A RISK INFORMATION REPOSITORY

A Case Study at the Canada Border Services Agency

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ABSTRACT

Background: Undertaking an integrated risk management framework entails putting in place various components in order to achieve success. One key element is a risk information repository structure that supports the process of risk information management. This thesis conducts an exploratory study of how a risk information repository supports an integrated risk management framework reach organizational objectives using a single-case study research approach of the Canada Border Service Agency.

Results: To understand the importance or need for the risk information repository system, an environmental research scan was conducted on CBSA's external and internal business environment. As a result, it was observed that an organization needs to be able to share risk information across all levels horizontally and vertically in order to make certain that risk management practices are integrated and supported using an ***Integrated Risk Management Framework***. The study allowed us to understand the importance of having a risk information repository as a supporting communication element within an organizational structure in which risk-information and risk-informed decisions are crucial in the delivery of its everyday operational business.

Conclusions: Through an exploratory study, this thesis was able to articulate the role of a risk repository as a communication supporting tool and its ability to influence key elements in an organization in order to support risk-informed decisions. Recommendations are provided to continue the creation of knowledge in the area of a risk information repository system by conducting an explanatory research to identify the various types of risk information required for an effective and efficient risk information repository system.

DEDICATION

This thesis is dedicated to all individuals that along the journey of this path have left an everlasting impression in my life. To my family, my husband Alan Rodriguez, son Brody, parents Rosa and Jose, in-laws Luis and Alejandra Rodriguez and my cousin Yuliana Ortiz, their support and unconditional love have help me become a better individual. I have learned to enjoy life and look at the brighter side of things. Money or success is nothing if it is not shared. One must remain optimistic and always aim at reaching a good balance internally and externally.

I would also like to thank all my friends that have helped me throughout this very long process of learning. To my friend NESSY and Michael who have given me the means to continue when this did not seemed feasible or attainable, I thank you both for your encouragement and friendship. To my best friend Xiomara who is always there when I need her.

Lastly, I would like to make a special dedication to my colleague Bruce Meredith, whom I owe many thanks for his contribution and knowledge brought to the area of this study. He has taught me to think strategically and without him the findings of thesis would not be possible. He is a true public servant who has dedicated his entire career in making a difference in changing Canadian lives through his analytical skills that I only hope to attain in the process of my career. He has a wealth of knowledge and is "a walking encyclopedia". This thesis is a reflection of all his hard work and knowledge. He is a true pioneer in the area of integrated risk management.

ACKOWLEDGEMENTS

First, I would like to acknowledge professor Said Boukendour for his knowledge and encouragement to "think outside of the box". His advice and guidance has taught me not to have fear or concern when delving into areas of the "unknown". He is one of the few individuals that have taught me to look at alternative ways of thinking. His contribution to the area of organizational studies is based on always keeping in mind "reliability" and "validity". The learning and analysis of this thesis was based on his encouragement to use a rigorous methodology which was the stepping stone in bringing new knowledge to this new area of integrated risk management. For this and also for his advice, help and support throughout this long journey I very much thank him.

I would also like to acknowledge my former team members in the Risk Management Unit at the CBSA; Dominic Demers, Bruce Meredith, Hooman Motamed and Jason Lutes. Their work, guidance and support should be acknowledged as their contribution is what made this research become a success. A special note is given to my former manager Dominic in giving me the chance to attain my goals and the opportunity in merging science and practical experience. His belief in my work and my skills has taught me to look at things using a more simplistic wide lens.

Lastly, I would also like to acknowledge my husband Alan Rodriguez for helping me gather all the information needed to make a preliminary data gathering analysis. His devotion and support is what made this thesis possible. Love you always.

TABLE OF CONTENTS

ABSTRACT i
DEDICATION ii
ACKOWLEDGEMENTS iii
TABLE OF CONTENTS iv
Table of figures vi
Chapter 1 1
1.1 Introduction 1
1.2 Significance of the problem 3
1.3 Purpose 4
1.4 Relevance of study 5
CHAPTER 2 7
2.1 Research Methodology 7
2.2 Research design 8
2.2.1 Study's research questions 9
2.2.2 Defining the study's propositions 10
2.2.3 Defining the unit of analysis 10
2.2.4 Linking data using a sequence model 12
2.2.5 Strategy for Presenting case study findings 24
2.3 Research reliability and validity 25
2.4 Ethical issues 26
CHAPTER 3 27
3.1 Introduction 27
3.2 The Need for an IRMF 27
3.3 Managing Results: Canadian Government Initiative 28
3.4 Why use an integrated risk management approach? 30
3.5 An integrated Risk Management Framework for Canadians 31
3.6 Pertinent Elements of Risk Management 36
3.7 Risk Management Practices: An overview 38
3.7.1 Risk Management Model: United Kingdom – HM Treasury 38
3.7.2 Risk Management Process: Australia and New Zealand Standards 41
3.7.3 COSO Enterprise Risk Management: Integrated Framework 43
3.8 An Opposing View on Risk Management within the Public Service 45
3.9 Literature Review Overview 47
CHAPTER 4 49
4.1 Introduction 49
4.2 A Risk Information Repository within its Business Context 50
4.2.1 External environment 50
4.2.2 internal environment 55
CANADA BORDER SERVICES AGENCY 56
INTEGRATED RISK MANAGEMENT FRAMEWORK (IRMF) BACKGROUND 57
DESIGN OF AN IRMF FOR CBSA 59
OVERVIEW 68

4.3 A Risk information Repository System as a Supporting communication Tool for the CBSA's IRMF 69
4.3.1 What is a risk information repository system? 69
4.4 Discussion of Results 79
References and Bibliography 86

TABLE OF FIGURES

Figure 1: Sequence Model for Research Design 12
Figure 2: Elements of Organization (Gelinas, M & James, R 1993:1) 14
Figure 3: Convergence of Evidence (Yin, 2009:117) 16
Figure 4: Sources of Evidence 17
Figure 5: Chain of Evidence (Yin, 2009:123) 18
Figure 6: Conceptual Model for Case Study Analysis 21
Figure 7: Four Management Commitments (TBS - Results for Canadians, 2000:5) 29
Figure 8: Risk Management Model (HM Treasury - Orange Book, 2004:13) 39
Figure 9: Risk Management Process (Standards Australia & Standards New Zealand, 2004:9) . 42
Figure 10: Enterprise Risk Management - Integrated Framework (COSO, 2004:5) 45
Figure 11: Results-based Management (CBSA – Director's Forum, 2009:13) 52
Figure 12: Linking Risk Information Repository to External Environment 55
Figure 13: Integrated Risk Management Infrastructure (INTERIS for CBSA - IRM Handbook, 2008:3) 59
Figure 14: CBSA Integrated Risk Management (IRM) Framework (INTERIS for CBSA - Integrated Risk Management Handbook, 2008:5) 62
Figure 15: The Risk Assessment Process (INTERIS for CBSA - Integrated Risk Management Handbook, 2008:11) 64
Figure 16: Risk Management Process (INTERIS for CBSA - IRM Handbook, 2008:5) 66
Figure 17: CBSA IRMF Governance & Stakeholder Map 68
Figure 18: Risk Information Repository Analysis Results from Database 71
Figure 19: Suggested ORE Structure for the CBSA (INTERIS for CBSA - Integrated Risk Management Handbook 2008, p. 7) 75
Figure 20: Conceptual Model for the Risk Information Repository as a Supporting Communication Tool 84

CHAPTER 1

1.1 INTRODUCTION

Currently, the federal Canadian public sector is in the process of changing its management culture to one that incorporates risk management practices as a way of strengthening accountability and administering better results. (TBS, 2000:10) Consequently, all departments and agencies are required to implement an ***integrated risk management framework***; a comprehensive and cohesive enterprise-wide approach that integrates risk management practices across all levels of an organization to manage organizational risks more proactively. (DeLoach, 2000:5) This way a holistic view of the challenges and opportunities can be used to support better strategic decisions that will help reach organizational objectives more effectively and efficiently. (TBS, 2001:10)

Undertaking an integrated risk management framework entails putting in place various components in order to achieve success. One key element is a risk information repository structure that supports the process of risk information management. An organization needs to have the necessary tool to be able to capture, manage and report the required risk information to the appropriate levels so that the management and sharing of risks may be effectively supported. (Interis, 2008:2)

Putting in place a risk information repository to support an integrated risk management framework is not a simple undertaking. An integrated risk management framework is a multi-dimensional approach that incorporates all levels of the organization; vertically and horizontally.

(TBS, 2001:10) Hence, adding an element to support this type of government-wide initiative is very challenging, especially when it involves understanding various aspects of an organization and its environment. For this reason, the need to establish a relationship between an organization and its business environment internally and externally is an important step before developing or purchasing such a system. Canadian federal departments and agencies must recognize that adopting or adding an element such as a risk information repository is an endeavour that requires a greater understanding of the context of its operating surroundings. (PMBOK, 2000:4)

At this moment, the Government of Canada is still in the early stages of capturing and developing the appropriate and necessary learning components in order to assist all its departments and agencies with an integrated risk management initiative. Most Canadian federal institutions have acknowledged the need for a risk information repository. Unfortunately, understanding its role as a supporting element in an integrated risk management framework is an area that needs to be explored on a wider basis.

The aim of this thesis is to conduct an exploratory study of how a risk information repository supports an integrated risk management framework reach organizational objectives using a single-case study research approach. An exploratory case study will allow us to delve into areas and dimensions that require an in-depth examination by means of a holistic design. (Denzin and Lincoln, 1994:236) The goal is to understand the role of a risk repository as a communication supporting tool and its ability to influence key elements in an organization in order to support risk-informed decisions.

To do this, this thesis will describe the Canadian Government's recent efforts to implement an integrated risk management framework across all its central agencies and departments. Necessary background information will be provided to understand concepts that are used in an integrated risk management approach such as the necessary tools, risk methodologies and standards. Next, a case study on the Canada Border Services Agency will demonstrate efforts required in implementing an integrated risk management framework. More explicitly, using a theoretical diagnostic model, this thesis will do an examination of the elements that are influenced by a risk repository system to outline and better understand its function. Furthermore, this thesis will attempt to integrate risk information as part of an overall approach to best risk management practices.

1.2 SIGNIFICANCE OF THE PROBLEM

Now that the Canadian public service is requiring departments and agencies to implement an integrated risk management framework, there will be a sudden need for risk information repositories. Currently, there are many vendors who specialize in these risk information systems that are generic enough to support any organization. Unfortunately, in most cases, there is a disparity in how successful this can be accomplished. The problem arises when generic systems are not able to properly integrate into an organization's business environment because most of the time the vendor or client does not have the full scope of the system's objectives. (Duden, 1996:33) Because risk repository systems are relatively new to the public service, most departments and agencies find it difficult to understand how this system can meet their needs. It is not evident that its role has been explicitly explored. For this reason, Canadian public sector

organizations must not only acknowledge the need for a risk repository but rather comprehend its significance as a supporting communication instrument to share valuable risk information in order to meet organizational objectives more effectively and efficiently.

1.3 PURPOSE

The purpose of this study is to explore the role of a risk information repository as a supporting communication tool when implementing an ***integrated risk management framework***. Since this framework is a Canadian government initiative that is in the early stages of conception, the findings of this study will tap into a new area of risk management that focuses particularly on decision-making and risk information. Most Canadian departments and agencies have only begun to focus their efforts in addressing this area of enquiry. Understanding how risk information changes the way an organization makes better decisions is an important field worth exploring.

As such, the objectives of this research study are as follows:

- To bring a greater understanding of a risk information repository not as an isolated element but as a system surrounded and influenced by its business context.
- To create the appropriate links between a risk repository system, an ***integrated risk management framework*** and elements of the organization that are involved in realizing organizational objectives using risk-informed decisions.
- To depict the role of a risk repository system and its relation to risk information as a way of improving organizational objectives and supporting risk-informed decisions.

- To analyse elements of the organization such as core goals and values, structure, work processes, strategy, systems, people and skills and culture in order to understand how risk information changes the way an organization makes better decisions.
- And lastly, with the use of an organizational theoretical framework, this study will aim at making an "analytic generalization" (Yin, 2009:38) pertaining to the role of a risk information repository as a supporting communication tool.

1.4 RELEVANCE OF STUDY

Implementing an integrated risk management framework is a priority for organizations of the Canadian public sector. Research has been conducted on the different elements that support this framework. However, little attention has been placed to address these questions:

- How does a risk information repository support an integrated risk management framework in achieving risk-informed decisions as part of an integrated risk management approach?
- And why is it important for organizations to delineate the importance of having such a system for the process of making risk-informed decisions?

The goal is to conduct an exploratory study that will establish a greater understanding how a risk repository supports an ***integrated risk management framework*** in order to define its function as a risk-information communication tool.

Also, given the lack of theory and practical understanding to guide organizations towards a risk management change, the importance of doing this research study will deepen our understanding using a practical approach. By using an application of case study research, this thesis will attempt to provide departments and agencies in the Canadian federal public sector an understanding of the importance of integrating a risk information repository system in their operational working environment as a supporting communication tool. That is, developing or purchasing a system such as risk information repository without considering the organization's working environment, the business need for such a system and its role as a supporting organizational communication tool may hinder the system from integrating properly. Organizations need to be assured that having a risk information repository will at end support their needs and objectives.

CHAPTER 2

2.1 RESEARCH METHODOLOGY

The research questions for this study were exploratory in nature and lent themselves to the use of a qualitative single case study design, which was appropriate for the intended purpose and scope of this investigation.

Case study research is mostly preferred when the study under inquiry consists of a detailed investigation that aims at providing an in-depth analysis of both the subject and the context that are relevant to organizational behavior. (Cassell and Symon, 2004:323) In this research study, the intent was to understand an organization as a whole in its natural setting or context. (Cassell and Symon, 2004:323) That is, we needed to be able to capture how a risk information repository influences elements of an organization such as core goals and values, structure, work processes, strategy, systems, people and skills and culture in order to have a richer understanding of its role as a supporting communication tool using an organizational perspective.

