

Leveraging Knowledge
at the
Public Service Commission of Canada

A Discussion Paper

Public and private sector organizations the world over have vastly improved their effectiveness and efficiency by adopting management approaches that foster a more results-oriented corporate culture. In the context of public institutions rethinking and searching for new ways to respond to the challenge of governance in the 21st century, the Public Service Commission intends to develop effective policies in the public interest. As part of its role, the Commission will examine the implications of renewal and reform for the professional Public Service and will update how it discharges its duties...to reflect the Public Service's changing role and to provide value-added services in people management.

— Message from the President
Public Service Commission of Canada
“1998-1999 Estimates – A Report on Plans and Priorities”

Knowledge, without a doubt, is the critical capital in any modern organization. The ability to collect, interpret, direct and communicate knowledge is fundamental to developing an innovative organization.

— Carol Stephenson
President and CEO
Stentor Resource Centre Inc.

We are not constrained by information; we are constrained by sense making. We are not constrained by ideas, but by what to do with them.

— Bipin Junnarkar
Director of Knowledge Management
Monsanto

May 25, 1998

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Executive Summary

The ability of the Public Service Commission of Canada (PSC) to be successful in meeting its mandate will depend on its capacity to leverage the vast amount of knowledge that it has – in documents, people and processes. To develop this capacity requires a focused approach. This paper¹ proposes a mechanism for such a focus – a knowledge management network within the Public Service Commission.

Knowledge management, refers to the processes of creating, capturing, transferring and using knowledge to enhance organizational performance. Knowledge management is most frequently associated with two particular types of activities:

- # Those activities that attempt to document and appropriate knowledge that individuals have (sometimes called the codification of knowledge) and activities to disseminate that knowledge throughout the organization.
- # Those activities that facilitate human exchanges in which knowledge that is not codified (tacit knowledge) can be shared.

There are two primary reasons for developing such a capacity at the Public Service Commission of Canada:

- # knowledge is central to the Commission's mission and business objectives; and
- # the Commission must be seen as a leader in the Canadian public service and as a model for information and knowledge intensive organizations within government.

Building an internal capacity to promote and share information and knowledge is consistent with the strategic direction of the Commission. As outlined in the President's Strategic Direction, the management of knowledge as a strategic resource and the establishment of policies and practices to support knowledge sharing are critical to achieving the business goals of the PSC.

The proposal outlined here recognizes the importance of numerous initiatives underway at the PSC that have important knowledge components or outputs and attempts to build on these initiatives. What is needed now is a coordination mechanism to ensure that knowledge that is resident throughout the organization is easily accessible to others. The proposed coordination mechanism is a Knowledge Management Network. The Network will be composed of individuals from various business lines to identify and facilitate opportunities for knowledge creation, collection and sharing.

The distributed approach proposed here is based on the assumption that managing

¹ This paper was prepared by Mark Vale of IME – Information Management & Economics, Inc. for the Research Directorate of the Public Service Commission of Canada

knowledge is everyone's responsibility. Thus, managing knowledge content continues to be the responsibility of individuals and work groups throughout the organization where the expertise resides. However, the management of knowledge flow is cooperative and distributed to improve accessibility to knowledge by individuals across the Commission. The result will be improved performance by leveraging knowledge and an improved work environment for employees.

1. Introduction

Background

In recent years, organizations in the private and public sector have begun to focus on how to leverage their investment in intellectual capital.² Operationally, intellectual capital can be described as “the conversion of knowledge (a raw material) into something valuable (a product of knowledge).”³

In the private sector, the focus on intellectual capital (IC) has been driven by significant changes in markets during the past thirty years. These changes include:

- clients and customers becoming more knowledgeable and demanding higher quality,
- intense competition as a result of the globalization of markets, and
- the rapid increase in technological change.

Companies such as the Canadian Imperial Bank of Commerce (CIBC), the Royal Bank of Canada, Stentor Resource Centre Inc., Monsanto, British Petroleum, and Skandia have, in various ways, initiated programs that focus specifically on how knowledge is managed and measured in their organizations.⁴

Like the private sector, the public sector has seen a significant change in its business environment. While certain functions in government (e.g., policy, regulation) have always been knowledge intensive, these functions are more complex and interdependent and they require more knowledge than ever before. Other functions of government have become even more knowledge intensive as a result of being structured in alternative ways (e.g., special operating agencies, alternative service delivery, and partnerships with the private sector).

In the Canadian context, Program Review has resulted in declining budgets and a changing work force.

² The term “intellectual capital” was first coined by John Kenneth Galbraith in the 1970s. In the mid-1980s, Karl Sveiby developed a theory for measuring “knowledge capital.” The theory proposes that the “value” of a company is not fully explained by traditional accounting techniques. His theory was applied widely in Scandinavia. In Sweden, Lief Edvinson used Sveiby’s approach in developing the measurement of intellectual capital at Skandia, a major financial institution. Since then, the term intellectual capital has been used by companies in Europe and North America to describe the mix of human capital and structural capital that contribute to an organization’s value.

