or whether the employee anticipated the need to reuse this information as a template for similar work in the future. These were not the same criteria that were to be used to recognize business value. However, it appeared that the employee's decision of whether the record was useful to them influenced how the employee actioned the record, specifically in regards to capturing the record in record repositories.

6.2 Mesoappraisal – Appraising at the series level

Mesoappraisal refers to appraisal activities at the series level. It is commonly undertaken by records managers, who assess record series in order to identify business value and establish RM controls such as classification schemes, retention schedules, and EDRMS. Mesoappraisal assess records at the series level based on ownership, activities, and evidence.

Records are stored across several repositories, including email, EDRMS, cloud platforms, local drives, shared drives, personal storage devices, and other systems. Records managers do not have access to all repositories where records are stored. This makes it challenging for them to develop, maintain, and implement sufficient controls for the records. In addition, RM functionality varies significantly between systems. In fact, many repositories lack sophisticated RM features altogether.[14] For example, shared drives do not have functionality related to applying classification schemes or retention metadata. This means records managers are limited in the approaches they can use to manage content in these repositories.

From an RM perspective, the EDRMS is the system best designed to support the long-term management of organizational records. It has sufficient functionality to support classification, retention, and disposition activities. In addition, records managers are highly involved in the day-to-day administration of the EDRMS. This means records managers can integrate RM controls such as the functional classification scheme and retention schedules into the EDRMS. Records managers are also able to control custom metadata fields as needed.

Many EDRMS are commercial off-the-shelf products as opposed to custom-built, in-house solutions. As a result, records managers have limited control over some of the technical and design aspects of the system. For example, records manager cannot modify the navigation controls (e.g. breadcrumb trail, search bar, filters), input controls (e.g. checkboxes, lists, toggles), and informational components (e.g. icons, notifications, error messages). It is therefore difficult to design a system that meets complex

[14] Many record repositories used to store records lack adequate RM features because records managers are not consistently consulted during the procurement process of special information repositories.

requirements for capturing, organizing, retaining, and disposing of records that is also reasonably user-friendly.

Since employees are expected to capture, sort, and label records, the system needs to be sufficiently user-friendly for non-RM specialists. Otherwise, there is a risk that employees will avoid capturing records in the system or will do so incorrectly. To mitigate against these risks, records managers acknowledged the role of educating employees on how to use RM tools such as the EDRMS. Records managers can help employees carry out their RM tasks by developing and providing training, support services, and reference materials (e.g. information sheets, workflow maps, decision trees, checklists, infographics).

A key output of mesoappraisal is organizational retention schedules. Retention schedules outline the retention triggers (i.e. circumstances that initiated the retention period) and retention periods (i.e. the duration of time the records are to be maintained within the originating organization after the retention trigger occurs) for records under the originating organization's control. Retention specifications must meet operational needs and comply with applicable legislation, regulations, policy instruments, and other requirements. In some cases, retention periods and triggers for a specific subset of records are clearly articulated in a source. In many cases, records retention specifications are not clearly articulated. In these cases, it is up to the organization to establish suitable retention triggers and periods. Once established, record series and their respective retention specifications can be converted into record series identifiers (RSIs) which can be integrated into repositories (such as the EDRMS) to align record holdings with retention and disposition rules.

Establishing organization retention periods and retention triggers can be challenging. Retention triggers vary widely, but examples of common retention triggers include superseded and last administrative use. Depending on the record series, organizations may use other retention triggers such as file closed, end of event, end of program, end of study, end of survey, assessment completed or abandoned, and many others. Since retention triggers typically refer to a future event with an unknown date, the dates cannot be pre-programmed in the system. In addition, there is no automated or sophisticated solution to track the occurrence of these events. This means there is no efficient way to monitor or update when retention triggers have been met in order to initiate the retention period for the relevant record series.

In addition, retention triggers may refer to events that are expected to take place in the distant future and retention periods may be very long. Records managers lightheartedly joked that they would be retired before the records would have completed their retention period. As a result, records managers may feel that implementing approaches for conducting retention and disposition activities is less of a priority compared to other work activities. The tendency to delay the establishment of retention controls may pose a problem. The longer the records lack adequate retention controls, the more difficult it may become for subsequent records managers to establish control over legacy holdings.