As mentioned, taking on an initiative such as an ***integrated risk management framework*** is a new and challenging way of improving risk management capabilities across all levels of an organization. (TBS, 2001:10) It is a process that aligns processes, people, strategies, technology and knowledge under one framework. (DeLoach, 2000:24) Conducting an exploratory study based on a single case study allowed us to analyse and generate rich and detailed accounts of a particular establishment and its efforts to implement such an initiative. (Lee, 1999:54) This opened the door to being able to analyse the context that influences and defines "how" and

"why" a risk information repository is needed as a supporting element when implementing an ***integrated risk management framework***. (Yin, 2009:27) That is, depict the role of a risk repository system and its relation to risk information and risk-informed decisions within an organizational structure.

2.2 RESEARCH DESIGN

The research methodology that was used to complete this study follows the case study research design model outlined by the author Robert K. Yin.

As author Yin (2009:3) states, the goal of case study research is to collect, analyze and present data in a fairly manner. The idea is to use a rigorous methodological path that allows the researcher to connect empirical data to the study's research questions. (Yin, 2009:26). According to Yin, this path includes five components that together make up a solid research design. (Yin, 2009:27) The following is a brief description of the five steps taken to address all objectives and purpose of this thesis:

1. Defining the study's questions;
2. Defining the study's propositions;
3. Defining the unit of analysis;
4. Developing a model that links the data to the propositions;
5. And defining a strategy for interpreting and presenting the findings;

2.2.1 STUDY'S RESEARCH QUESTIONS

Defining the research questions is the most important step in developing a good quality research design. It provides the rationale that determines the nature in which the study will be conducted. (Yin, 2009:10)

The research questions for this thesis were put together to reflect the purpose and scope of the intended investigation. The goal was to understand a particular complex system that required an in-depth analysis related to organizational research. My aim as a researcher was to explore a new area of study that provided an opportunity to examine all aspects related to a risk information repository system as a supporting communication tool. That is, the role and meaning of this system as part of an ***integrated risk management framework***; a Canadian federal government initiative that integrates risk management practices across individual public sector organizations as a way of reaching organizational objectives using risk-informed decisions. (TBS, 2001:10)

Since there was no literature found on the functionality of a risk information repository as a communication tool to support risk-informed decisions from an organizational-wide perspective, the starting basis for this study could not be built on the work of other research. This study was therefore a stepping stone in understanding "how" and "why" a phenomenon such as a risk information repository system was worth exploring.

2.2.2 DEFINING THE STUDY'S PROPOSITIONS

Conducting an exploratory research study can be difficult, especially when the research area to cover is an area of study in which the boundaries and context are not evident or have not been clearly defined. (Yin, 2009:18) Examining the role of a risk information repository as a supporting element in an ***integrated risk management framework*** is a wide topic to cover in the extent of one thesis. For this reason, the importance of having propositions as a way of defining the boundaries was critical to keeping the subject of this study within a reasonable scope. With the use of a theoretical framework, this research study was constrained to only focus on the role of a risk information repository as a supporting communication tool in relation to risk information and risk-informed decisions. This then created clarity to the type of evidence that needed to be collected as well as provide a general basis and or criteria for the analysis and interpretation of the findings. (Yin, 2009:28)

2.2.3 DEFINING THE UNIT OF ANALYSIS

The unit of analysis that was chosen for this research study was based on the following scope or criteria:

1. The organization had to be a department or agency from the federal Canadian public sector;
2. The organization needed to have an approved integrated risk management framework that follows the Treasury Board of Canada Secretariat's guidelines and recommendations;
3. The organization needed a risk information repository as an element in its approved framework;

4. Access to archival records such as documents, reports, studies, evaluations and plans from the organization had to be easily attained;

The case study was based on the Canada Border Services Agency (CBSA); a Canadian government agency that has recognized the need to improve its risk management practices and has made it a priority to implement an ***integrated risk management framework*** due to the nature of its inherent risk-based operational business. That is, the agency operates in a volatile environment and has a mandate that is complex. Risk needs to be incorporated in the decision-making process of its everyday operational activities. (CBSA-DPR, 2008:8)

Currently, the agency has an approved ***integrated risk management framework*** which was put together based on the Treasury Board of Canada Secretariat's guidelines and recommendations with the help of Interis Inc; a professional consulting firm that is well known for its integrated risk management services. In addition, this framework also has a risk information repository system as a supporting communication tool, hence, making the agency an ideal candidate for this exploratory single-case study.

Having the opportunity of being part of an integrated risk management team at this agency also gave me the chance to have a direct participatory role in capturing and providing all the necessary and additional information needed for an in-depth analysis for this research project. My functional role as a junior risk analyst gave me the opportunity to contribute some theoretical and practical value to this new area of study that is still in the early stages of development.

2.2.4 LINKING DATA USING A SEQUENCE MODEL

The sequence model is the key in determining what data needs to be collected and sets the appropriate strategy for analysis. (Yin, 2009:32) It is a general map that defines the techniques required to collect, analyze, and link the observations to the study's propositions.

The following sequence model was designed and used as a guiding tool for the process of conducting this research study.

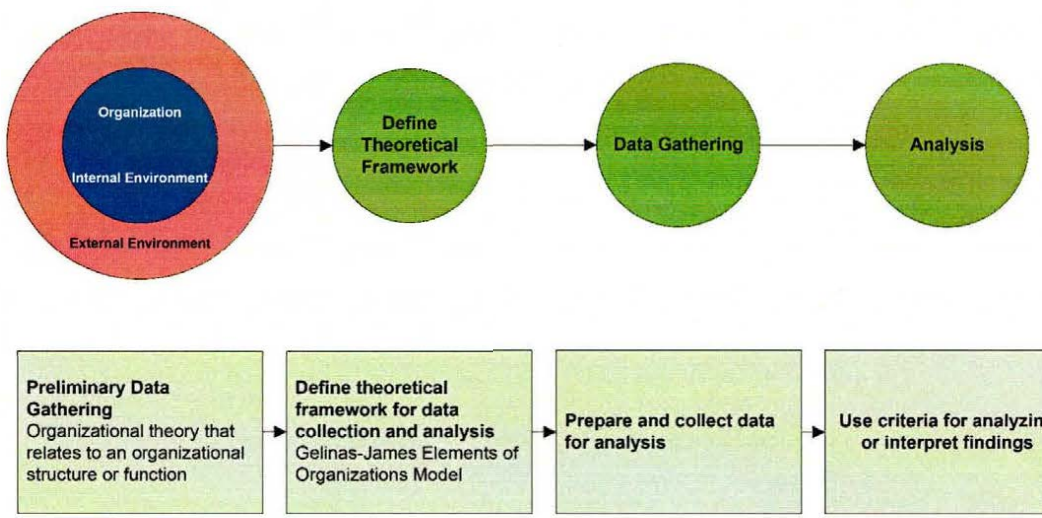


Figure 1: Sequence Model for Research Design

Preliminary Data Gathering

Prior to defining the research questions, a preliminary data gathering phase was included in the process of conducting this research study. My objective as a researcher was to start reviewing information related to the area of integrated risk management in order to understand the basic concepts, terminology and methodological issues relevant to a risk information repository not as an isolated element but as a system surrounded and influenced by its operating context. I needed to create a link between a risk repository system and an ***integrated risk management framework***

using an organizational perspective. Understanding the role and functionality of a risk information repository as a communication tool that supports elements of an organization reach organizational objectives using risk-informed decisions was the "blueprint" (Yin, 2009:36) required to create and define the boundaries of this research study.

Defining a Theoretical Framework

Using the information gathered in the preliminary stage, it was important to realize that a theoretical framework was required for the purposes of this exploratory study. In order to specifically address the research questions, a framework had to be used to better understand the role of a risk information repository as a supporting communication tool using an organizational-wide perspective. This research study needed to incorporate an organizational theoretical model for diagnosing the different elements of an organization in order to depict the role of a risk information repository in an *integrated risk management framework* initiative.

The ***Gelinas-James Elements of Organizations Model*** was chosen for the purposes of this study due to the specific types of elements included in the model. As mentioned, putting in place an ***integrated risk management framework*** is a process that aligns processes, people, strategies, technology and knowledge under one framework. (DeLoach, 2000:24) Thus, using a model that incorporates all elements of an organization for the analysis of this organizational-wide initiative was the key when depicting the role of a risk information repository system as a supporting communication tool.

Using this model as a theoretical framework, I was then able to generate a template as a guiding tool for the interpretations of the data collected. The following is a brief description of this model and its components:

Gelinas-James Elements of Organizations Model

The Gelinas-James model is a data diagnosis model widely used in the area of organizational research. The model consists of seven organizational elements in addition to the organization`s environment. These elements include; Business Environment; Core Goals and Values; Structure; Work Processes, Strategy, Systems, People and Skills and Culture. (Gelinas & James, 1993:1)

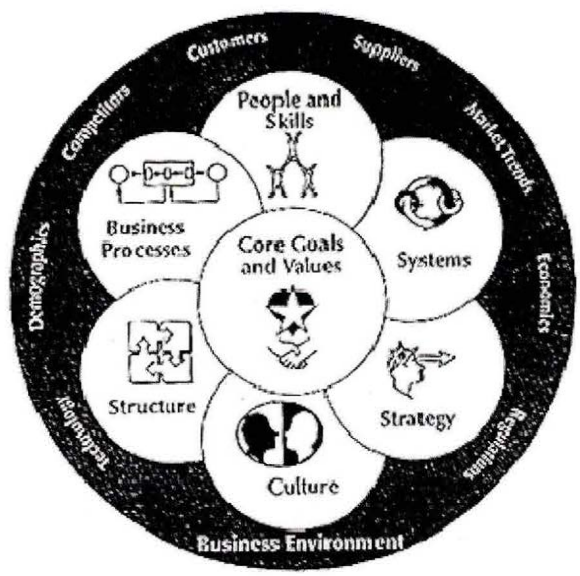


Figure 2: Elements of Organization (Gelinas, M & James, R 1993:1)

1. **Core Goals and Values** – This element describes the direction that the organization is trying to achieve. It gives the organization the ability to create a vision while keeping in intact the values it needs to achieve its desired goals;

2. **Strategy** – This element is the approach in which the organization wants to achieve its desired purpose or mission;
3. **Business or Work Processes** – These are the activities that an organization uses to create effective deliverables to clients. This also includes relationships with key stakeholders;
4. **Structure** – This element defines the characteristics that make up an organization. It is the way people are structured in relation to the work flow. For example, the definition of departments and units, levels of supervision, delegation of authority and work design;
5. **Systems** – These are all the procedures formal and informal that an organization needs to run effectively. For example, information, planning, communication, evaluation, HR etc;
6. **People and Skills** – This element includes the skills, knowledge and capacity that an organization needs to be able to reach its objectives;
7. **Culture** – This is a reflection of how an organization sets its behaviour, values and beliefs. This is usually developed over time and created based on shared assumptions;

The last component that encompasses all these elements is the business environment of an organization. This is what defines and drives an organization to create organizational effectiveness.

Data Gathering Sources

The data collection method used for this study follows a case study protocol that is supported by three data quality principals common to the area of case study research. (Yin, 2009:114) These

three principals were used as guidelines to construct "validity" and "reliability" when collecting the evidence in order to support data triangulation; a quality control mechanism widely used in qualitative research to reduce the likelihood of misinterpretations and redundancy of data. (Denzin and Lincoln, 1994:241) These three principals are; the use of multiple sources of evidence; the use of a case study database; and having a chain of evidence. (Yin, 2009:114)

1. Multiple Sources of Evidence

The objective of the first principle is to obtain data triangulation by collecting information from different sources that confirms the same fact or evidence. (Yin, 2009:116) In order to ensure that this study had a convergence of evidence, multiple sources were used to gather multiple measures of the same data. The following is a list of all the various sources used in the data collection phase:

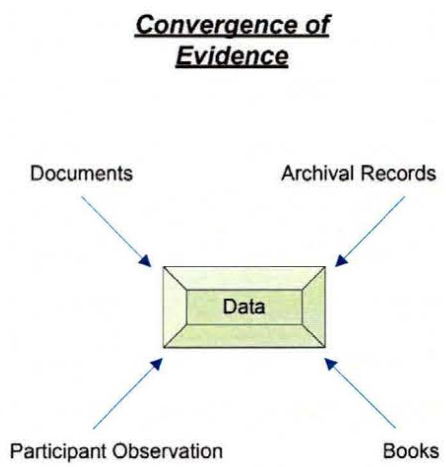


Figure 3: Convergence of Evidence (Yin, 2009:117)

Source of Evidence	Type
Books	Risk management textbooks, PMBOK guide, research methodology books and organizational theory books
Documentation	Federal government risk reports, plans, guides, evaluations, audits, handbooks and studies
Archival Records	Public use files, organizational records (budget and performance reports, departmental reports, reports on plans and priorities)
Participant Observation	Risk analyst in the organization under study (public servant participant role)

Figure 4: Sources of Evidence

2. A Case Study Database

With the help of MS Access, a case study database was created to organize and document the raw data from the different sources of evidence described above. By capturing data and organizing it into different and distinct tables, I was able to facilitate the process of examining, categorizing and combining the data for the risk information repository analysis.

The following is a brief breakdown of these tables and the queries used to organize and deduce the data collected:

- There were four tables created for each source of evidence outlined above;
- Each table contained 6 fields in which the data could be organized based on the type of evidence retrieved;
- Within each source of evidence, a unique ID was given to each type of source available in order to link it back to its original source;

- Each table also contained one field that associated each evidence collected to one of the seven elements in the ***Gelinas-James Elements of Organizations Model***;
- A query form was also put together to facilitate the process of data entry into each table;

With the use of the database created, the "reliability" of the study was significantly increased. (Yin, 2009:119) In addition, it also helped maintain and support the chain of evidence described below.

3. Chain of Evidence

A chain of evidence was put together to guide the analysis phase of this research study. It provides a logical sequence that links every element involved in shaping the design of this particular investigation. (Yin, 2009:122) The following is a point form description of all the elements identified in this logical path:

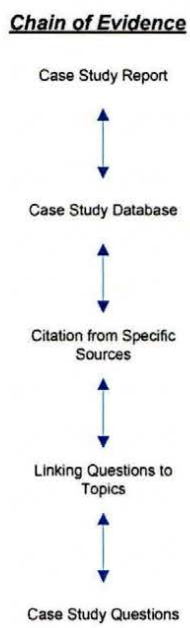


Figure 5: Chain of Evidence (Yin, 2009:123)

i. Case Study Questions

The first element in the logical sequence entailed putting together the research questions to explicitly reflect the purpose and scope of this exploratory case study.