³ The Society of Management Accountants of Canada, “The Management of Intellectual Capital: The Issue and The Practice,” Management Accounting Issues Paper 16, *Management Accounting Practices Handbook*, 1998, p. 3.

⁴ Some examples of these programs are presented in Appendix 2.

In fact, with the recent Program Review, government has become even more knowledge intensive. In the first place, there has been more of an emphasis on the traditional, knowledge-intensive functions of government, such as policy and regulation. At the same time, the government has, to some extent, backed away from more costly approaches involving services and subsidies, and has turned to more knowledge-intensive approaches in which it functions more as a catalyst, coordinator, and integrator, and in which it provides information and knowledge.⁵

To adjust to the changing environment and to fulfill these new roles, government organizations must learn to leverage the knowledge of their workers.⁶

The Public Service Commission of Canada recognizes the challenge. To exercise a leadership role within its areas of responsibility and to provide timely advice on emerging governance issues that have an impact on the professional public service, the Public Service Commission of Canada (PSC) is making fundamental changes in how it conducts its business. By strengthening and focusing its strategic capacity, it is shifting from being primarily a transaction-based organization to an organization whose focus is to provide knowledge, research and strategic advice. This shift has led to the examination of how the PSC can leverage its knowledge to meet the needs of its constituencies.

Developing Knowledge to Build Intellectual Capital

If knowledge is the basis of intellectual capital for an organization, what does it mean to manage knowledge to build intellectual capital for the organization? What is knowledge and how is it different from information or data? Where does knowledge reside in the organization? To answer these questions, we need to begin with a few definitions of some key terms.

The concepts of “knowledge” and “information” and “data” are related, but not synonymous. Knowledge is dependent on information as information is dependent on data. Our approach is to associate these concepts as part of a continuum that describes the amount of organization or interpretation that occurs from observations. Figure 1 illustrates this continuum.

⁵ John Dingwal, “Knowledge Management: Approach for the Public Sector,” *Canadian Government Executive*, Vol 4, No. 1, p.15.

⁶ There are few examples of formal knowledge management programs in the public sector. One such program, at the Bank of Canada, has focused on building an infrastructure to support communities of practice. Some federal government departments have initiated activities related to knowledge management without formalizing knowledge management responsibilities. The same has occurred within numerous provincial government departments and ministries. (see Appendix 2).

Figure 1
The Data-Information-Knowledge Continuum

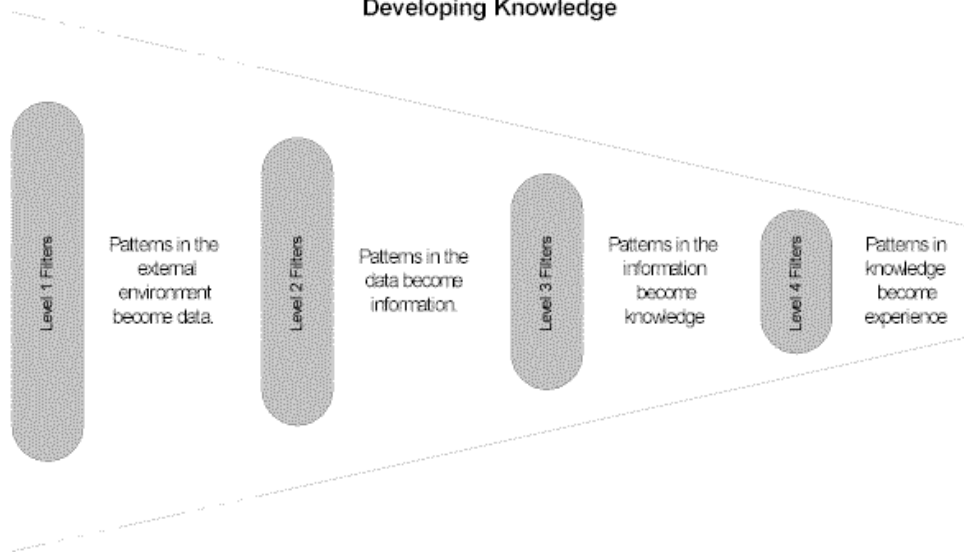


Movement along the continuum is characterized by:

- increased organization and “pattern recognition,”
- increased contextual interpretation, and
- higher value-added information processes.

The human activities that contribute to the creation of knowledge are illustrated in Figure 2. These activities are organized generally into filtering activities, with each successive “filter” representing higher value-added processing.⁷

Figure 2
Developing Knowledge



⁷ These activities correspond to the value-added information processes identified by Robert Taylor. See Robert S. Taylor, *Value-added Processes in Information Systems*, New York: Ablex, 1986.

The **first** level of filters relates to activities that filter **noise**: data definition and collection development policy; instrumentation; listening; measurement, counting, and sampling; and inventorying.

At the **second** level, activities are related to **organizing** the data into information. These activities include cataloguing and classification; systems design; database design; plans and schedules; and indexing.

At the **third** level, patterns in the information become news, intelligence and knowledge. The activities at this level are **analytical**: research, comparison, synthesis; critique; plan; and forecast.