In the past, organizations were provided with multi-institutional disposition authorizations (MIDAs) that included retention specifications for records series. However, more recently issued disposition authorizations do not contain information about retention periods and triggers. Instead, organizations are responsible for

establishing their own retention specifications. The GVTs outline suggested retention triggers and retention periods for many common government records based on an analysis of requirements in government legislation, regulation, and other sources. The GVTs are a resource available to records managers for developing and maintaining retention specifications for common government records, however, they do not cover all types of government records nor do they provide authorization to destroy records.

The disposition method (i.e. destruction, alienation, or transfer to government archives) is another component commonly included in organizational retention schedules. It is also known as the “fate” of the record. The disposition method is based on whether the records have archival or non-archival value. Records with archival value are to be transferred to the government archives, whereas records without archival value are to be destroyed by the originating organization or alienated to an external institution. Government organizations may only dispose of government records if they have authorization from the government archives. This ensures the archives have an opportunity to conduct archival appraisal prior to the destruction or alienation of government records.

6.3 Macroappraisal – Appraising at the archives level

Macroappraisal refers to appraisal activities at the archives level. The objective is to identify records with archival value. Archivists are responsible for conducting archival appraisal. They use the archival appraisal theory and methodology named macroappraisal, developed by Terry Cook. Archival appraisal activities involve research. The objective is to assess the relative importance of government activities and

determine which sites are most likely to generate records that best demonstrate the impact of key government activities.

When carrying out research activities, the archivists consult several sources. They collect readily available sources and they may request additional information from organizations. Archivists leverage many frameworks and tools to facilitate the collection of relevant documentation. Examples of documentation that is commonly collected from organizations include classification schemes and retention schedules however archivists are flexible when collecting documentation. The archivists may consult with government employees to gather additional information. For example, archivists may meet with senior executives or subject matter experts. During these consultations, organizations are confronted with questions related to governance structures, the flow of accountability for various activities, and how their organization controls the creation and flow of the records and records they generate. These consultations make the organizations more aware of their responsibility to the archives. They also draw attention to the organization's information management practices. In doing so, archival appraisal activities often raise the profile of the archivists as well as the organization's records managers.

Archivists acknowledge the importance of good information management in government institutions. Organizations with good information management programs could provide archivists with stronger documentation. Documentation pertaining to the organization's records with business value, such as classification schemes and retention schedules, are especially useful since archivists agree records with archival value are almost always a subset of records with business value. However, there are

exceptions. There are cases where records could be considered transitory by employees but may be deemed as having archival value by archivists.

This highlights one challenge with macroappraisal activities. Archivists rely on government organization to have a certain degree of IM maturity before the archivists can conduct archival appraisal. But organizations often have limited IM resources which makes it challenging for them to advance their IM maturity. The mandate for the government archives includes some language that they are to provide guidance on information management. However, the direction is less precise and has less clear precedent compared to other elements of the mandate. One archivist said:

> There are other portfolios where the IM situation is very complicated. So that can require a lot of time. I think that can be very frustrating for us because it's not something that is as directly tied to our mandate. But there are certain cases where we understand that providing a certain amount of assistance is required in order for us to get the records. (S01)

The archives provide some tools that double IM guidance tools such as the GVTs. However, archivists voiced concerns over becoming further involved in IM support services.

Archivists are also mindful of access or preservation activities when selecting records with archival value. Examples of records that may pose significant burden on archival access or preservation activities include records subject to legal restrictions that are ineligible for public access, records with complex technical requirements that complicate the ability to maintain and provide access to the records, and records with a high cost of preservation. Archivists grapple with challenges of acquiring electronic

government records with archival value given the technical limitations of common systems. Archivists are aware of potential gaps related to the transfer of records from common government EDRMS. For example, there are limitations around the ability to import or modify metadata to reflect the true history of the record. This poses major concerns for archivists.