- How does a risk information repository support an integrated risk management framework in achieving risk-informed decisions as part of an integrated risk management approach?
- And why is it important for organizations to delineate the importance of having such a system for the process of making risk-informed decisions?

ii. Linking Questions to Topics

After conducting participatory discussions of relevant theoretical frameworks and literature, with the use of the theoretical propositions below, the boundaries and the scope of this exploratory study were further defined:

- To understand the role of a risk repository as a **communication supporting tool** in ***an integrated risk management framework*** and its ability to influence **key elements in an organization** in order to support **risk-informed decisions**.
- To capture how a risk information repository influences elements of an organization such as **core goals and values, structure, work processes, strategy, systems, people and skills and culture** in order to have a richer understanding of its purpose as a **supporting communication tool** using an organizational perspective.

Then, with the use of a diagnostic theoretical model found in the area of organizational research (***Gelinas-James Elements of Organizations Model***), I was then able to identify the different data elements needed to effectively address the research questions for this study.

iii. Citations from Specific Sources

As noted in the PMBOK guide, when any system is implemented as a means of achieving an organization's strategic plan, it is imperative to realize that the organization and its business environment are mutually dependent of one another. (PMBOK, 2000:4) Hence, if the goal of this thesis was to understand the role of a risk information repository as a supporting communication tool in an initiative that is part of a strategic plan, it was critical to take into account that this system needed to be analyzed not as an isolated element but as a system surrounded and influenced by its business context.

Hence, in order to categorize the data into a logical pattern, a conceptual model was developed which was also used as a breakdown tool to effectively address the research questions and objectives of this study.

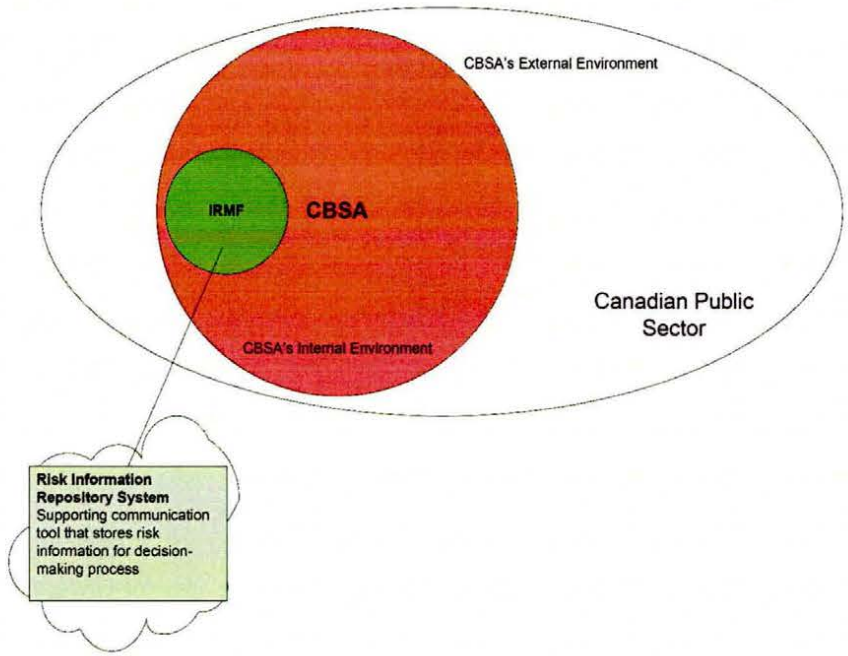


Figure 6: Conceptual Model for Case Study Analysis

The following includes the four categories that were used to organize the data from the sources of evidence identified above:

1. External Environment (Word File)
2. Internal Environment (Word File)
3. Integrated Risk Management Framework (Word File)
4. Risk information Repository System (MS Access database – which includes 4 tables)

iv. Case Study Database

A MS Access database was created as a "computer-assisted qualitative data analysis tool" (Yin, 2009:128) to examine, categorize and combine the data for the risk information repository analysis.

v. Case Study Report

The case study report was put together keeping in mind the objectives and purpose of this study. My intent was to bring general concepts of project management as guiding tools in order to develop a case study description the aimed at capturing all the elements relevant to the area of organizational research.

Analyzing the Findings

Data analysis is the process of categorizing, examining and drawing empirically based conclusions of the evidence gathered in the data collection phase. (Yin, 2009:126) The data analysis technique used in this case study follows an inductive qualitative approach originally outlined by the authors Miles and Huberman. (Yin, 1994:129) This includes the subsequent:

- A conceptual model and a chain of evidence link were first developed to generate a breakdown structure of the required evidence;
- Using these two elements, the information was then categorized into four distinct areas. This includes; the Internal Environment (Word File); the External Environment (Word File); the Integrated Risk Management Framework (Word File); and the Risk information Repository System (MS Access database – which includes 4 tables);
- For the first three categories, a Word file was created to capture all the information needed to build a general overview of the content that surrounds the risk information repository system in relation to its business environment. Here, all data was individually linked to its original source of evidence (author, Year:PageNumber) keeping in mind the Harvard Referencing system.

- For the last category, a separate MS Access database was created for the purpose of combining the data for the risk information repository. The information here was separated into different tables depending on the type of source that was used. Each table then contained one field that had a drop down menu for the user (myself) to identify each piece of data collected as one of the elements in the ***Gelinas-James Elements of Organizations Model***;
- Once this was completed, the information was then manually examined and organized into point form case study description sections;
- As a result, a summary list was put together as the final structure and or flow of the interpretations;

It is important to note that in order to facilitate the analysis of the data collected for this study; MS Word and MS Access were used as "computer-assisted qualitative data analysis tools". (Yin, 2009:128) This was preferred to other available qualitative tools due to the restrictions surrounding the installation of prepackaged software at the Canada Border Services Agency. Because most of my research was conducted during working hours, it was important to keep consistency in the tools utilized when putting together the analytic results for this study. Furthermore, by developing and using a tailored MS Access database and separate Word Files, I was able to have additional independence when examining, categorizing and combining the data for the analysis any way relevant or as needed.

2.2.5 STRATEGY FOR PRESENTING CASE STUDY FINDINGS

With the use of the chain of evidence as a guiding tool, an analytic strategy was put together in order to produce a high-quality analysis of the findings. The following includes a point form breakdown of the elements that were included in the case study analysis report:

- **A risk information repository within its business context**
  - Context of the external environment
    - Canada Border Services Agency (CBSA) as part of a larger organization (Canadian Federal Public Service)
  - Context of the internal environment
    - Canada Border Services Agency (CBSA)
    - An integrated risk management framework for CBSA (An overview)
- **A risk information repository system as a supporting communication tool for the Canada Border Services Agency's integrated risk management framework**
  - What is a risk information repository?
  - The role of the risk information repository system in realizing organizational objectives
  - Communication tool
- **Discussion, Implications and Recommendations**

2.3 RESEARCH RELIABILITY AND VALIDITY

As mentioned previously, the importance of establishing quality is significant when conducting and evaluating organizational research work. (Lee, 1998:155) As a researcher, you want to make sure that the "validity" and "reliability" of the information you intend to present is well reflected. (Yin, 2009:40)

In the area of case study research, this is recommended through the application of four tests that is common to all social science methods. (Kidder and Judd, 1986:26-29) These are:

1. Construct validity – identifying correct operational measures for the concepts being studied;
2. Internal validity – seeking to establish a causal relationship;
3. External validity – defining the domain to which a study's findings can be generalized;
4. Reliability – demonstrating that the operations of a study (such as the data collection procedures) can be repeated, with the same results

For this case study, construct validity, external validity and reliability were applied using various tactics. This included the following:

1. Construct validity – this was done by having multiple sources of evidence in the data collection phase and creating a chain of evidence that clearly outlined all steps taken to link the research questions to the evidence found;
2. Internal validity – not applicable for exploratory studies;
3. External validity – this was done by using a theoretical model as an approach for organizing and categorizing the findings;
4. Reliability – this was done by developing a case study database for the analysis of the risk information repository;

2.4 ETHICAL ISSUES

Ethical issues were raised pertaining to the release of sensitive secret information in relation to the Canada Border Services Agency. Because the agency deals with information that could affect the health and safety of the Canadian public, it is important to note that all information used to conduct this study was in fact available for public viewing.

My intent as a researcher was to provide enough information in order to demonstrate how science and practical experience can coincide to support the advancement of knowledge in this area of integrated risk management.

CHAPTER 3

3.1 INTRODUCTION

In regards to the purpose of this thesis, this literature review will present the following two important elements. The first element of this chapter will mainly focus on providing the necessary background information to better illustrate why the Government of Canada has taken the management initiative to implement an integrated risk management approach. The aim is to understand the role of an ***integrated risk management framework*** as a whole and why it is being adopted by all federal institutions of the Canadian public sector. The second element then focuses on providing an overview of two concepts relevant to the area of integrated risk management that pertains to the public service; decision-making and risk information. This is followed by a brief synopsis of current risk management practices, standards and models that both the private and public sector are utilizing to implement an integrated risk management approach. In addition, this segment will include a small section on opposing views that challenge concepts of risk management and its significance to the Government of Canada.

3.2 THE NEED FOR AN IRMF

"Uncertainty and risk is inherent in all organizational activity. Every member of an organization needs to make decisions, plan, and manage uncertainty to a greater or lesser extent." (Ward, 2001:7)

Currently, organizations are recognizing the importance of managing risks and the benefits that it will bring to their establishment. This realization is that better management involves managing all key risks and opportunities at an enterprise-wide level that in end will aid in the achievement of organizational objectives. (DeLoach, 2000:5) For this reason, the need to move towards a more effective and efficient management paradigm has become a common and essential priority for most organizations.

To address this priority and as an attempt to modernize its comptrollership, in 1997, the federal Government of Canada began to focus its efforts in improving risk management practices as part of a management reform. (TBS, 2000:1) The Treasury Board of Canada Secretariat carried out many research studies and consultations to better understand the role of risk management and best practices currently being utilized by the public and private sector in Canada and internationally. (TBS, 2001:1) As a result, the need to strengthen risk management capabilities was brought forward as one of the key initiatives for all departments and agencies within the Government of Canada. To support this change, the Treasury Board of Canada Secretariat was able to produce initial material to help departments and agencies start moving towards better risk management practices. (TBS, 2001:1) The following is a brief description of this effort and the elements that support it.

3.3 MANAGING RESULTS: CANADIAN GOVERNMENT INITIATIVE

As all other organizations change towards better management practices, the Government of Canada is also committed in shifting its priorities in the direction of a more responsive and well-

managed federal body of knowledge. To achieve this, it has put in place different management initiatives that address four critical areas which together are essential in building a government that has a good management regime. These are citizen focus, values, results and responsible spending. (TBS, 2000:5)

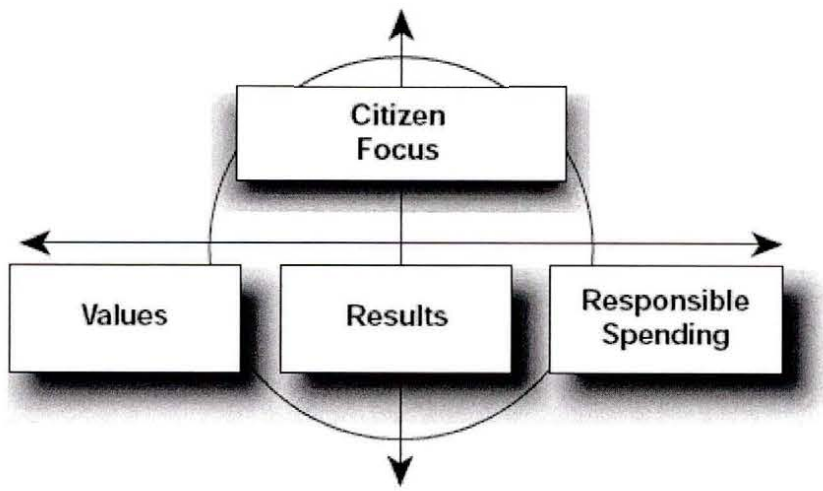


Figure 7: Four Management Commitments (TBS - Results for Canadians, 2000:5)

Citizen Focus: To design, fund and deliver effective services and programs to Canadians

Results: To build a results-based management that uses performance measurement and evaluation in order to improve efficiency and effectiveness

Responsible Spending: Being able to allocate resources and restructure programs in response to changing needs and priorities

Values: Manage with the highest public service values that include; Respect for democracy, professional values, ethical values, and people values (TBS, 2000:5)

Putting in place the necessary management initiatives that integrate these four areas will help the Government of Canada become a learning organization that aims at providing all the necessary tools to better manage results. (CCMD, 2001:19) These include current best practices, standards and products that will help improve government services for Canadians. For instance, putting in place a framework that supports departments and agencies in establishing ongoing performance monitoring and performance measurement practices allows for the improvement and better design of policies, programs and initiatives. Another example is incorporating integrated risk management practices across all departments and agencies.

3.4 WHY USE AN INTEGRATED RISK MANAGEMENT APPROACH?

Integrated risk management is a set of business practices that incorporates risk information in order to achieve risk-informed decisions that will aid in the achievement of organizational objectives. It specifically focuses on how to properly identify, assess, understand, communicate and manage risk from an organization-wide perspective. (DND, 2004: i) More specifically, it is a systematic approach that "creates the means to discuss, compare and evaluate different risks from different levels of the organization using a holistic perspective". (TBS, 2001:10) As a result, organizations are able to make better strategic decisions while managing resources more efficiently. (TBS, 2001:2)

For the Government of Canada, it also creates the means to become a results-based organization. This includes the following: (TBS, 2001:2)

- Achieving better outcomes in terms of service effectiveness and efficiency

- Effective allocation and use of resources
- A way of enhancing accountability and corporate governance
- Having a rigorous basis for decision-making and planning; For example, setting strategic priorities, including identifying, understanding and focusing oversight efforts on areas of highest risk
- Having better identification of opportunities and threats
- Building of a 'risk-smart' workforce

3.5 AN INTEGRATED RISK MANAGEMENT FRAMEWORK FOR CANADIANS

Incorporating an integrated risk management approach is not a task that is easily attained. A change in management practices requires concerted efforts and guidance, especially for organizations in the public service.