And finally, the **fourth** level filters capture the more intangible knowledge. The filtering activities at this stage involve memory, belief and assumption, and intuition. The result of this four-stage filtering process is that knowledge becomes part of the experience of an individual or organization and has an impact on the decision to act or not to act.

Knowledge in the Organizational Context

“Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.”⁸

This definition highlights two important types of knowledge – *explicit knowledge* and *tacit knowledge*.⁹ Explicit knowledge is knowledge that has been articulated in formal language and which can be easily transmitted among individuals. It can be expressed in scientific formulae, codified procedures or a variety of other forms. Tacit knowledge refers to that knowledge which is embedded in individual experience such as perspective and inferential knowledge. Tacit knowledge includes insights, hunches, intuitions, and skills that are highly personal and hard to formalize, making them difficult to communicate or share with others.

Both explicit knowledge and tacit knowledge are important for the organization. Both must be recognized as providing value to the organization. It is through the conversion of tacit to explicit knowledge and explicit to tacit knowledge in the organization that

⁸ Thomas H. Davenport and Laurence Prusak, *Working Knowledge: How Organizations Manage What They Know*, Harvard Business School Press, 1998, p.5

⁹ For a more complete discussion of these concepts, see Ikujiro Nonaka and Hirotaka Takeuchi. *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press, 1995.

creativity and innovation are released and the potential for the creation of intellectual capital arises.¹⁰ The goal, then, is to leverage both explicit knowledge and tacit knowledge and to reduce the size of the knowledge gaps within the organization (see Figure 3).

**Figure 3
Leveraging Knowledge in the Organization**

	Know	Don't Know
Know	Knowledge that you know you have Explicit knowledge	Knowledge that you know you don't have Knowledge gaps
Don't Know	Knowledge that you don't know you have Tacit knowledge	Knowledge that you don't know that you don't have Unknown gaps

Finally, because knowledge is based on human processes, it resides throughout the organization. By mapping knowledge and developing processes to codify and share tacit knowledge, organizations are able to increase use of the knowledge they have and reduce the knowledge gaps.

Mapping Knowledge at the Public Service Commission

The Public Service Commission has developed expertise in a number of areas that can serve as a starting point for identifying strategies for managing knowledge. Some of these domains include:

- pedagogy and learning,
- human resource competencies,
- testing and assessment,
- social factors affecting the public service,
- planning and evaluation,
- research methodology and measurement, and
- change management.

¹⁰ See Nonak and Takeuchi, *op cit*.

Many of these knowledge domains are interdisciplinary and cross organizational boundaries within the Commission. To improve the performance of the PSC, both formal and informal processes and tools are needed to identify, codify and share the expertise that exists throughout the Commission.

At the same time, the output of **all** of these knowledge domains spans the boundaries between the commission and its constituencies. This is to say that knowledge is a key product of the Commission. By leveraging its knowledge, the commission will be able to deliver higher value service to its constituencies.

What is Knowledge Management?

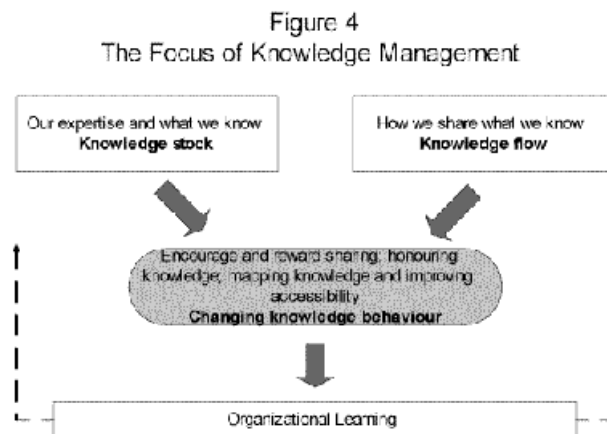
Knowledge management, then, refers to the processes of creating, capturing, transferring and using knowledge to enhance organizational performance. Knowledge management is most frequently associated with two particular types of activities:

- Those activities that attempt to document and appropriate an individual’s knowledge (sometimes called the codification of knowledge) and activities to disseminate that knowledge throughout the organization.
- Those activities that facilitate human exchanges in which knowledge that is not codified (explicit knowledge) can be shared.

“At its core, it [KM] is to use more of what people know. Companies need to create opportunities for private knowledge to be made more public (shared) and tacit knowledge to be made explicit.”
--Arthur Cordel

While technology is often used to facilitate these activities, the focus of knowledge management is not on technology solutions, but on the content of knowledge within the organization and how that knowledge can improve organizational performance.¹¹

The focus here is on managing both the “stock” of knowledge (or what is known) and the “flow” of knowledge (or how what is known is shared) within the organization, as illustrated in Figure 4. This focus is different than a focus on organizational learning. Organizational learning can be viewed as an outcome of effective knowledge management practices (see Figure 4) as well as other practices in the organization.



¹¹ See Appendix 2 for examples of knowledge management programs.

Why Develop Knowledge Management Capacity at the PSC?