Archivists also champion the importance of complying with disposition authorizations. Archivists acknowledged there were some occasions where employees from government organizations declared their disobedience. One of the archivists described these experiences by saying:

> I've had people tell me to my face 'I'm going to destroy these records' or 'I did destroy these records, what are you going to do about it?' Seriously, I've sat in an office and had someone say 'well, they told me to shred it. So I shredded it.' What are you going to do? They're gone. (S01)

This is an example of how archivists occasionally face defiance from originating organizations. On the other hand, unauthorized destruction can also be accidental. As stated by one of the archivists, "if civil servants might decide, even through the best training and regulations, that this record is transitory and misfile it – … or delete it.… Then suddenly all the best archival appraisal in the world will not provide this record." (S01). Disposition authorizations contain some language to acknowledge consequences and compliance however the lack of respect towards the unauthorized destruction of government records as well as the lack of perceived consequences highlights a significant issue. The archivists do not conduct regular monitoring or compliance. In addition, there is language in the legislation that gives the archives the power to compel

the transfer of archival records that are deemed to be at risk. However, there was no precedent for taking this action.

Finally, archivists are occasionally confronted with the question: “why not keep everything?” At this time, there is a practical need to limit the number of records that are subject to preservation activities. First, because preservation activities are expensive. The high cost of preservation activities means they are only to be undertaken in cases where the cost to Canadian taxpayers could be justified based on the value of the information. Second, because the information is only as valuable as it is findable. The greater the volume of records the greater the need for tools and services related to access and retrieval. Access tools and services are also expensive. The need to manage access services within current resource levels means records should only be acquired with due consideration for access levels.

7. Conclusion

This chapter concludes the research. It summarizes the contribution of the study, presents suggestions for future research, and concludes with final remarks.

7.1 Contribution

This research outlines the roles and responsibilities of archivists, records managers, and employees to appraise government records. It also provides insight into the strategies and criteria used to appraise records for archival value or non-archival value as well as business value or transitory value. The interpretation of these findings suggest that appraisal consists of three interconnected layers – microappraisal, mesoappraisal, and macroappraisal – and outlines the individuals and activities involved in each of these layers. In doing so, the research presents an integrated model on the appraisal of government records which it provides insight into the interconnections between employees, records managers, and archivist in the context of appraisal activities.

7.2 Further Research

Several areas would benefit from further research. First, while archival appraisal and macroappraisal have a large body of research literature to support their theoretical and practical applications, the other types of appraisal were less prevalent in the research. Additional research could explore the theoretical underpinnings and practical applications of microappraisal and mesoappraisal. A greater body of research in these areas would support the development of technological solutions to facilitate appraisal tasks at these levels.

Second, the topic of training was frequently mentioned both in the literature and by the participants. Some research provides practical recommendations for effective training (such as small groups, workshop environments, etc.). However, further research on information management training could provide valuable insight into how to design and delivery information management in a way that maximizes the effectiveness of the training.

Third, there is limited research on retention and disposition activities. The research that exists centers around traditional approaches to retention and disposition that were originally designed for paper records. Additional research into retention and disposition programs could provide insight into how these programs operate and highlight opportunities to transform practices to meet the evolving needs of organizations.

Last but not least, given the limited size and scope of this research project, it would be beneficial to conduct a similar study that includes more organizations and more participants per organization. A larger sample of organizations and participants could contribute to a deeper and more detailed understanding of appraisal practices. This larger study could reveal the similarities and differences between government organizations. This broader study could inform scalable solutions to support the accurate and consistent appraisal of records across government organizations.

7.3 Concluding Remarks

Organizations create, receive, and collect a large amount of records. Every one of these records contains valuable information. However, the permanent retention of all records requires an exorbitant amount of time, money, and resources. As a result,

appraisal remains essential at this time for selecting which records to keep and how long to keep them. These appraisals include microappraisal decisions made at the record level, mesoappraisal decisions made at the series level, and macroappraisal decisions made at the archives level. Although these appraisals may take place separately, they are interconnected and sound appraisal outcomes rely on all three levels.