The Treasury Board of Canada Secretariat published the *Integrated Risk Management Framework* (IRMF) along with the implementation guide to assist departments and agencies move towards an integrated risk management approach. This framework, in conjunction with the guide, proposes a common set of risk management practices, and an outline of how departments or agencies can adapt or adopt an *integrated risk management framework* to their specific needs and mandate. (TBS, 2001:2)

This framework was designed to build upon departments and agencies' current risk management practices. The main challenge for organizations is moving from having many fragmented risk

management processes to having one integrated process. (Interis, 2008:15) This is better understood by McKenna's argument that *"risk is socially constructed, and is a complex phenomenon. It is part of the ongoing construction of 'realities' in an organization"*. (McKenna, 2001:53) In here, the author explains that the interpretations or construction of risks are going to be subjected to the context, methodologies and practices in which they are created. In practical sense, not having one common or systematic approach to risk management will result in a fragmented risk management system. Organizations need to have or utilize consistent risk management practices and tools across business lines and various levels of the organization in order to facilitate the understanding and comparisons of risks across its structure. Therefore, having one common risk management process is the key that supports the integration of risk management practices as a whole. (TBS, 2001:10)

The *Canadian Integrated Risk Management Framework* contains four elements; developing the corporate risk profile; establishing an integrated risk management function; practicing integrated risk management; and ensuring continuous risk management learning. The following is a brief outline of these elements which together provide the necessary components that should be included when integrating risk management practices in the Canadian public service. (TBS, 2001:11)

Developing the Corporate Risk Profile

The purpose for developing the corporate risk profile is for the organization to examine its threats and opportunities in regards to its mandate, objectives and available resources. As a result of the corporate risk profile, there are three outcomes. (TBS, 2001:15-18)

- **Risk Data Collection: External and Internal Environmental Scan** - To build the corporate risk profile, the organization needs to collect data by conducting internal and external environmental scans in order to identify key risk areas, individual risk activities and projects that may affect the organization`s ability to achieve its objectives. (TBS, 2001:15-18)
- **Understanding Risk Tolerance** – After the organization has collected data on the risks within its organization, it has to determine its tolerance for those risks. Here, the organization needs to determine which risks the organization is willing to accept and at which level. Determining risk tolerance should influence and guide decision making in the organization. (TBS, 2001:15-18)
- **Assessing Current Risk Management Capacity** – Once risks have been identified and the tolerance of those risks has been determined, the organization needs to assess its capacity to manage the risks. This includes assessing its risk management culture, risk management processes and practices and making adjustments where necessary to insure that the risk identified can be successfully managed. (TBS, 2001:15-18)

The three outcomes described above occur on a continuous basis, where the organization consistently reviews and reassesses its risks, risk tolerances and capacity to ensure it is kept current and relevant. (TBS, 2001:15-18)

Establishing an Integrated Risk Management Function

In this portion of the IRMF, the organization needs to establish a risk management infrastructure that will enhance the organization`s ability to clearly communicate risk issues, practices and processes. There are three key outcomes: (TBS, 2001:19-23)

- **Strategic Risk Management Direction** – Management needs identify, understand and clearly communicate the organization`s direction in regards to risk management. This direction includes a risk management vision, policies and operating principles. (TBS, 2001:19-23)
- **Integrating Risk Management into Decision Making** – Risk management needs to be integrated into existing decision making structures and processes. This ensures that risk management is made a part of everyday activities and practices and that the organization is able to capitalize on existing capacity and capabilities. (TBS, 2001:19-23)
- **Building Organizational Capacity** – There are two areas where organizations need to build risk management capacity, they include human resources and tools & processes. In terms of human resources, the organization needs to ensure that its employees have; an awareness of the organization`s risk management culture; the skills required to manage risk; the knowledge in best practices and experiences; and the capacity and capabilities to work in teams. The organization also needs to develop the tools and processes necessary to enhance its risk management capacity. (TBS, 2001:19-23)

Practicing Integrated Risk Management

The third element in the IRMF is to practice risk management within the organization. There are four expected results in practicing integrated risk management, they include: (TBS, 2001:25-33)

- **A Common Process –** Developing and following a common risk management process allows the organization to have a common language and guide for making decisions at all levels. (TBS, 2001:25-33)
- **Integrating Results for Risk Management into Practices at all Levels –** Having a common understanding or risks should be integrated in all levels of the organization. This implies using risk information results in a strategic and operational sense. Horizontally, risk information can be used to develop organization-wide policies, plans and priorities. Vertically, functional units, such as branches and divisions, need to incorporate results into programs and major initiatives. (TBS, 2001:25-33)
- **Tools and Methods –** Various tools and methods can be used by the organization to support its risk management practices. Examples include risk maps, modeling tools, qualitative techniques, tool kits, manager`s forum, etc. (TBS, 2001:25-33)
- **Communication and Consultation** – It is important to communicate risk and to consult with key parties throughout the risk management process. Risk communications involves issue identification and assessment, development of consultation and communication strategies, message development, etc. (TBS, 2001:25-33)

Ensuring Continuous Risk Management Learning

Continuous learning is fundamental in increasing risk management performance within an organization. The following outcomes should be pursued in building risk management learning: (TBS, 2001:35-38)

- **Creating a Supportive Work Environment** – It is important for an organization to create a supportive work environment for learning. This can be done by promoting learning, creating opportunities for learning from experience, and demonstrating management leadership (i.e. selecting leaders who are coaches, demonstrating commitment, supporting employees, making time, etc.) (TBS, 2001:35-38)
- **Building Learning Plans in Practices –** In order to build organizational capacity in risk management, risk management specific learning needs and learning objectives need to be incorporated into employee learning plans and performance appraisals. (TBS, 2001:35-38)
- **Supporting Continuous Learning and Innovation –** It is important to support continuous learning and innovation in risk management. This is best practiced when it is shown that risk is well managed, decisions are made respecting risk tolerances, incentives are made for being innovative and lessons are learned so that progress may be made. (TBS, 2001:35-38)

3.6 PERTINENT ELEMENTS OF RISK MANAGEMENT

In regards to this particular exploratory study, there are two important elements that are critical for public sector integrated risk management; decision making and information.

The purpose of risk management is to provide senior management leaders with information that has been gathered and analyzed using a scientific method to make decisions that support the achievement of the organization's goals. (Kallman & Maric, 2004:57)

To ensure that decisions take into account risk, there is a need to have a rational approach that can be embedded into all levels of or aspects of an organization and its activities. (Ward, 2003:7) For organizations in the public service, this should be incorporated at each level of decision-making; strategic, program and operational. This way, risk information is gathered from various functions or areas within the organization to support key decisions that will affect the design of policies, programs and services. (Cabinet Office, 2002:14)

In order for senior managers to make good decisions, risk information is needed. Further to this, to make solid risk-informed decisions, a common risk management language needs to be developed. (TBS, 2001:2) This can be better understood by using McKenna's argument that *"risk is socially constructed, and a complex phenomenon. It is part of the ongoing construction of 'realities' in an organization"* (McKenna, 2001:53) Here, he provides solid proof that in order to attain a collective perspective in risk, we need to have synergy in the process in which we communicate.

Both an integrated risk management framework and common language, act as tools that provides a uniform process for which various sections, functions or particular areas within an organization can use to share valuable risk information. (DeLoach, 2000:45) The information gathered from

this risk management process can then be integrated with other business information for better decision-making. (DeLoach 2000: 161)

3.7 RISK MANAGEMENT PRACTICES: AN OVERVIEW

The following is a brief overview of the different risk management models currently being used across business lines.

3.7.1 RISK MANAGEMENT MODEL: UNITED KINGDOM – HM TREASURY

The HM Treasury risk management model is a non-linear cyclical process whose elements interact with each other as a way of insuring balance. In this model, risks are not addressed in isolation from each other because; (i) they may have impacts on one another and/or; (ii) management may be able to address some risks simultaneously. This model has to be implemented in an organization where the risk appetite has been defined. Various risks within the organization may be addressed in different stages of the model at any point in time. The model also realizes that risks are not isolated and exist in context of its environment. (HM Treasury, 2004:13)

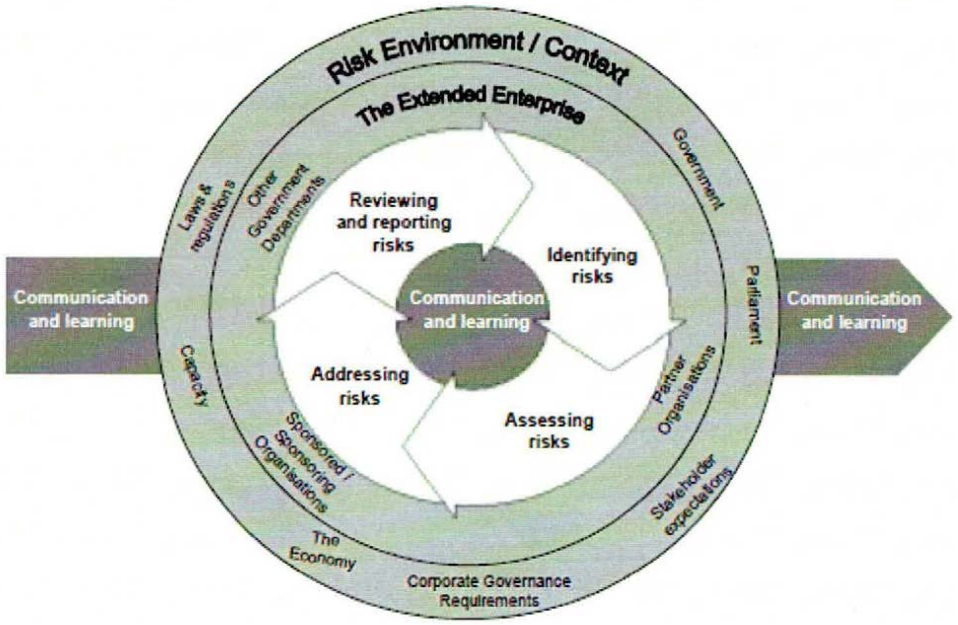


Figure 8: Risk Management Model (HM Treasury - Orange Book, 2004:13)

There are five stages and two main elements to consider in the HM Treasury Risk Management Model. (HM Treasury, 2004:15-35)

Risk Management Stages: (HM Treasury, 2004:15-35)

1. **Identifying Risks**

In this phase, risks are initially and continuously identified and related to set objectives. According to the HM Treasury, the risks identified should have an impact and the organization should be able to address the risks through action. Resulting identified risks are grouped by natural themes, and individual risks are assigned to risk owners to manage and monitor. The Orange book provides a summary of the most common groupings with examples.

2. **Assessing Risks**

There are three key 3 principles in assessing risks:

1. A structured process needs to be put in place to assess the likelihood of the risk and its level of impact;

2. The risk assessment needs to be documented to create risk profiles, so that risks can be prioritized and monitored;
3. There needs to be clarity between the difference between inherent and residual risks. The exposure that surfaces from a risk that has not been managed is an inherent risk. The exposure that surfaces from a risk that has been thought to be effectively managed is a residual risk;

As part of the risk assessment process, the organization's "risk appetite" needs to be determined for both threats and opportunities for the organization. (HM Treasury, 2004:35) The risk appetite is the organization's tolerance for the resulting impact of the risk once realized and the frequency of exposure of the risk.

3. Addressing Risks

In this stage of the risk management model, the risks can be addressed in the following ways:

- Tolerating the risk (no action required);
- Treating the risk (i.e. placing preventative, corrective, directive or detective controls);
- Transferring the risk; or
- Terminating the activity that creates the risk

4. Reviewing and Reporting Risks

On a regular basis, both the risks and risk management process needs to be reviewed and reported on. This includes identifying new risks, re-assessing addressed risks and the value of the actions taken, assessing the risk management process and its effectiveness, etc.

5. Communication and Learning

Communication and learning runs through all the four stages of the risk management model described above within and outside the organization. Communication needs to exist within the organization regarding the risk strategy, risk priorities, risk assessments and risk plans as well as the lessons learned from groups within the organizations. The organization's partners and key stakeholders also need to be appropriately communicated in regards to the aspects of risks that are pertinent to them. (HM Treasury, 2004:15-35)

Main Elements for Consideration: (HM Treasury, 2004:37-39)

1. The Extended Enterprise

Organizations are not self-contained. Organizations have relationships with each other and the impacts of their relationships, actions and risk management practices need to be considered.

2. Risk Environment / Context

The organization needs to consider its environment, the context in which the risks exist and the potential impacts on its overall risk management strategy.

3.7.2 RISK MANAGEMENT PROCESS: AUSTRALIA AND NEW ZEALAND STANDARDS

According to the Government of Australia and New Zealand, risk management is an important part of good management. As a consequence, these two governments have outlined a cyclical

risk management process that is embedded in their existing practices and business processes. The risk management process model below, illustrates the seven steps involved in their process. (Standards Australia and Standards New Zealand, 2004:7)

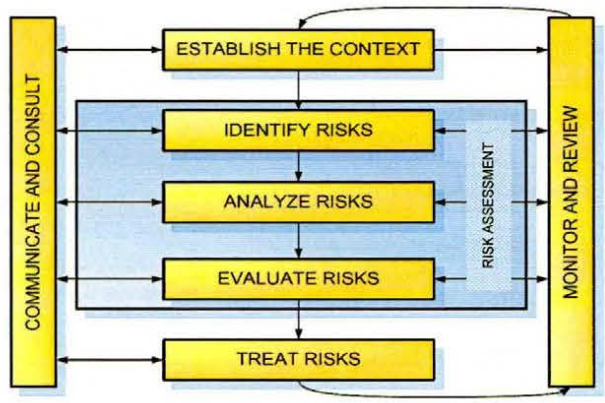


Figure 9: Risk Management Process (Standards Australia & Standards New Zealand, 2004:9)

The seven main elements of the risk management process include: (Standards Australia and Standards New Zealand, 2004:9)

1. **Communicate and Consult** – Communicate and consult with stakeholders concerning the process as a whole throughout the risk management process.
2. **Establish the Context** – Establishes the parameters for which the risk management process will take place and the scope of the risk management process.
3. **Identify Risks** – Use a systematic process to identify the risks to be managed.
4. **Analyze Risks** – Develop an understanding of the risk.
5. **Evaluate Risks** – Evaluate the risks and determine which risks need treatment and treatment priorities.