There are two primary reasons for developing a knowledge management capacity at the Public Service Commission of Canada:

- knowledge is central to the Commission's mission and business objectives; and
- the Commission must be seen as a leader in the Canadian public service and as a model for information and knowledge intensive organizations within government.

Achieving business objectives

If the Public Service Commission is to meet its objectives, it must improve the way it creates and shares its knowledge. New work and the pressing demands for just-in-time information are pushing the need to manage knowledge as a strategic resource to foster sharing, learning and improved services to its stakeholders. Furthermore, the PSC is positioning itself as the preferred source for HR information and advice to successfully carry out its stewardship and guardianship roles

The Commission has identified five strategic success factors that are mission critical to the commission:

- Innovative programs, services and practices;
- Value-added results, research and strategic advice;
- Shared knowledge, information and data;
- Planning and performance measurement; and
- A supportive infrastructure within the PSC that promotes sharing of information, identification of knowledge and best practices and makes learning portable.

Each of these success factors relies on the ability of the Commission to improve the way it creates, captures, and uses the knowledge of its employees.

Knowledge is not only a central **resource** for the Commission, it is also an important **output** of the Commission. A key business line – Policy, Research and Outreach – is dependent on the Commission's ability to harness and exploit its knowledge about issues facing the public service in Canada.

“It's day one of a new project. What is the first thing you do? Call together some people and ask for a brain dump? Point your Web browser in the direction of some likely sources? Corner a subject matter expert in the hall and grill her until she begs for mercy?”

And what happens when the information starts flowing in? If you're a good information scrounger, you'll be drowning in data. Then you have to read it, sort it, evaluate it, and figure out how you can make it work for you.

Multiply your efforts by all of the people in your company who work with ideas as raw material and you have a picture of why managing knowledge is a major business trend. Companies that run on knowledge – that's pretty much all companies these days – need ways to turn employees' knowledge into a managed asset.”

-- Patricia Galagan

The primary strategic objective of this business line is to:

Provide knowledge, intelligence, insight and advice to support the Public Service Commission's ability to champion an independent, professional, and representative public service.

Becoming a model within the Canadian public service

More and more, the primary business of federal government departments is the leveraging of information and knowledge to support the development of the Canadian economy and social fabric. To meet their objectives, departments are being challenged to manage their information and knowledge better and more strategically.

The Public Service Commission of Canada can become a leader within the Canadian public service, building on its relationships with federal government departments, in managing information and knowledge to achieve business goals. By focusing on knowledge management, the Commission has the opportunity to become a model for other federal government organizations.

Examples of Knowledge Management to Improve PSC Performance

One of the common knowledge gaps in most organizations is the lack of capturing experiential learning for key processes within the organization. Thus, staff often express the frustration of “reinventing the wheel,” when working with these processes.¹²

Two examples of this gap, in the context of the PSC, are the business planning cycle, and the preparation of briefing notes. In the current PSC Business Planning Framework does not include a formal process for capturing and documenting “what was learned” so that this knowledge can serve as an input into the next planning cycle. The result is that each planning cycle takes longer than necessary and participants in the planning cycle end up “starting over” each time.

Another example is the creation of briefing notes. Often, briefing notes are similar, but not the same, as previous briefings. However, few staff are able to consult previous models or, more importantly, the content of briefing notes across the Commission in order to build the new briefing note. To be sure, some branches or directorates keep previous notes (often in electronic formats) that can be used. However, a more structured method of retaining this knowledge so that it can be used easily throughout the Commission is needed. The result will be less time searching for information or recreating information and more time in ensuring that the briefing note is appropriate for the needs of the user.

¹² This “gap” was the primary reason the U.S. Department of Defense initiated its CALL program. The program involves the use of trained observers during military campaigns to document what happened and develop lessons learned for future military campaigns. This process combines the traditional “debrief” with input from trained observers to develop a more comprehensive database of knowledge resulting from the campaign.

Another gap, experienced in most organizations, is the ability to locate expertise quickly. This often occurs when one needs information quickly and asks the question, “who is the expert in his area?” or “who can I talk with to get that information?” Codifying expertise in the organization and making it accessible is one solution. Recently, a federal government department was hosting a delegation from Latin America on a visit to Winnipeg. The question was asked, “do we have anyone in our Winnipeg office who speaks Spanish?” By searching the corporate yellow pages (a database containing the interests and expertise of employees), the answer took two minutes to find. In fact, the department had two employees in Winnipeg who spoke Spanish. The department was able to include them in the hosting delegation.

Finally, the PSC does not have a good measure of its current knowledge assets. While there is recognition of the extensive knowledge that is present at the commission, there is not a clear presentation of the character or location of this knowledge.

In an environment of rapid change, reducing knowledge gaps becomes key to performance. The ability of the PSC to meet its mandate will depend on the ability to overcome knowledge gaps as well as the ability to leverage the vast amount of knowledge that it has – in documents, people and processes.

The Proposal

This paper proposes the development of a knowledge management capacity at the Public Service Commission of Canada. In the next section of the paper, we identify the key components of a knowledge management capacity and how knowledge management is supported by numerous initiatives currently underway at the Commission. In Part 3 we discuss activities that can help build this capacity and a mechanism for coordinating the activities. In the final section, the assumptions, dependencies and benefits of the proposal are presented.