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Appendix A: Ethics Certificate 2017

File Number: 02-17-07 **Date (mm/dd/yyyy):** 04/07/2017

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Inge	Alberts	Arts / Others	Principal Investigator
Erica	Vanden Bosch	Arts / Others	Student Researcher

File Number: 02-17-07

Type of Project: Professor

Title: Collaborative Appraisal Practices and Automated Records Classification: A Study of Email Management in the Government of Canada

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
04/07/2017	04/06/2018	Approval

Special Conditions / Comments:
N/A

550, rue Cumberland, pièce 154 Ottawa (Ontario) K1N 6N5 Canada
550 Cumberland Street, room 154 Ottawa, Ontario K1N 6N5 Canada
(613) 562-5387 • Téléc./Fax (613) 562-5338
www.recherche.uottawa.ca/deontologie/ www.research.uottawa.ca/ethics/

Appendix B: Ethics Certificate 2018

File Number: 02-17-07 Date (mm/dd/yyyy): 04/07/2017

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: http://research.uottawa.ca/ethics/submissions-and-reviews.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: http://research.uottawa.ca/ethics/submissions-and-reviews.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

Name and signature redacted

Protocol Officer for Ethics in Research
For Barbara Graves, Chair of the Social Sciences and Humanities REB

550, rue Cumberland, pièce 154 Ottawa (Ontario) K1N 6N5 Canada
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Appendix C: Recruitment Letter for Organizations

uOttawa

Université d'Ottawa | University of Ottawa
École des sciences de l'information | School of Information Studies
http://www.esi.uottawa.ca/ | http://www.sis.uottawa.ca/

AGREEMENT EMAIL

Subject: Participation in a Research Project to Improve Email Management

The ongoing exponential growth of our information society has propelled email as a crucial communication tool for large organizations. This rapid adoption has left conventional approaches developed for managing paper-based records of business value ill-equipped to handle the fact that now three quarters of an organization's business-critical data is in email form. The resulting challenges to organizational performance, governance and employee satisfaction have already resulted in serious ramifications such as corporate collapses, malpractice exposures, security breaches and organizational knowledge loss.

To better apprehend these challenges, a research project aiming to understand the employees' perception of the "business value" concept as defined in the 2009 Directive on Recordkeeping is being conducted. This two-year project is under the supervision of Inge Alberts, assistant professor at the School of Information Studies of the University of Ottawa. It is funded by the Social Sciences and Humanities Research Council of Canada.

This email aims to solicit your organization's participation in this research project. I would like to meet ten of your employees for individual interviews. Each interview will last one hour and fifteen minutes and will entail ten to forteen questions related to the concepts of information value and email management practices. Aditionnaly, the participants will also be asked to participate to an email triaging exercice where they will verbalize their thoughts on their decision process and the criteria they use to determine whether a specific email message has business value. With the participant's consent, the researcher will then collect the messages that were classified during this exercize.

Your organisation's participation in this study will lead to the development of systems that will better assist the daily work activities related to email classification. This research will provide innovative solutions to better preserve email of business value. For our society, preserving authentic information contributes to its identidy and memory which is at risk of being lost due to digital volatility.

Thank you in advance for your attention to this request.

Best regards.

Inge Alberts
Assistant Professor, School of Information Studies
University of Ottawa
Telephone: 613-562-5800, ext. 7082
E-mail: ialberts@uOttawa.ca

Appendix D: Recruitment Letter for Participants

uOttawa

Université d'Ottawa | University of Ottawa
École des sciences de l'information | School of Information Studies
http://www.esi.uottawa.ca/ | http://www.sis.uottawa.ca/

EMAIL RECRUITMENT INVITATION

Subject: Participation in a Research Project to Improve Email Management

The ongoing exponential growth of our information society has propelled email as a crucial communication tool for large organizations. This rapid adoption has left conventional approaches developed for managing paper-based records of business value ill-equipped to handle the fact that now three quarters of an organization's business-critical data is in email form. The resulting challenges to organizational performance, governance and employee satisfaction have already resulted in serious ramifications such as corporate collapses, malpractice exposures, security breaches and organizational knowledge loss.

To better apprehend these challenges, a research project aiming to understand the employees' perception of the "business value" concept as defined in the 2009 Directive on Recordkeeping is being conducted. This two year project is under the supervision of Inge Alberts, assistant professor at the School of Information Studies of the University of Ottawa. It is funded by the the Social Sciences and Humanities Research Council of Canada.