6. **Treat Risks –** Determine risk treatment options, assess the options and implement risk treatment plans.
7. **Monitor and Review:** Monitor and review the risk treatment plans and identify lessons learned. Repeat the risk management process regularly. (Standards Australia & Standards New Zealand, 2004: 7-23)

3.7.3 COSO ENTERPRISE RISK MANAGEMENT: INTEGRATED FRAMEWORK

This framework was officially put together by the Committee of Sponsoring Organizations of the Treadway Commission as a way of establishing common definitions and setting a common direction for organizations to enhance their risk management practices. It incorporates essential components of enterprise risk management which are "aligning strategy, processes, people, technology and knowledge with the purpose of evaluating and managing uncertainties the enterprise faces as it creates value." (DeLoach, 2000:5)

An enterprise-wide risk management is a holistic approach that looks at the managing of all key business risks and opportunities that an organization may face in order to maximize shareholder value or generate greater return. (DeLoach, 2000:5)

The seven main elements of this risk management process include: (DeLoach, 2000:5-8)

1. **Establish Goals, Objectives and Oversight –** Risk management goals, objectives and policies should be clearly stated and communicated throughout the organization. The aim is to have alignment with the overall business objectives, strategies and

performance goals. It is also essential to have an oversight group that supports the risk management process.

2. **Assess Business Risk –** Establishes a risk assessment process that enables the organization to identify, assess and treat risks.
3. **Develop Risk Management Strategies –** Use an aggregation approach to transfer risks that should be evaluated against the organization's objectives. Key organizational risks should be assigned to the appropriate risk owner who will become responsible in creating risk strategies or measures to properly manage their assigned risks.
4. **Design and Implement Risk Management Capabilities –** Develop an understanding of risk management practices by creating a culture that uses and implements the same processes, reporting and methodologies to execute risk strategies and policies.
5. **Monitor Performance –** Performance measures are needed to monitor the execution of risk management processes and risk controls.
6. **Continuously Improve Risk Management Capabilities –** Training and capacity building is needed to continuously improve knowledge of risk information across all levels of the organization.
7. **Support the Process with Information for Decision-Making:** Develop an information management system that will support the necessary risk information to make risk-informed decisions.

The COSO enterprise risk management framework is a multidirectional, iterative process that incorporates the basis of enterprise risk management. It is a framework that is commonly used across the private and public industry. The eight main components of the framework are shown to be interrelated to the business's structure and objectives. These include; Internal Environment;

Event Identification; Risk Assessment; Risk Response; Control Activities; Information & Communication; And Monitoring. (COSO, 2004:5)



Figure 10: Enterprise Risk Management - Integrated Framework (COSO, 2004:5)

3.8 AN OPPOSING VIEW ON RISK MANAGEMENT WITHIN THE PUBLIC SERVICE

According to the Treasury Board Secretariat, one of the purposes of the ***Integrated Risk Management Framework*** is to "contribute to building a risk-smart workforce and environment that allows for innovation and responsible risk-taking while ensuring legitimate precautions are taken to protect the public interest, maintain public trust, and ensure due diligence" (TBS, 2001:2).

But can risk management create an obsessive need for the public service to manage everything, including risk management? And within this obsession, how can risk management provide the public service with opportunities for innovation?

With the need to build and maintain public trust, the Canada federal public service may very well possess a culture that can cultivate this obsession. In the Public Policy Forum, John Macaulay

argues that reputational risk may become a preoccupation for organizations. The need to avoid this risk may influence the public service to obsess with the creation of new processes as a measure of successfully managing risk. (Macaulay, 2007:15) This obsession to create new processes for the sake of having processes to manage risk is what Bozeman and Kingsley describe as "red tape".

"(red tape) increases the cost of risk (by imposing higher transaction costs) and may well reduce the benefit if favorable outcomes are likely to be subject to the same red tape that pervades the organization." (Bozeman & Kingsley 1998:117)

As pointed out by the Clerk of the Privy Council, the Canadian federal public service is already known to be risk-averse because of its concern with "not being accused of doing the wrong thing than with doing the right thing". (PCO, 2007:8) In organizations obsessed with "red tape" and risk aversion, how can innovation emerge?

In order for innovation to occur, the organization needs to support risk taking and allow a tolerance for mistakes (Brodtrick, 1999:25). According to Macaulay, "Hard evidence is lacking on whether risk management allows public servants to create and take advantage of opportunity, or simply encourages greater risk aversion." (Macaulay, 2007:16)

3.9 LITERATURE REVIEW OVERVIEW

As outlined, the Government of Canada has created an *integrated risk management framework* initiative as a way of integrating risk management practices across all its departments and central agencies. Doing this, will result in better management skills that influence the way organizational objectives are realized.

Using an *integrated risk management framework* is a management approach that should be built on existing risk management practices. It should also be put together using industry standards and best practices from the risk management area. In general, it should be a reflection of what an organization wants to achieve in terms of better risk management practices. The following is a list of criteria or summary from the sources identified in this section. These are components that should be taken into account when designing an *integrated risk management framework*:

- Understand the context; Take into account the internal and external environment that surrounds the agency or department;
- Must be designed based on best practices and industry standards. For example, Australian/New Zealand Standards for Risk Management; TBS's IRMF guidelines; ERP practices.
- Must have the necessary support from senior management
- Must have a policy and governance framework that includes:
    1. The objectives or rationale for managing risk
    2. Provide the linkage between risk management and the agency's strategic plans/initiatives

3. The roles and responsibilities of those who are responsible in the decision-making processes

- Must have a common risk assessment process that can be consistently practiced at all levels of the agency or department; This includes the methods and its supporting tools
- Must have a monitoring and review plan
- Must have a communication and learning plan

CHAPTER 4

4.1 INTRODUCTION

This chapter provides a case study analysis in response to the objectives introduced in chapter one. First, it will provide insights that will help determine why it is essential to have a broad understanding of the operating environment when developing a risk repository system in managing risk information. The goal is to gain a greater understanding of a risk information repository not as an isolated element but as a system surrounded and influenced by its business context. This will be done through the examination of the external and internal business context of the risk information repository system at the Canada Border Services Agency; a Canadian agency that is making the effort to adopt an *integrated risk management framework* as a way of managing results. Second, this case study will also allow us to understand the role a risk information repository as a supporting communication tool in an organizational structure in which risk-information and risk-informed decisions are crucial in the delivery of its everyday operational business. More explicitly, analyse elements of the CBSA such as core goals and values, structure, work processes, strategy, systems, people and skills and culture in order to understand how risk information changes the way an organization makes better decisions.

Lastly, this chapter will outline the importance of having a risk information repository system as part of an overall approach to best risk management practices.

4.2 A RISK INFORMATION REPOSITORY WITHIN ITS BUSINESS CONTEXT

This section will provide a greater understanding of a risk information repository not as an isolated element but as a system surrounded and influenced by its business context. In this case, the business context includes the external environment (Canada Border Services Agency (CBSA) as part of a larger organization; the Canadian Federal Public Service) and the internal environment (Canada Border Service Agency) which includes a general overview of its ***integrated risk management framework***.

As such, this section has been divided into two areas that consist of the following elements:

- The first element will include an examination of the external environment that pertains to the Canada Border Services Agency in relation to the ***integrated risk management framework*** initiative currently being conducted across all government departments and agencies within the Canadian federal public service.
- The second element will then provide a general overview of the internal environment. The idea is to understand the context of the Canada Border Services Agency and its approved ***integrated risk management framework***.

4.2.1 EXTERNAL ENVIRONMENT

Overview

As outlined in the literature review, an *Integrated Risk Management Framework* is one of many Canadian federal government initiatives designed to specifically support the Canadian public service achieve the "modernization of its management" culture. (HRSDC, 2008:19) It is a

horizontal initiative that is a priority involving all federal departments and agencies. (TBS, 2002:7)

As indicated in the literature review, the goal of an integrated risk management framework is to provide all departments and central agencies with the mechanism to embed modern risk management practices in the outcome of becoming more transparent and accountable in managing Canadian services. (TBS, 2008:6) Moreover, Canadian organizations must use a systematic approach in managing strategic risks from all levels of the organization in order to make better decisions that lead towards the achievement of organizational objectives more effectively and efficiently. (TBS, 2001:10)

In fulfilling this mission, the Treasury Board of Secretariat plays a key leadership role in enabling departments and agencies move towards this management agenda. This includes acting as the general manager (an oversight role) for all federal public service organizations in Canada. (TBS, 2008:5) The following is a brief description of this management role in respects to risk management within the public service: (TBS, 2008:5)

- Provides support and advice to all federal departments and agencies in respects to best practices and approaches;
- Assesses departmental risk management maturity and capacity;
- Develops awareness through a "Centre of Excellence on Risk Management" that shares information on risk management policies, tools, information and training;
- Shares lessons learned and best practices;

Canadian Public Service

The Canadian federal public service is a national institution that is composed of more than 175 different departments, agencies and organizations. Managing a large public sector organization is a challenging task, one that requires several key mechanisms in order to enhance accountability. (TBS, 2008:6)

To ensure the Canadian government is well managed and accountable and that resources are allocated to achieve results, effective reporting is necessary. (TBS, 2008:7) The Canadian government needs to inform both the public and the general manager (TBS) of its priorities and decisions made on policies, programs, services and initiatives. The following is brief outline of this management reporting mechanism that applies to all organizations within the Canadian public service:

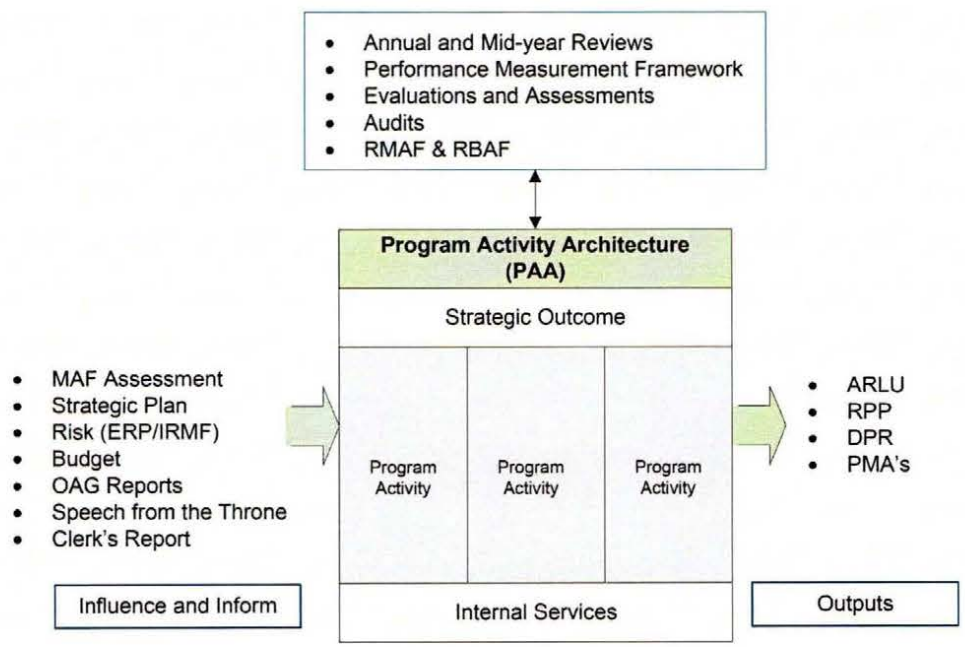


Figure 11: Results-based Management (CBSA – Director's Forum, 2009:13)

i. PAA Architecture

All departments and central agencies are required to adopt a Program Activity Architecture (PAA) structure that is in line with the way they operate and offer their services. This includes all program activities, sub-activities and operations that reflect the mandate and strategic priorities each government organization needs to address. (TBS, 2008:9)

ii. Reporting Documents

As shown in the conceptual diagram, there are four ministerial accountability output documents that every organization in the Canadian federal public sector is responsible in communicating all aspects of planning and performance. These are the organization's Annual Reference Level Update (ARLU), Report on Plans and Priorities (RPP), Departmental Performance Report (DPR) and Performance Management Agreements (PMAs). These reports focus on the expected and actual results of the strategic, program and activity outcomes departments or agencies are committing to managing for better results. (TBS, 2008:2)

iii. Influential Reports

In order for departments and agencies to have strategic direction in respects to the government's broader priorities, there exist several mechanisms that influence and guide the way organizations should improve their services. For example, by having MAF assessments, the TBS is establishing monitoring reviews that helps all departments and agencies move towards the achievement of strategic outcomes. Another example is having an enterprise risk profile. It is important that a picture of the potential risks be available within departments and agencies as a source to identify issues and priorities. (TBS, 2008:4)

External context of the CBSA

The linkage between an *integrated risk management framework* and the CBSA is realizing that this initiative is part of a horizontal government-wide implementation plan that the federal Canadian public service is currently putting in place as a result of a modernization in management practices. Thus, when adding a risk information repository as part of an integrated risk management approach, it is important to outline the following key factors that could affect the design or implementation of this system: (TBS, 2008:2)

- TBS is currently updating the 2001 integrated risk management framework and its implementation guide to make sure it reflects national and international best practices; (TBS, 2008:6)
- TBS is developing new and tailored tools and guides that respond to the needs and capacities of all departments and agencies in terms of risk management. This includes having a (universal risk taxonomy, capability model, risk decision-making model, competency model) as well as a training plan etc; (TBS, 2008:10)
- TBS is putting together a proposed "new" risk management framework that includes a policy instrument that sets out expectations and specific principles for managing risk within the public service; (TBS, 2008:12)

The following is a conceptual diagram that captures and links all aspects of this initiative; the federal Canadian public service; the CBSA; the integrated risk management framework and the risk information repository system as a supporting element for decision-making.