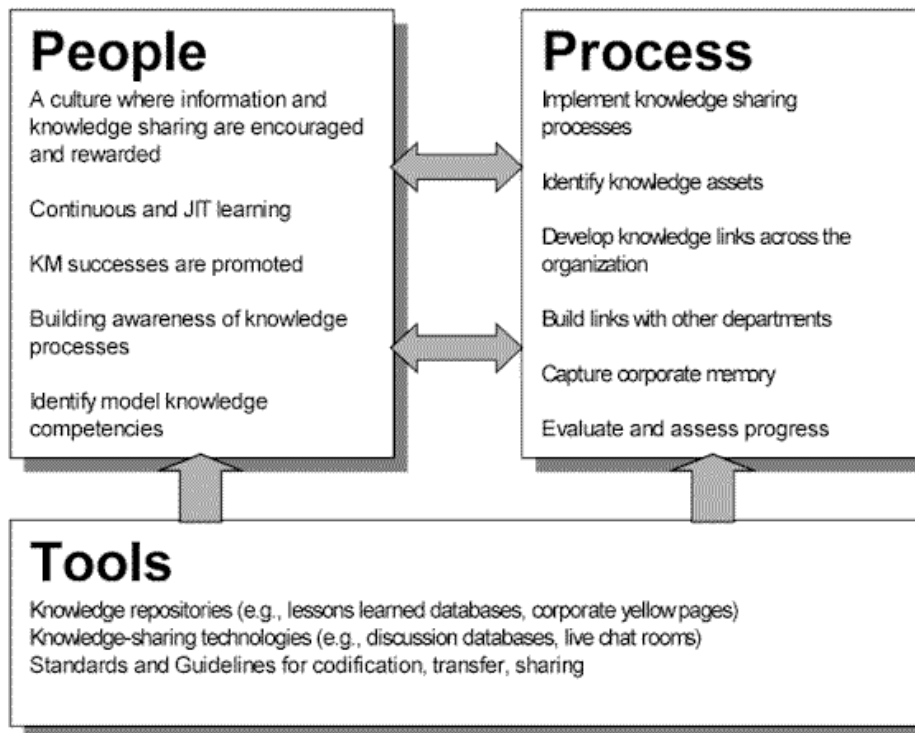
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Building a Knowledge Management Capacity

What is a Knowledge Management Capacity?

How organizations manage what they know focuses on the capacity and ability to generate, codify and coordinate and transfer knowledge to improve organizational performance. The organizational capacity for knowledge management is dependent on changing the way people behave and the processes the organization uses to develop and share knowledge. Both the people and the processes must be supported by enabling tools. Figure 6 illustrates these aspects of the organization's knowledge capacity.

Figure 5
Key aspects of an Organization's Knowledge capacity



The Role of Culture

The key to leveraging knowledge successfully in any organization is to develop an organizational culture that fosters sharing of information and knowledge. Sharing must be encouraged both formally and informally. Formal means of sharing include the development of communities of practice in which people working in a similar area or on a similar project are able to get together to talk about their work. This means providing the time and space for people to get together to share. Informal means of sharing, such as electronic discussion groups, are also an important means by which knowledge can be leveraged in the organization.

To facilitate sharing, a culture of “trust” and respect must be present, where employees do not feel threatened by sharing what they know.

Finally, in addition to the promotion of knowledge sharing, the organization must articulate policies related to the “ownership” of knowledge, to ensure that this asset benefits the entire Public Service Commission.

Knowledge management requires a knowledge contract. It isn't clear in most organizations who owns or has usage rights to employee knowledge. Is the knowledge of employees owned or rented? Is all the knowledge in employee heads the property of the employer? How about the knowledge in file cabinets or computer disk drives? What about the knowledge of consultants while consulting? Few organizations have policies to deal with these issues.

Linking Knowledge Management to Other Initiatives at the PSC

A starting point for sharing information and knowledge at the PSC can be the linking of numerous activities currently underway that focus on developing knowledge for the Commission. These initiatives include:

- the Information Management Framework;
- the Feedback Loop;
- Environmental Scanning; and
- the development of a continuous learning capability.

Each of these initiatives has important knowledge components. However, coordination and sharing will be necessary to leverage the knowledge gained from these activities. In this section, we describe the link between knowledge management and these initiatives. In the future, we would expect that new knowledge-based initiatives would emerge throughout the organization.

Knowledge Management and the Information Management Framework

Just as the creation of knowledge is dependent on good information, the management of an organization's knowledge is dependent on good information management practices. We recognize the need for management activities related to the organization's information processes and resources as well as the organization's knowledge resources and processes.

Table 1 on the following page identifies the focus of attention for knowledge management and information management programs in organizations and provides examples of outputs from these two types of programs.

At the PSC, the Information Management Framework can provide a basis for the development of practices that will support improved sharing of information and knowledge.