This email aims to solicit your participation to this research, in order to understand how you appraise the value of email and other records in your daily work. Your participation will consist of attending one interview lasting one hour and fifteen minutes. The interview will cover different aspects related to the concept of information value and email management as corporate records. You will also be asked to participate to a classification exercize for a period of thirty minutes. During this experiment, you will be asked to verbalize your thoughts while determining if a message has business value or not. The researcher will then collect the messages you classified during this exercize.

Name and position redacted has provided their consent to conduct this research in the organization. As a potential participant, please note you are not obliged to participate even if your name has been provided.

If you are interested in participating, please reply by email. Your participation in this study will lead to the development of systems that will better assist the daily work activities related to email classification. This research will provide innovative solutions to better preserve email of business value. For our society, preserving authentic information contributes to its identidy and memory which is at risk of being lost due to digital volatility.

Thank you in advance for your attention to this request.

Best regards.

Inge Alberts
Assistant Professor, School of Information Studies
University of Ottawa
Telephone: 613-562-5800, ext. 7082
E-mail: ialberts@uOttawa.ca

Appendix E: List of Documents

Document	Web Address[15]
Library and Archives Canada Act	https://laws-lois.justice.gc.ca/eng/acts/L-7.7/index.html
Policy on Information Management	https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=12742
Directive on Information Management Roles and Responsibilities[16]	https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=12754
Directive on Recordkeeping[17]	https://www.tbs-sct.canada.ca/pol/doc-eng.aspx?id=16552
The Government Records Disposition Program of Library and Archives Canada: Program synopsis	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Pages/program-synopsis.aspx
Government Records Disposition: Frequently Asked Questions (FAQs)	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Pages/faq.aspx
Appraisal Methodology: Macro-Appraisal and Functional Analysis Part A: Concepts and Theory	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Documents/Macroappraisal PartA.pdf
Appraisal Methodology: Macro-Appraisal and Functional Analysis Part B: Guidelines for Performing an Archival Appraisal on Government Records	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Documents/Macroappraisal PartB.pdf
A Brief History of the LAC Macroappraisal Methodology for Government Records	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Pages/macroappraisal-methodology.aspx
Multi-Institution Disposition Authorizations (MIDAs)	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Pages/mida.aspx

[15] The web addresses are provided for convenience. The links and content may change.

[16] This policy instrument has been replaced by the Policy on Service and Digital.

[17] This policy instrument has been replaced by the Policy on Service and Digital.

Document	Web Address[15]
Disposition authorization 2016/001 for transitory records	https://www.bac-lac.gc.ca/eng/services/government-information-resources/disposition/Documents/DA-2016-001-transitory-records.pdf
Generic Valuation Tools	https://www.bac-lac.gc.ca/eng/services/government-information-resources/guidelines/generic-valuation-tools/Pages/introduction.aspx

Appendix F: List of Sources

Source Name	Source Code
Interview – Archivists	S01
Interview – Records manager 1	S02
Interview – Records manager 2	S03
Interview – Records manager 3	S04
Interview – Employee 1	S05
Interview – Employee 2	S06
Interview – Employee 3	S07
Exercise – Records manager 1	S08
Exercise – Records manager 2	S09
Exercise – Records manager 3	S10
Exercise – Employee 1	S11
Exercise – Employee 2	S12
Exercise – Employee 3	S13
Document – Library and Archives Canada Act	S14
Document – Policy on Information Management	S15
Document – Directive on Information Management Roles and Responsibilities	S16
Document – Directive on Recordkeeping	S17
Document – The Government Records Disposition Program of Library and Archives Canada: Program Synopsis	S18
Document – Government Records Disposition – Frequently Asked Questions (FAQs)	S19
Document – Appraisal Methodology: Macro-appraisal and functional analysis Part A: Concepts and Theory	S20
Document – Appraisal Methodology: Macro-appraisal and functional analysis Part B: Guidelines for Performing an Archival Appraisal on Government Records	S21
Document – A Brief History of the LAC Macroappraisal Methodology for Government Records	S22
Document – Multi-Institution Disposition Authorizations	S23
Document – Disposition Authorizations 20016/001 for transitory records	S24
Document – Generic Valuation Tools	S25