Figure 12: Linking Risk Information Repository to External Environment

4.2.2 INTERNAL ENVIRONMENT

The Canada Border Services Agency (CBSA) is a Canadian Government Agency that was established in December 2003 as a part of the Public Safety portfolio to protect Canadians while maintaining border services. It specifically focuses on the enhancement of border security by developing measures and programs to effectively and efficiently carry out its border services. (CBSA-DPR, 2008:8) The following is a list of these activities: (CBSA-RPP, 2008:8)

- Administering legislation that governs the admissibility of people and goods, including plants and animals, into and out of Canada
- Detaining those people who may pose a threat to Canada

- Removing people who are inadmissible to Canada, including those involved in terrorism, organized crime and war crimes or crimes against humanity
- Interdicting illegal goods entering or leaving the country
- Protecting food safety, plant and animal health, and Canada's resource base
- Promoting Canadian business and economic benefits by administering trade legislation and trade agreements to meet Canada's international obligations
- Enforcing trade remedies that help protect Canadian industry from the injurious effects of dumped and subsidized imported goods
- Administering a fair and impartial redress mechanism
- Promoting Canadian interests in various international for and with international organizations
- Collecting applicable duties and taxes on imported goods

To deliver these services, the CBSA operates in a complex environment that deals with risk on a daily basis. It needs to be able to identify, assess and mitigate risk in order to balance the need to support national security and public safety. For this reason, the CBSA needs to have the necessary risk management practices as an integral part of the way it delivers its strategic and operational activities. The following is a detail description of the agency's efforts in working towards an efficient and effective management that incorporates modern risk management practices.

CANADA BORDER SERVICES AGENCY

Presently, most departments and agencies in the public sector in Canada are in the process of implementing an enterprise risk management initiative, especially organizations whose business

nature is driven by risk. As noted above, the CBSA is an operations-oriented organization in which decision-making is inherently risk informed. The agency not only manages a complex mandate but it also operates in a volatile environment. Risk is naturally incorporated in the everyday operational business in which decisions can impact the safeguard of Canadian lives. As such, the agency focuses continually on the improvement of its risk management practices. (CBSA-DPR, 2008:8) The CBSA has set to focus its attention and resources over the next four years to implement an ***Integrated Risk Management Framework*** *(IRMF)*; a task that is not easily put into practice and requires a considerable amount of effort.

INTEGRATED RISK MANAGEMENT FRAMEWORK (IRMF) BACKGROUND

The CBSA initially identified the need for an IRMF as a priority area back in the fiscal year of 2007/2008 when the agency released its Management Responses and Action Plans on November 1, 2007. It was an attempt to respond to TBS's initiative and also assuring its commitment to the recommendations outlined in the report by the Office of the Auditor General, *Keeping the Border Open and Secure*. (Interis, 2008:1)

With the direction of the consulting firm Interis Consulting Inc., the CBSA was able to initiate a needs assessment report. A study report that reviewed existing risk management practices against desired outcomes and best practices to properly identify the gaps that the agency should effectively address.

The following is an overview of the key findings or gaps that Interis Consulting Inc. outlined in the needs assessment report (Interis, 2008:3-15)

- The CBSA presently manages a complex mandate. It is responsible for providing integrated border services that support national security and public safety priorities while facilitating the free flow of persons and goods. This business environment demands a more integrated approach to risk management.
- The CBSA does not have a systematic approach to risk management. There are many risk management practices and tools that are being utilized at different levels of the organization.
- The CBSA needs to use consistent guidelines across business lines and risk types in order to facilitate comparisons of risks across the agency.
- The CBSA needs to strengthen corporate governance and accountability by enabling senior management to understand how the risks are being managed.
- The CBSA does not have a way of sharing risk information to create an enterprise-wide view of the organization's risk profile, and increase the capacity to achieve corporate objectives.

Using these gaps, Interis Consulting Inc. was able to provide the CBSA with a tailored IRMF that was specifically designed to reflect the agency's current needs. Moreover, the framework is an indication of what the agency wants to achieve in terms of opportunities for improving its current risk management practices. (Interis, 2008:16)

DESIGN OF AN IRMF FOR CBSA

Interis Consulting Inc. used an Integrated Risk Management Infrastructure model to develop the CBSA's IRMF. This model encompasses other government and industry standards outlined in the literature of this research study. For example, risk management and audit standards, including the Canadian Institute of Chartered Accountants' Criteria of Control Model (CoCo), as well as the COSO models for internal control and enterprise risk management. It is also aligned with TBS's four pillars of integrated risk management outlined in the IRMF practical guide. (Interis, 2008:3)

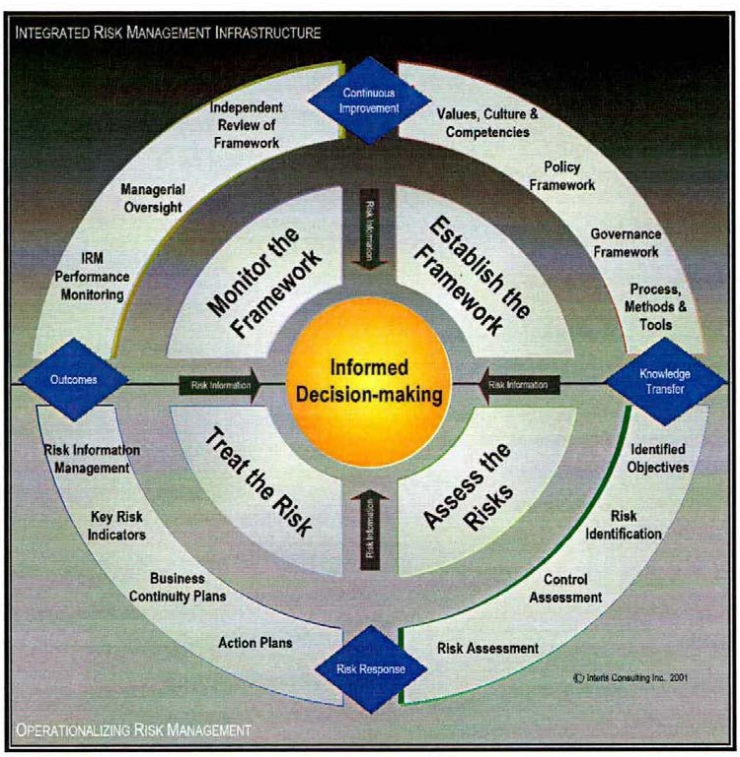


Figure 13: Integrated Risk Management Infrastructure (INTERIS for CBSA - IRM Handbook, 2008:3)

The IRMF model is divided into four elements which includes; Establishing the Framework; Assessing the Risks; Treating the Risks and Monitoring the Framework. The following is a brief overview of each of these elements: (Interis, 2008:3)

1. Establishing the Framework

This element entails putting together the necessary guidelines, tools and processes that will make up a solid IRMF. They are:

1. Risk management values, culture and competencies
2. A policy and governance framework that supports the agency's mandate.
3. Effective processes, methods and supportive tools

a) Risk Management Values, Culture and Competencies

Culture is central to an organization's risk environment. It is a key factor of how an organization sets its goals and objectives, operates and adapts over time (DND, 2004:8). Therefore, when establishing a framework, the CBSA needs to have in place a set of risk management values that will equip its employees with the competencies to move towards better risk management practices. This involves having a culture that shares a common understanding of risk terms, processes and tools to better facilitate the sharing of information across all levels of the organization. (DND, 2004:2)

b) Policy and Governance Framework

CBSA needs to have both the policy direction and the corporate governance to ensure the success of implementing an IRMF. Having a policy that incorporates industry standards such as,

the TBS's risk management standards and guidelines, will provide the agency with the support it needs to effectively meet the objectives and expected values of risk management practices. (Interis, 2008:3-4)

Concurrently, the agency also needs to have a sound corporate governance to make sure risk management is carried out by all operational and functional areas of the organization. For example, outlining specific roles and responsibilities will ensure that risk management be integrated in all parts of the CBSA's business activities, such as planning, resourcing, delivery, review, evaluation and reporting. Below is a representation of the agency's corporate governance structure and risk management process that Interis Consulting Inc. has proposed for the CBSA. (Interis, 2008:6)

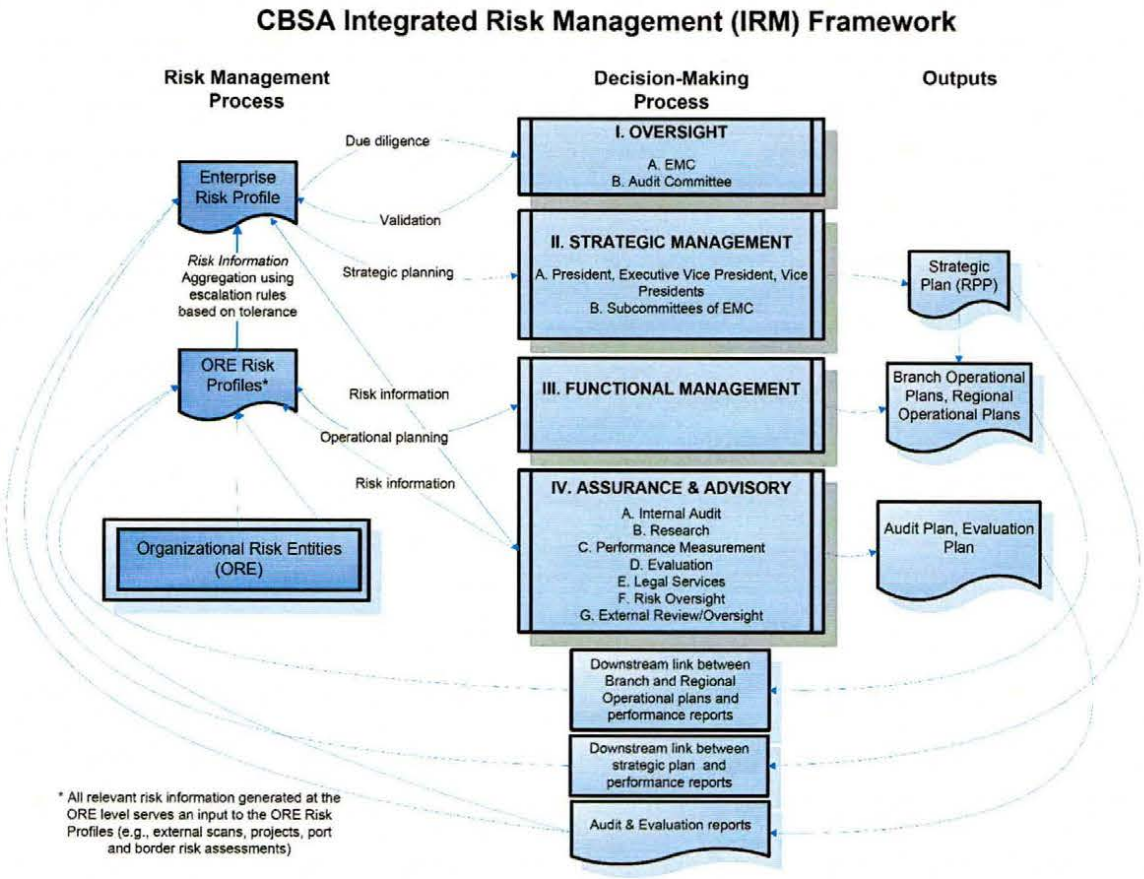


Figure 14: CBSA Integrated Risk Management (IRM) Framework (INTERIS for CBSA - Integrated Risk Management Handbook, 2008:5)

The CBSA's corporate governance structure involves four main organizational functions that have different management roles in the process of decision making. They are: (Interis, 2008:4-5)

1. Oversight Function: It is made up of the Executive Management Committee (EMC) and the Audit Committee. Together they are responsible for providing the highest level of oversight over the agency's systems of internal controls and management accountability.

2. Strategic Management Function: Parties involved are the President, Executive Vice President, Vice Presidents and the subcommittees of the EMC. Their role is to oversee strategy planning, resource allocation and management accountability.
3. Functional Management Function: This group is made up of managers from core operational groups whose role is to support the effective discharge of operations at the CBSA.
4. Assurance & Advisory Function: The internal audit and evaluation group are mainly responsible for overseeing that the other management groups have the necessary information to achieve the organization's objectives. Their role is to provide assurance that other functions in the governance framework are adequate.