Table 1
Comparing Knowledge Management and Information Management

Program	Focus of Attention	Example Outputs
Knowledge management	<p>Establishing and managing processes by which tacit knowledge can have a positive impact on organizational performance.</p> <p>Providing enabling technologies for the codification and sharing of corporate knowledge.</p>	<p>Establishing communities of practice</p> <p>Knowledge managers as part of project teams</p> <p>Processes and tools for capturing and codifying knowledge of departing employees</p> <p>Knowledge sharing tools and knowledge bases</p>
Information Management	<p>Management of the life-cycle of information: bringing information into the organization, the creation of new information, the storage and retrieval of information, the development of new information products, the retention, archiving and disposal of information.</p> <p>Management of work processes related to the collection, creation, storage and retrieval and processing of information.</p>	<p>Identifying information needs</p> <p>Acquiring, filtering, synthesizing information</p> <p>Conventions for storing information, especially electronic information</p> <p>Conventions for labeling information to ease processing</p> <p>Data definition standards</p>

Feedback Loops

The creation of a feedback loop that would allow the Public Service Commission and its partners to monitor the health of the human resource system in the federal public service is another initiative that has an important knowledge component. The intent of the feedback loop is to gather and integrate quantitative and qualitative information on departmental and public service-wide performance in order to assist the PSC in carrying out its mandate and responsibilities. The feedback loop initiative will be inclusive in providing information, knowledge and understanding on human resource and people management, without concern about the restriction and overlap of the mandate. To be successful, the feedback loop will need processes and tools for capturing and sharing the knowledge that results from the feedback in order to leverage this knowledge both within the PSC as well as with PSC constituencies.

Environmental scanning

The goal of the environmental scanning initiative is to provide an integrated and organization-wide capability within the PSC to develop early warning about potential events involving the PSC's main stakeholders. The primary goal is to collect, analyze and interpret information from a variety of already available, but mostly untapped, internal and external sources. While directed at the needs of senior management, the resulting intelligence from the environmental scanning initiative will be of importance to others at the PSC. As this scanning function develops, it will become more important to ensure that the processes and systems for capturing and sharing this intelligence are open to all areas. Moreover, links between the centralized environmental scanning unit and functional units in the organization will be necessary.

Continuous Learning

The Public Service Commission is committed to becoming a learning organization – one that maximizes potential and creates, acquires and disseminates knowledge throughout the organization. The PSC is actively working with partners in the Canadian Centre for Management Development, the Treasury Board Secretariat and the Privy Council Office to develop public service-wide learning strategies that favour continuous learning opportunities at more strategic levels. The PSC is also working with partners to develop the Public Service Learning Resource Network for non-executives. These initiatives have a strong knowledge component that will need to be captured and shared in order to maximize the effectiveness of the initiatives.

Summary

The Public Service Commission has already launched a number of knowledge initiatives to improve performance and better serve its constituencies. It is expected that many other initiatives will develop in the future in different parts of the organization. However, to gain the full benefit of these initiatives, the PSC will need to manage the process by which this information and knowledge are analyzed and shared so that they become a basis for new research, knowledge and learning. What is needed now, is a coordinated effort to build a capacity to **manage** this knowledge across the Commission in order to leverage the PSC's investment in knowledge. To ensure this happens, a supporting knowledge infrastructure will be necessary.

3. The Knowledge Management Infrastructure

Developing a knowledge management capacity requires a dedicated effort. In this section of the paper, we first propose guiding principles of knowledge management for the Commission. These principles will provide a framework for activities that can be undertaken to develop the capacity. Finally, we discuss a mechanism for coordinating these activities at the Commission.

Guiding Principles

To guide the development of knowledge management at the Public Service Commission, the following four principles are proposed.

Knowledge, Information and Data Should Be Shared.

Sharing will be rewarded. We will create an environment where people feel free to contribute what they know – and to seek out knowledge from colleagues. Performance evaluations should be linked to how well a person contributes to generating, assessing and transferring knowledge.

Knowledge will be available to all employees except where there is a demonstrated need for confidentiality or protection of privacy.

Our knowledge will be shared to support collaboration with other federal government departments, other levels of government and our other partners.

We will establish processes and tools to enable us to capture and share our knowledge in order to support collaboration.

Knowledge Should Be Accessible

Our knowledge should be accessible in a way that is useful to the user (i.e., attracts attention and engagement on the part of the user).

We will ensure that our knowledge is visible and that knowledge of potential value to individuals, the private sector and other agencies is easy to access.

Our tools will support content creation, linkages, navigation and retrieval of knowledge at the PSC.

We will integrate knowledge systems with business applications.

Knowledge is a Valuable Departmental Resource

Knowledge will be managed to protect the PCS's intellectual property rights and to preserve our corporate history. We will capture and secure our corporate memory and

identify our knowledge assets.

Our knowledge should promote the corporate identity and public image of the Commission.

Managing Knowledge is Everyone's Responsibility

Knowledge is our business. We will identify value-added knowledge products that are accessible, useable, timely and affordable for our constituencies.

Effective management of knowledge requires hybrid solutions of people and technology.

Knowledge should support cost-effective delivery of programs, activities and business commitments.