Appendix G: List of Codes

Level 1	Level 2	Level 3 (Examples)
Roles and Responsibilities	Archivists	e.g. archival appraisal, issue disposition authorizations, provide advice, compel transfer…
	Records Managers	e.g. establish RM controls, provide RM training…
	Employees	e.g. assess record, capture record, delete record…
	Other	e.g. government oversight organization, senior management, external contractor…
Strategies and Tools	Methodologies	e.g. macroappraisal, generic valuation tools…
	Disposition	e.g. disposition authorization, validation exercise…
	Retention	e.g. retention schedule, record series identifiers…
	Organization	e.g. classification, metadata, naming convention…
	Storage	e.g. repository [EDRMS, shared network drive…]
Criteria and Indicators	Archival or non-archival (archives)	e.g. significance, societal impact, sufficiency, sustainability, suitability, fixity, uniqueness…
	Business or transitory (series)	e.g. owner, function, activity, document type, status, inferior version, routine task…
	Business or transitory (record)	e.g. record owner, decision, transaction, status, audience, personal record, inferior version…
Themes and Characteristics	Context	e.g. subjective, depends on who, depends on when…
	Collaboration	e.g. cooperation, teamwork…
	Challenging	e.g. uncertainty, confusion, gray area, non-intuitive…
	Cyclical	e.g. circular, iterative, recursive…

Appendix H: Semi-Structured Interview Guide

Title of the study: **Collaborative Appraisal Practices and Automated Records Classification: A Study of Email Management in the Government of Canada**

Name of principal investigator:
Inge Alberts
Assistant Professor, School of Information Studies
Telephone: 613-562-5800, ext. 7082
E-mail: ialberts@uOttawa.ca

Name of research assistant:
Erica Vanden Bosch
Master of Information Studies Student, School of Information Studies
E-mail: [redacted per instructions]

SEMI-STRUCTURED INTERVIEW

I - INTRODUCTION

Thank the Participant

- First of all, I would like to thank you for your participation in this interview.

Research Introduction

- In 2009, the Treasury Board of Canada released the *Directive on Recordkeeping*. The *Directive* asks all federal institutions to identify their information resources of business value.
- The process of determining whether a piece of information has value is referred to as the appraisal process.
- This study has two purposes. First, to better understand how employees determine the value of information. Second, to develop a model that could be used to automate part of the classification process.
- The information collected in this interview may also be used for a Master's thesis.

Conditions of Confidentiality and Anonymity & Consent Form

- The interview will be audio-recorded to facilitate the analysis of data.
- All information collected during this interview will remain anonymous and will be treated confidentially. Only the main researcher and the research assistants will have access to the data.
- Here is the consent form that specifies the conditions of confidentiality and anonymity. Please read it and sign it to certify that you agree to participate in the research.

[Read the consent form to the participant and ask him/her to sign]

II - INSTRUCTIONS

The interview will take one hour and fifteen minutes. I will follow a structured questionnaire to be sure to ask all the necessary questions.

During the interview, I may ask you to repeat what you just said. This is to clarify, supplement or validate information. The goal is to make sure I understand your answer correctly. There are no right or wrong answers to the questions. You are the expert. I just want to understand how you determine the value of information.

Do you have any questions before we begin?

[Answer the questions and continue]

[Start recording the interview]

III - QUESTIONS

1. Indicate your position title and main responsibilities.
2. In your work, do you have responsibilities related to the evaluation or appraisal of record? What are they?
3. Explain in your own words, what is the meaning of *business value*, *transitory value,* and *enduring value*
4. Can you walk me through the process you use to determine the value of a record, in broad terms?
5. Do you use the same process as described above to determine the value of an email message?
6. What does an authentic record mean to you?
7. Do you collaborate with other people or institutions when making appraisal decisions?

(Only for records managers and archivists)

8. What are the differences between preserving digital records for a long time in comparison to paper-based records?

IV - CONCLUSION

Is there anything else you would like to tell me about your appraisal practices or criteria to appraise information value? Please share any other comments that you think may be relevant for this research.