Together these four functional groups assist in the process of making risk informed decisions. Each of them has specific risk management roles and responsibilities that provide the necessary feedback loops and points of integration in the organization both vertically and horizontally. See Appendix B for a detailed summary of the specific risk management roles and responsibilities of each of these function groups as proposed by Interis Consulting Inc. (Interis, 2008:6)

c) Processes, Methods and Tools

CBSA needs to put in place a risk management process that can be easily applied across the entire agency. The following is an illustration of this process along with the necessary tools that will enable the CBSA to generate the risk information it requires to meet its risk organizational objectives. (Interis, 2008:11)

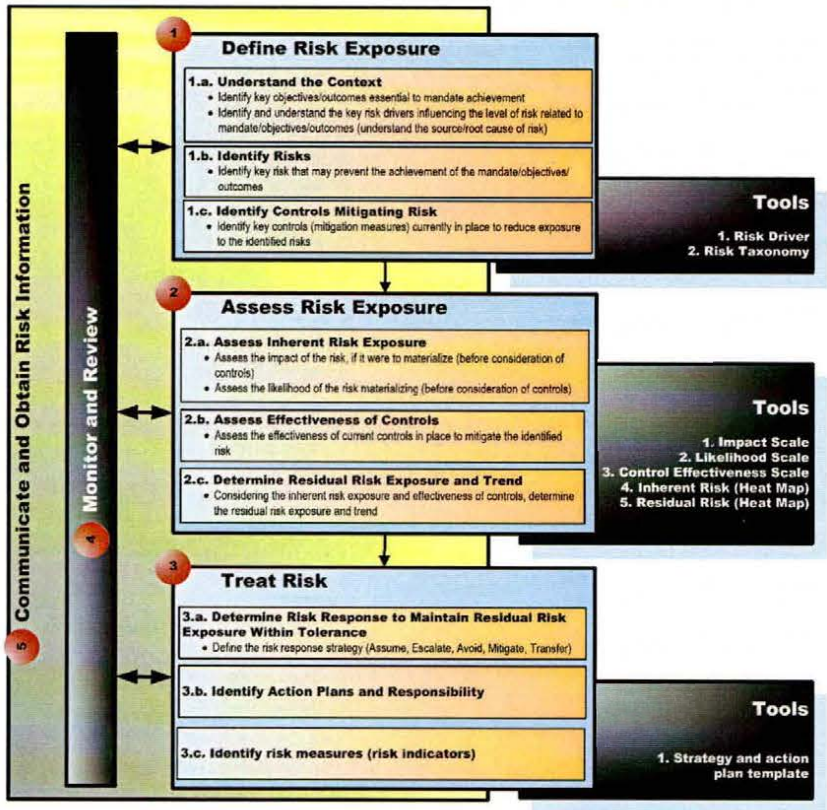


Figure 15: The Risk Assessment Process (INTERIS for CBSA - Integrated Risk Management Handbook, 2008:11)

Like most models used in the private and public sector, this risk assessment methodology uses a set of standard steps to effectively identify, assess and treat undesired outcomes. They are: (Interis, 2008:11)

- Establishing the context of the operating environment (Strategic/Organizational)
- Identifying the key risks and the drivers (root causes)
- Analyzing the risks (identify controls)
- Assessing the risks (compare against criteria to set risk priorities)
- Treating the risks (identify & evaluate treatment options, prepare treatment plans and implement plan)

- Monitor and review risk information
- Communicate and obtain risk information

Examples of the supporting tools involved in this process includes a risk driver list, a risk taxonomy table and the proper measuring scales such as an impact scale, likelihood scale and a control effectiveness scale.

2. ***Assessing and Treating the Risks***

These two elements put in practice the guidelines, tools and processes that were established by the infrastructure which developed in the first element of the model. It is an approach that enables the agency to identify, assess, manage, monitor and communicate its risk exposure. This process is a systematic approach that can be repeatedly applied throughout the entire agency. (Interis, 2008:4)

Organizational Risk Entities (ORE) Segmentation Approach

In order for an organization to have a strategic-level picture or the key risks its faces as a whole, risk information needs to be created. To do this, the concept of organizational risk entities is used. It entails segmenting the agency onto meaningful, specific entities that have distinct characteristics and activities or objectives in the fulfillment of the agency's mandate. Risk profiles are created for each of these entities so the identification, assessment and measurement of risks across the agency is aggregated to the enterprise-wide level picture. (Interis, 2008:6)

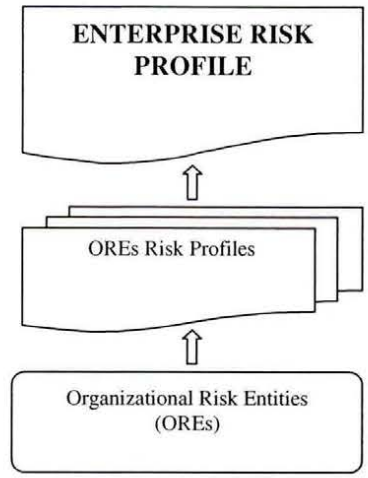


Figure 16: Risk Management Process (INTERIS for CBSA - IRM Handbook, 2008:5)

The ORE structure for the CBSA is based on the agency's Program Activity Architecture (PAA) which also includes the assessment of modal and regional levels.

The Enterprise Risk Profile

The development of the enterprise risk profile is created using an aggregation approach. A formal escalation process is applied to individual ORE profiles if the following is met:

1. ***Horizontal*:** Risks appearing across multiple ORE profiles;
2. ***Exposure*:** Risks rating high or very high in their residual risk exposure;
3. ***Risk Response*:** Risks that are deemed to be unacceptable at the ORE level;

Risks are moved up for consideration as part of the enterprise list of risks for the *Executive Management Committee* to review using the agency's corporate objectives and strategies. (Interis, 2008:9)

Once risks have been formally identified and reviewed, the agency needs to have a formal process to be able to respond to its risk exposures in order to make adequate risk-informed decisions. Key practices include: (Interis, 2008:9)

- Having the necessary risk responses along with an action plan;
- Having a business continuity plan that is aligned and responsive to key risk areas;
- Having key risk indicators (integrated with performance indicators) to report performance;

3. Monitor the Framework

The final element that is part of the CBSA's IRMF model is to have an infrastructure that ensures and monitors the performance of the framework. This entails having a system that incorporates practices which continuously monitors and improves the framework. Key practices include: (Interis, 2008:23)

- Having a risk management performance monitoring assessment in place that overlooks at changing conditions and improvements that need to be adapted in the framework;
- Having an oversight entity that oversees the quality of risk management and due diligence in decision making;
- Having an entity conduct independent reviews of the risk management function;

OVERVIEW

In general, implementing an IRMF is a process that requires time and effort to become fully functional and efficient. For this reason, its implementation process has been divided into four phases over the span of four years. At the end of each year, there are specific rollouts that need to be carried out. The agency is currently in phase 1, building the foundation phase. The following stakeholder analysis was put together as part of the internal context scan.

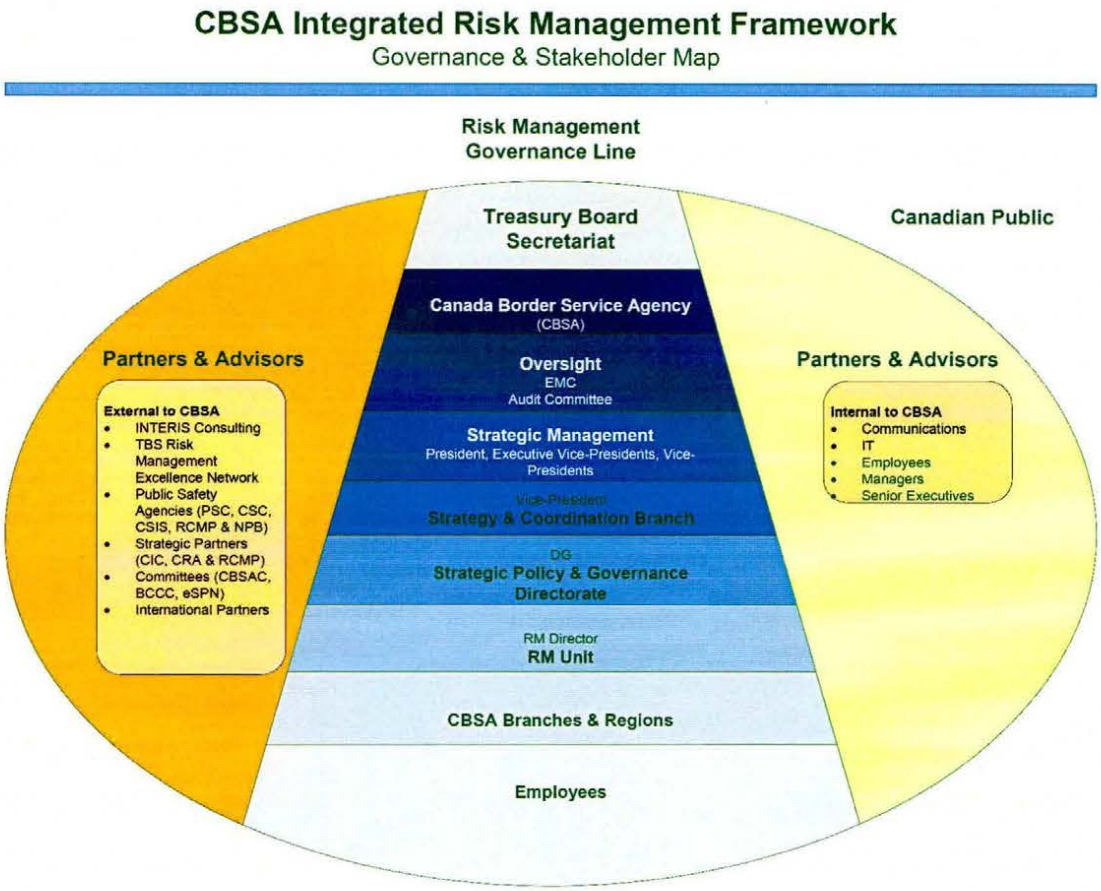


Figure 17: CBSA IRMF Governance & Stakeholder Map

4.3 A RISK INFORMATION REPOSITORY SYSTEM AS A SUPPORTING COMMUNICATION TOOL FOR THE CBSA'S IRMF

This portion examines the elements of the CBSA that the risk information repository system will influence as a supporting communication tool when implementing an *integrated risk management framework*. This analysis uses the Gelinas-James model as a diagnostic tool in order to describe the role of this system using an organizational perspective. This model consists of seven organizational elements. These include; Core Goals and Values; Structure; Work Processes, Strategy, Systems, People and Skills and Culture.

4.3.1 WHAT IS A RISK INFORMATION REPOSITORY SYSTEM?

A risk information repository is a data capturing tool that stores and manages risk information from internal and external sources. It specifically provides an organization with an information-oriented risk management capability which allows the sharing of risk information for analysis in support of making risk-informed decisions. (Interis, 2008:2)

Since this system is yet in the early stages of design at the Canada Border Services Agency, it is important to note that the specific data elements that will be provided by the risk information repository are still in the process of being officially identified. Thus, for the purposes of this study, the following assumptions were made:

1) The risk information repository will provide information that pertains to risk assessments;

- This includes all organizational risk profiles for each area in the ORE map put together by the agency (this is based on the Program Activity Architecture (PAA) structure all departments and agencies use to align their programs, activities and operations).
- The Enterprise Risk Profile is another element that will be included. This is the "enterprise-wide view" that captures all organizational risks that the agency should address.

2) The risk information repository will hold information related to risk management practices;
    - This includes all common risk language such as definitions, methodologies, processes, risk management best practices and etc.

3) Information from performance and reporting documents related to the Canadian federal public service;
    - Horizontal reports such as RPP, DPR, MAF assessment, Budget, OAG reports, Speech from the Throne, Strategic Plan and the Clerk's report.
    - Internal reports provided by the agency such as annual and mid-year reviews, PMFs, evaluations and assessments, audits and RBMF & RBAF.

4) Lastly, the risk information repository will also include all information related to trend analysis and monitoring mechanisms;

- This includes information from the area of monitoring performance (part of the organization that is responsible for putting key metrics into the agency's performance scorecard). Examples of this include performance indicators, risk indicators, etc.
- All information related to trend analysis as an output of the system itself.

Communication Tool

From the empirical study conducted, it was found that the risk repository system as part of the *integrated risk management framework* for CBSA will support the seven organizational elements in the following manner:

Organizational Elements	Risk Information Repository System
Strategy	- Provides risk information for setting strategic priorities
Systems	- Supports various business activities, such as planning, resourcing, delivery, review, evaluation and reporting;
People and Skills	- Creates a risk smart environment through the transfer of risk information (knowledge);
Culture	- Supports risk management capabilities across the organization by sharing one common risk process and language; - Supports access to common definitions, terminology, processes, tools and methodologies
Structure	- Provides risk information for levels of structure
Work Processes	- Allows the integration of risk information into daily corporate and operational activities; - Provides linkages between operations and programs
Core Goals and Values	- Encompasses the values and objectives of risk management and creates organizational effectiveness; - Allows information to be generated for decision-making process in order to reach organizational goals;

Figure 18: Risk Information Repository Analysis Results from Database

Structure

As a supporting communication tool in the *integrated risk management framework* for the CBSA, the risk information repository system connects the risk information from all areas of the agency. It provides senior management with a holistic corporate view of the risks and their relation with each other across the organizational structure.

Information provided by the risk information repository system may influence senior management decisions regarding the overall structure of the agency. As risks related to structure arise, senior management may be faced with making decisions that respond to questions such as:

- Do we have the right structure to support the activities that will help us achieve our objectives?
- Do we have the right structure that provides the required level of accountability and responsibility for decision-making?

Strategy

As defined in the diagnostic model, strategy is the element in an organization that outlines the way it plans to achieve its desired objectives as a whole. By implementing an *integrated risk management framework*, the CBSA will have the necessary support it needs to properly identify priorities and strategic goals that are aligned with the agency's needs. This includes having the required risk information for setting a strategic direction that aligns resources and activities related to the changes of policies, programs and operations.

The information provided by the risk information repository system will complement other existing tools that influence the decisions that are made so that the CBSA may achieve its strategic outcome. As a system that gathers information across the agency, it provides senior management with a complete view of the risks that impact the organization (i.e. HR, IM/IT, Financial, Operations, Programs, etc.) along with their inter-dependencies. As a result, the agency is then better equipped to produce strategic outputs that are risk-informed, such as the organization's Annual Reference Level Update (ARLU), Report on Plans and Priorities (RPP), Departmental Performance Report (DPR) and Performance Management Agreements (PMAs).

This then creates a clarity of purpose and enables the agency (as a whole) to understand and communicate where it needs to go in order to achieve its desired outcomes.

People & Skills

The CBSA must create organizational capacity in risk management to integrate risk management practices into the organization. As a system integrated into the organization's processes, the risk information repository system provides the agency with the support it needs to develop and maintain its competencies and knowledge in risk management. This creates a ***risk-smart environment through the transfer and sharing of risk knowledge***. Thus, as a supporting tool for the *integrated risk management framework*, it allows for this systematic approach to create the means to discuss, compare and evaluate different risks on the same page and improve decision-making at all levels. (TBS, 2001:10)

As a business tool, the risk information repository system provides the agency with the ability to address risks within the areas related to human resources (i.e. learning, skills, staffing, succession

planning, etc.). This information then may influence senior management from the agency with decisions in regards to people and skills. HR type risks may influence the organization in identifying required competencies, learning needs and strategic HR planning to ensure that the agency has an adequate workforce in respects to capacity and knowledge in order to deliver its mandate. This includes having the risk capabilities to make risk-based decisions in relation to organizational objectives.