Managers should be accountable for knowledge management in their areas and ensure staff have the training and skills development to manage knowledge effectively.

Activities

There are a number of activities that will give life to these principles at the Public Service Commission. The purpose of these activities will be to demonstrate the value of knowledge management for the PSC. For purposes of discussion, we have grouped the activities according to the three key areas of knowledge management capacity – people, process and tools. We assume that the lead for individual activities will be taken by different organizations in the Commission.

People

Maintain membership on Interdepartmental Knowledge Management Forum. This activity will allow the PSC to continue to learn from other organizations in the federal government.

Continue promotional seminars on knowledge management. These seminars will continue to build awareness of knowledge management principles and the benefits of knowledge management.

Develop KM component to relevant training courses. This activity will result in the integration of knowledge management principles into other activity areas.

P Develop model competencies for knowledge workers. By developing these competencies, the Commission will be able to match skills development with organizational needs.

P Coaching and facilitation on request. Developing knowledge management coaches will allow organizations throughout the Commission to implement knowledge management principles.

Process

Facilitate KM Process in one work area or in one major process within the Commission.

This activity will serve as a demonstration project for knowledge management in the Commission. A “quick win” will also serve to demonstrate the benefits of knowledge management.

Develop a knowledge map of PSC. This will serve to identify knowledge assets that exist in the Commission.

Develop a knowledge management component to exit interview process. This activity will demonstrate ways to capture corporate knowledge and memory.

Develop methodology for measurement of intellectual capital in the public sector. By developing a methodology that assesses intellectual capital in the public sector, the PSC can deliver a demonstrable product to federal government departments to assist them in assessing knowledge management in the federal public service.

Develop methodology and measure the benefits of knowledge management activities in the PSC. This activity will help the Commission assess its progress in organizational performance as a result of improved knowledge management.

Tools

Continue Chronicles series (formerly called Book Chronicles). The chronicles provide a forum for knowledge sharing within the Commission.

Develop new *Intracom* applications. The PSC Intranet can be an effective tool for knowledge sharing among communities of practice within the PSC. The Intranet can also be an effective way to share knowledge that is relevant to multiple areas of the PSC. The Intranet should be promoted and new applications developed to enhance knowledge access at the PSC.

Develop PSC Yellow Pages to include employee expertise and interests. A corporate yellow pages can be an effective tool to enable employees to quickly identify expertise within the Commission.

Develop PSC Alumni Directory. Employees often leave the Commission for positions within the public sector. These employees can continue to be a resource for PSC activities. Maintaining a PSC Alumni Directory can also serve as a measure of the impact of the PSC on the public service.

Develop “lessons learned” database. Lessons learned during major projects and processes (e.g., annual business planning cycle) can be an effective learning tool for individual employees and the organization as a whole.

Develop database of “approved” or “final” documents. Often, the final form of documents is not easily accessible by employees. A database or collection of

documents, positions, speeches that have been “approved” or are in “final form” can reduce the time it takes employees to create new information and knowledge.

Coordinating the Activities

Coordinating these activities will require an infrastructure to plan, execute and monitor progress in knowledge management. Models of such an infrastructure in the private sector vary from a rather decentralized approach to a more centralized approach with a significant number of resources.¹³

In the context of the PSC, the proposal here is for a decentralized approach that links areas of the organization together and where responsibility for knowledge management is distributed.

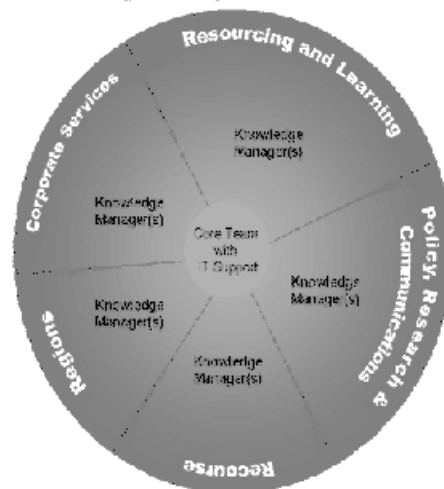
The main characteristic of the proposed infrastructure is a network of knowledge managers throughout the PSC. The exact number of knowledge managers would depend on the size and nature of each business line. At a minimum, there should be one knowledge manager for each business line. These knowledge managers would be linked and supported by a core team of three people. Figure 6 summarizes the proposed KM Infrastructure at the PSC.

Roles and Responsibilities

The KM Network

The Network of Knowledge Managers would be responsible for identifying opportunities for improving management practices and linkages across the organization. The network,

Figure 6 --Knowledge Management Infrastructure at the PSC



¹³ For example, CIBC has a team of ten individuals throughout the organization that form a knowledge management network for the bank, while consultancies such as Ernst and Young and Arthur Anderson employ hundreds of people in their knowledge management programs to support world-wide consultancy practice areas.

supported by a core support team, would meet regularly to assess the knowledge components of work in each business area and to identify opportunities for capturing and transferring this knowledge beyond the business area. Additionally, the network members would be key advisors in the development of communities of practice within the Commission.