V - THANK THE PARTICIPANT

Thank you for your time. The information provided during this interview is very important for the success of this research.

Appendix I: Participant Consent Form

uOttawa

Université d'Ottawa

Faculté des arts

École des sciences de l'information

University of Ottawa

Faculty of Arts

School of Information Studies

tél/tel. 613 562-5130
téléc/fax. 613 562-5854

55, av. Laurier est
55 Laurier Ave East
Pièce/Room DMS 11101
Ottawa ON K1N 6N5 Canada
www.sis.uOttawa.ca

Title of the study: **Collaborative Appraisal Practices and Automated Records Classification: A Study of Email Management in the Government of Canada**

Name of principal investigator:
Inge Alberts
Assistant Professor, School of Information Studies
Telephone: 613-562-5800, ext. 7082
E-mail: ialberts@uOttawa.ca

Name of research assistant:
Erica Vanden Bosch
Master of Information Studies Student, School of Information Studies
E-mail: [redacted per instructions]

Invitation to Participate: I am invited to participate in the abovementioned research study conducted by Inge Alberts. The project is funded by the Social Sciences and Humanities Research Council of Canada.

Purpose of the Study: In 2009, the Treasury Board of Canada released the Directive on Recordkeeping. The Directive asks all federal institutions to identify their information resources of business value. The process of determining whether a piece of information has value is referred to as the appraisal process. This study has two purposes. First, to better understand how employees determine the value of information. Second, to develop a model that could be used to automate part of the classification process. The data collected may also be used for the research assistant's Master's thesis.

Participation: My participation will consist of attending one interview lasting one hour fifteen minutes. The interview will cover different aspects related to the concept of value and email management as corporate records. I will also be asked to classify my own messages, for a period of thirty minutes. During this experiment, I will be asked to verbalize my thoughts while determining if a message has business value or not. Both the interview and the classification exercise will be audio recorded to facilitate the analysis. The interview and the classification exercise have been scheduled for: _____

Risks: I understand my participation in this study entails risks that may affect me in my work. I may feel stressed or anxious by the fact that my emails will be examined by a research team. If my inbox contains incriminating emails about a colleague or colleagues (and this information surfaces), this may also affect my relationship with the individual(s) mentioned in the email(s). To minimize these risks, I am aware that I have the opportunity to remove any emails that I do not feel comfortable being examined by the researchers. I can also decide to withdraw my participation to this study at any time.

Benefits: My participation in this study will lead to the development of systems that will better assist the daily work activities related to email classification. This research will provide innovative solutions to better preserve email of business value. For society, preserving authentic information contributes to its identity and memory which is at risk of being lost due to digital volatility.

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Faculté des arts

École des sciences de l'information

University of Ottawa

Faculty of Arts

School of Information Studies

Confidentiality and anonymity: I have received assurance from the researcher that the information I will share will remain strictly confidential and anonymous. I understand that the content will be used only for research purposes and that my confidentiality and anonymity will be protected. Even the senior manager who provided my name for this research will not know if I agreed to participate. Each research participant will be assigned a number and only members of the research team will have the list of participants and the number that has been granted. No information that can identify me in one way or another will be published. The individuals who will have access to the data and names of the email owners will be: the Principal Investigator (Prof. Inge Alberts) and a research assistant (Erica Vanden Bosch) from the University of Ottawa. The research assistant will sign a confidentiality agreement.

Conservation of data: The data collected comprises the audio recording of the interview and the classification exercizes, the textual transcripts of these audio recordings, and notes taken during the research. Digital research data will be kept secured on a research computer protected by a password, a firewall and an up-to-date anti-virus. Only the main researcher and the research assistants will have access to this computer. The matrix linking the name of the participants to the anonymous code will also be protected by a password. The data will be backed-up on an external drive that will be protected by a password. The computer, the hard drive, the USB key and the audio-recorder memory (smart card) will be locked in the main researcher's office in a dedicated file cabinet on the campus of the University of Ottawa. Paper based data will also be locked into this file cabinet. The data collected during this research will be kept 7 years starting at the end date of the project. After this date, the data will be securely destroyed. Only data that does not identify the participant may be retained after this date.