Systems

Systems for the CBSA includes all business activities that support the agency in respects to information, planning, resourcing, delivery, review, evaluation, reporting and HR.

As part of CBSA's system, the risk information repository will support the agency's business activities such as planning, resourcing, delivery, review, evaluation and reporting by providing and sharing the required risk information. This is done through the process of risk assessments. By allowing access to risk information from all parts of the organization, the agency will have the opportunity to improve and design its systems in relation to strategic priorities. Another example includes the attempt to move towards effectiveness and efficiency. For instance, risk information may identify issues or provide options that relate to:

- Do we have the right systems in place to support our employees in achieving the organizations objectives?
- Are these systems effective and relevant to the organization's reality and forecasted needs?

The results of the decisions made may lead to introducing new systems into the organization, upgrading current systems to meet changes in the environment or the removal of redundant or ineffective systems.

Work Processes

The CBSA has adopted a Program Activity Architecture (PAA) structure that is in line with the way the agency operates and provides its services. This includes all programs, activities, sub-activities and operations that reflect the mandate and strategic priorities the agency needs to address. (CBSA-RPP, 2008:8)

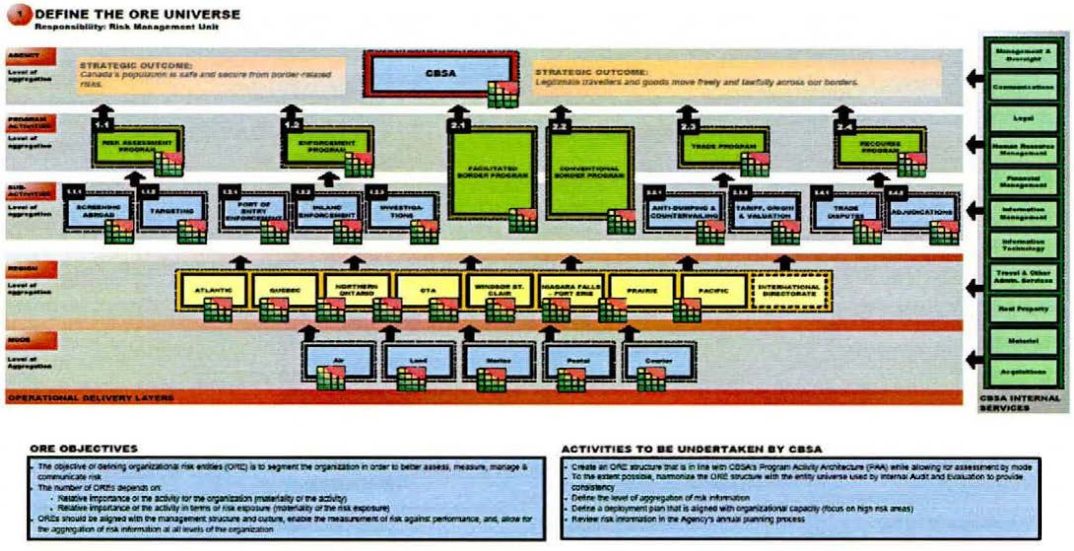


Figure 19: Suggested ORE Structure for the CBSA (INTERIS for CBSA - Integrated Risk Management Handbook 2008, p. 7)

Risk management needs to be integrated into the agency's existing work processes to ensure the integration of risk information is made a part of its daily corporate and operational activities. By using the agency's PAA structure to conduct risk assessments, the agency will have a common understanding of the risks it faces as a whole. More specifically, using risk information results in

a strategic and operational sense. For example, using the information from the risk information repository system influences decision made by senior management in regards to the design of the work processes within the agency. This includes issues that relate to the inadequacies and inconsistencies found in the agency's work processes both horizontally and vertically. (Horizontally, risk information can be used to develop and improve organization-wide policies, plans and priorities and vertically, functional units such as branches and divisions will be able to make decisions that relate to inadequacies or inefficiencies of programs and major initiatives.)

Culture

Implementing an *integrated risk management framework* is a management improvement effort that focuses on building a strong foundation to deliver better results for the Canadian public. It is a mechanism that reforms the way federal employees communicate their vision and reach their objectives. More specifically, it brings change to the management culture and environment which forms the way decisions are made. (TBS, 2001:2)

The risk information repository system supports **a risk-smart culture** within the CBSA. The risk information from the system will provide senior managers with the support they need to make better risk-informed decisions. It also encourages the use of a common risk language across the organization by allowing access to common risk definitions, terminologies, processes, tools and methodologies.

As identified in the agency's *integrated risk management framework*, creating a common risk management language, processes and tools allows the agency to evaluate, assess and mitigate organizational risks successfully. This then supports the means to discuss, compare and evaluate

different risks on the same page which improves decision-making at all levels. (TBS, 2001:10) Hence, it is important to have a communication tool such as a risk information repository that supports access to a common practical language that can be clearly understood by all employees.

The information obtained from the risk information repository system can also influence decision-makers to reflect on the culture of the organization and their roles in supporting the organization achieve its strategic outcomes. For example, senior managers could discuss issues such as:

- Does the current culture hinder the organization or support the organization's performance?
- What barriers and opportunities does the culture present?

Core Goals and Values

The risk information repository system supports the CBSA's shared commitment to move towards a more effective and efficient management. It does so by encompassing the values and objectives of risk management into its purpose, processes, and outputs. It strengthens the agency's ability to meet its core goals and vision of a smart border and a smart organization by providing managers with the ability to make better risk-informed decisions and identify opportunities for innovation.

The CBSA needs to have in place a set of risk management values that will equip its employees with the competencies to move towards better risk management practices. This involves having a

culture that shares a common understanding of risk terms, processes and tools to better facilitate the sharing of information across all levels of the organization. (TBS, 2001:10)

4.4 DISCUSSION OF RESULTS

The aim of this thesis was to conduct an exploratory study of how a risk information repository supports an integrated risk management framework reach organizational objectives using risk-informed decisions. This single case study research approach was conducted with the Canada Border Service Agency (CBSA) in order to have an in-depth understanding of their efforts and experience in implementing an Integrated Risk Management Framework. The goal was to understand the context of this establishment in order to get a better sense of how and why this risk information repository was worth exploring. Hence, this study allowed us to understand the importance of having a risk information repository as a supporting communication element within an organizational structure in which risk-information and risk-informed decisions are crucial in the delivery of its everyday operational business.

To understand the importance of having or adding such an element, an examination was conducted on the CBSA's external and internal business environment.

External Environment

As a result of the external environmental scan, the CBSA needed to adopt an *integrated risk management framework* to be compliant with Treasury Board Secretariat accountability requirements. This requirement was established through organizations acknowledging their need to handle risk and opportunities effectively and efficiently to support better decisions. This has been recognized as a better way to provide services that reflect good business strategies and capabilities.

The *integrated risk management framework* is a strategic horizontal approach that encompasses the necessary elements needed to ensure risk management practices are integrated and successfully carried out. In addition, it creates a clear direction which focuses in building a "risk smart" culture that employees require to getting started towards creating results. For organizations like the CBSA, this implies making risk-informed decisions as a way of protecting and keeping safe the Canadian borders and health and safety of Canadians.

Internal Environment

Through the use of the Gelinas-James organizational model, an internal environmental scan demonstrated that the risk information repository system has a potential impact on decision-making in the areas of Core Goals and Values; Structure; Work Processes, Strategy, Systems, People and Skills and Culture. The introduction and implementation of the risk information repository system within CBSA also has an impact on the organization within the areas identified through the Gelinas-James model and these areas may need to be addressed.

The sharing of risk information is critical to assure success in maintaining a risk-smart management culture. Organizations like the CBSA need to purchase or design a risk information repository system to allow and support the sharing of risk information across all levels of its structure. The aim at end is to reach organizational objectives using risk-informed decisions.

Currently, the agency has many risk management practices and tools in place that at times create duplication of effort, uncoordinated risk related activities and ineffective allocation and uses of resources.

As seen through the case study, an organization needs to be able to share risk information across all levels horizontally and vertically in order to make certain that risk management practices are integrated and supported using an integrated risk management approach. That is, having the communication tool that will sustain the following activities:

- Provide access to common definitions, terminology, processes, tools and methodologies that allows information to be generated and shared across all levels of the organization.
- Support the appropriate governance structures to reach its objectives and goals effectively and efficiently by implementing CBSA's various business activities, such as planning, resourcing, delivery, review, evaluation and reporting.
- Create a risk smart environment through the transfer of risk knowledge
- Allow the integration of risk information into its daily corporate and operational activities
- Encompass the values and objectives of risk management
- Provide linkages between operations and programs
- Support risk management capabilities across the organization

In order to successfully share risk information, the CBSA should have in place a risk repository system that addresses these needs. This way the agency will be able to develop a business case that clearly describes the success factors that incorporate its operating environment and the need to implement such an infrastructure.

As a communication tool, a risk repository system allows the CBSA to move towards better risk management practices through the use of an *integrated risk management framework.* It

particularly focuses on the benefits risk information brings to an organization such as the CBSA. The agency needs to have a structured approach to effectively address its organizational objectives. This includes having the supporting risk information management tool that assists the process of risk-informed decisions. Hence, the agency improves the way it delivers border services and effectively maintains the security and protection of the Canadian public.

The idea was to create a link between a risk information repository, an integrated risk management framework and the organization in order to examine all of the aspects surrounding its role as a supporting communication tool. That is, the role and meaning of a risk information repository as part of an *integrated risk management framework* using an organizational perspective.

Hence, conducting an exploratory study on this particular establishment allowed us to understand the importance of having a risk information repository as a supporting communication element within an organizational structure in which risk-information and risk-informed decisions are crucial in the delivery of its everyday operational business.

Limitations of Study

In identifying the role of a risk information repository within the CBSA, it was found that the data elements identified as "risk information" was only representative and limited to the assumptions made in the scope of this study. It is difficult to say that all related information was in fact included when the design of the system had not been clearly defined. Since this integrated risk management approach is still in the early stages of implementation, it will be years before

we encounter case studies that have fully integrated this risk management system particularly in the Canadian public sector. From the literature review, there was only one source of evidence that contained any reference to the type of data elements that may be produced from this repository system. The study however, could not take into consideration these elements since they were not representative of the CBSA. Information from sources outside of the public sector was and could not be available due to the high demand for such systems.

Implications of Study

The implications of this study can be identified in the context of both the organization (the CBSA) and the risk information repository system. This thesis showed that based on the case study analysis of the CBSA, it is now becoming increasingly urgent to develop a new approach in managing risk information for supporting decision-making. From the external context scan, it was noted that the TBS having an oversight role or manager for the federal Canadian public service, is taking a lead in putting together the necessary tools that will support risk management practices using a government-wide perspective. This includes having best practices based on a collection of learning strategies that include the findings of this study. By considering the organizational perspective in the application of risk repositories, departments and agencies can better understand the significance and benefits this tool can bring as a whole. Understanding its functionality using a holistic perspective, a high level conceptual picture was put together. This model shows the role of a risk information repository as a supporting tool in reaching organizational effectiveness.

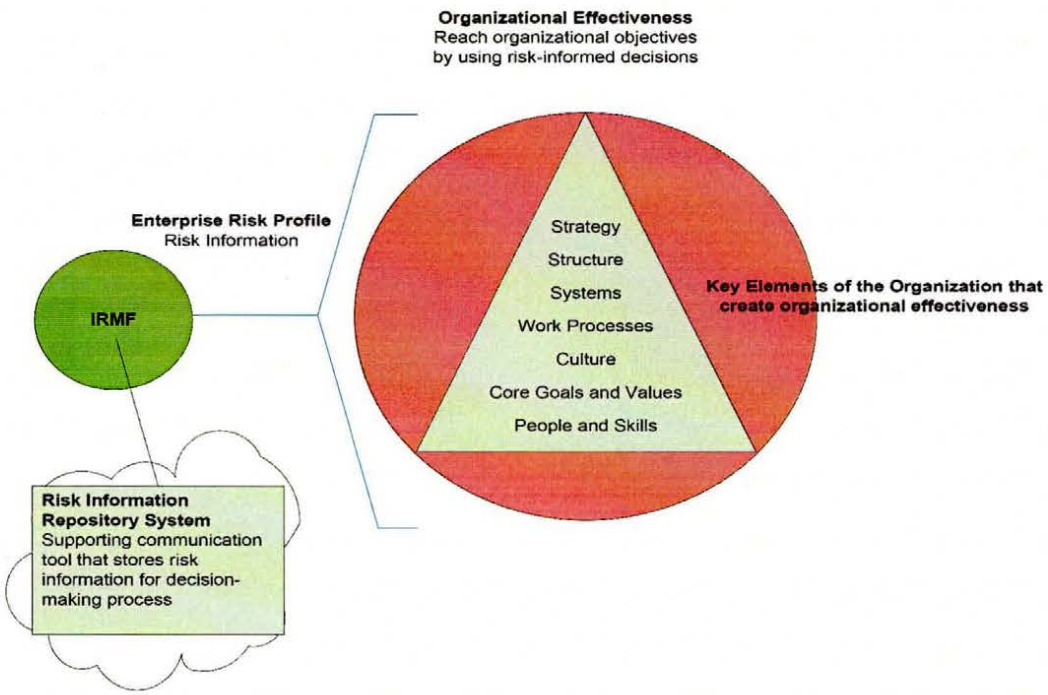


Figure 20: Conceptual Model for the Risk Information Repository as a Supporting Communication Tool

Recommendations for Further Study

This thesis was an exploratory study whose goal was to understand the role of a risk repository as a communication supporting tool and its ability to influence key elements in an organization in order to support risk-informed decisions. It may be recommended to other researchers to continue the creation of knowledge in the area of a risk information repository system by conducting an explanatory research study. One of the possible objectives of this study may be to identify the various types of risk information required for an effective and efficient risk information repository system. The researcher may ask questions such as:

- What risk information do decision-makers need in order to make well informed risk decisions?

- What are the minimal key functional areas within an organization that must provide risk data in order to make the risk information repository system relevant to the organization?
- What is the level of detail required in the data collected?

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