Voluntary Participation: I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be securely destroyed.

Acceptance: I, _____, agree to participate in the above research study conducted by Inge Alberts of the School of Information Studies, Faculty of Arts, University of Ottawa.

If I have any questions about the study, I may contact the principal investigator.

If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5, Tel.: (613) 562-5387, Email: ethics@uottawa.ca

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: _____
Date: _____

Researcher's signature: _____
Date: _____

tél/tel. 613 562-5130
téléc/fax. 613 562-5854

55, av. Laurier est
55 Laurier Ave East
Pièce/Room DMS 11101
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Appendix J: Cognitive Inquiry Guide

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École des sciences de l'information | School of Information Studies
http://www.esi.uottawa.ca/ | http://www.sis.uottawa.ca/

Title of the study: **Collaborative Appraisal Practices and Automated Records Classification: A Study of Email Management in the Government of Canada**

Name of researcher: **Inge Alberts**
Assistant Professor, School of Information Studies
Telephone: 613-562-5800, ext. 7082
E-mail: ialberts@uOttawa.ca

COGNITIVE INQUIRY

I- INTRODUCTION

Thanking the Participant

- First of all, I would like to thank you for participating in this research.

Research Introduction

- In 2009, the Treasury Board of Canada released the *Directive on Recordkeeping*. The *Directive* asks all federal institutions to identify their information resources of business value.
- The process of determining whether a piece of information has value is referred to as the appraisal process.
- This study has two purposes. First, to better understand how employees determine the value of information. Second, to develop a model that could be used to automate part of the classification process.
- The information collected in this interview may also be used for a Master's thesis.

Conditions of Confidentiality and Anonymity & Consent Form

- The interview will be audio-recorded to facilitate the analysis of data.
- All information collected during this interview will remain anonymous and will be treated confidentially. Only the main researcher and the research assistants will have access to the data.
- Here is the consent form that specifies the conditions of confidentiality and anonymity. Please read it and sign it to certify that you agree to participate in the research.

[Read the consent form to the participant and ask them to sign]

II- INSTRUCTIONS

The exercize will last thirty minutes. It consists of a classification exercize of email messages you have recently sent and received. Think aloud and verbalize your decisions while classifying records according to two different categories: "business value YES" or "business Value NO".

I would like to know your thoughts and decisions while appraising the value of each message as well as the characteristics of email that guided you making this decision. I would like you to express all the thoughts that go through your head, whether or not related to the appraisal and classification process. Talk as continuously as possible.

It is important to think out loud. Try to act as if you are alone and you are talking to yourself out loud. Try to speak spontaneously, rather than thinking silently and then describing your thoughts. If you remain silent for too long, I will ask "please, keep talking" to remind you to verbalize your thoughts.

In this type of exercize, there are no right or wrong answers. What interests me is to know your thoughts and strategies to appraise the value of email. You can say whatever comes into your head, without hesitation, as this information will remain confidential. If it happens that you prefer not to classify a message for privacy reasons, you can simply move to the next message.

Do you have any questions before we begin?

[Answer the questions and continue]

III- EXPERIMENT

Part 1

I will ask you first to classify email messages you have received recently, assessing which ones have business value or not. Think aloud and verbalize your decisions while classifying records according to these two different categories.

I will ask you to concentrate your thoughts on the decision process and the email characteristics that are guiding your decisions. You can simply drag and drop each classified message in the corresponding folder: 'business value YES' or 'business Value NO'.

You can start to think aloud as soon as you feel ready.

Do you have any questions before we begin?

[Answer questions]

The audio recording begins now.

[Start recording experience]

Part 2

Please classify email messages you have recently sent. I will ask you to concentrate your thoughts on the decision process and the email characteristics that are guiding your decisions.

You can simply drag and drop each classified message in the corresponding folder: 'business value YES' or 'business Value NO'.

[During the experiment, if the participant is silent for more than fifteen seconds, use the directive "please, keep talking"]

IV- THANK THE PARTICIPANT

Thank you for your time. The information provided during this experiment is very important for the success of the research.