Core Team

The Core Team would be built from existing project team members in the Policy, Research and Communications Branch. Its role would be to provide leadership on knowledge management issues and to ensure that the network of knowledge managers remains active and open to new learning. The Core Team will facilitate and cultivate communities of interest, perform research, administer content and build awareness and skills around knowledge access and use. The presence of a core team of knowledge managers ensures that new information (e.g., models, best practices) from other government departments as well as from the private sector is available to the broader KM network.

Resources

The model presented here would require modest resources from all areas of the Commission to be committed to knowledge management. However, the assumption is that, other than the core team, these resources would be committed on a “part-time” basis, while engaged in larger corporate initiatives.

The focus is on coordinating knowledge management activities in the organization. Thus, at this point, only a modest O&M budget is proposed. Specific activities may require additional monetary resources, depending on the scope of the undertaking.

4. Assumptions, Dependencies, and Benefits

Assumptions

This model of a KM infrastructure is based on the following assumptions:

Knowledge management is everyone's responsibility. As such, management of knowledge should be distributed throughout the organization. By creating a network infrastructure for knowledge management (rather than a centralized function), the PSC will be able to promote responsibility for knowledge management throughout the organization.

The Commission is "undercapitalized" in knowledge management. To be sure, knowledge is already being managed at the PSC. However, there is no formal means by which to monitor and execute effective knowledge management. A commitment of resources is necessary to address this issue. The goal is to improve knowledge management practices in order to improve organizational performance.

While knowledge management is expensive, not managing knowledge is even more expensive. What is the cost of ignorance? How much does it cost an organization to forget what key employees know, to not be able to answer clients' questions quickly or at all, or to make bad decisions based on faulty knowledge?

The Commission cannot afford to ignore the issue of knowledge management. The result of ignoring knowledge management is a reduction in the quality of work, increased costs, and increased staff frustration. Additionally, the Commission will continue to lose corporate memory. Perhaps most important is the risk of becoming less relevant in terms of the service and advice the Commission provides to its client departments.

Dependencies

The proposed initiative is dependent on the following:

Effective information management practices. It is essential that the PSC develop and implement a practical and effective information management framework to ensure that employees have access to the right information on a timely basis and in a way that is useful to the employee.

The PSC promote and reward the sharing of information and knowledge. In many organizations, the PSC included, there is a reticence to share information and knowledge freely. Sharing must be expected, and rewarded, if the PSC is to leverage its investment in knowledge.

The adoption of Knowledge Management Principles (see Appendix 3). These principles set the basic guiding principles for knowledge management at the PSC. These principles will need to be formally adopted by senior management and promoted by all management to facilitate the work of the PSC Knowledge Management Network.

Risks

Based on the experience of other organizations, associated with managing knowledge have been identified. These risks include:

Creating a bureaucracy. It is easy to let the commitment to knowledge management lead to major commitment of human resources and the development of a bureaucracy surrounding the knowledge management team. The proposal here for a distributed knowledge management network is designed to mitigate against risk.

Perpetuating and not purging obsolete knowledge. Knowledge management is ongoing. It requires processes to generate and distributed new knowledge rather than simply codifying existing knowledge. By locating the knowledge management network members throughout key work areas, new knowledge can be identified and cultivated.

Not achieving a positive return on investment. Like other issues of organizational performance, knowledge management must be monitored to ensure an appropriate return on investment. Performance measures identified below will assist the Commission in ongoing evaluation of the investment in knowledge management.

Distraction or less focus on work at hand. Knowledge management should not become an end in itself. Rather, knowledge management should become part of ongoing value-added work processes. For this reason, the proposed knowledge network is mandated to integrate knowledge management practices into the work of the Commission.

Benefits

Expected Outcomes

Effective management of the Commission's knowledge will allow it to improve the quality of its services while operating more efficiently. The potential value to the organization is immense. As an example, here are the expected outcomes from this proposal:

In **two years**, the Commission will be able to:

access a file on any employee in the commission and find out the skills, interests, and career plans for the individual;

be linked to public service organizations in other jurisdictions around the world to share best practices in HR capacities and practices; and

be able to rely on a core group of knowledge databases that outline lessons learned from key processes within the Commission.

In **five years**, the Commission will be able to:

provide just-in-time training for developing HR competencies;

provide, on demand, advice, services and products based on past and present analytical studies, reports, and other information, including knowledge; and

access information about any employee in government and know how much training he or she has received, what the individual's job aspirations are and be able to provide assistance in finding developmental training.

Performance Measures

Finally, the results of the knowledge management efforts must be measured to monitor progress. The purpose here is to identify potential performance measures. The measures will need to be operationalized and estimates developed (both baseline estimates and performance estimates).¹⁴ Ten suggested performance measures are:

Reduce the time taken in key business processes (e.g. producing planning documents).

Increase the level of collaboration in key initiatives at the PSC.

Increase the productivity of knowledge workers.

Improve the quality of decision making.

Improve client satisfaction (both internal and external) with knowledge products of the Commission.

Improve employee awareness of knowledge sources within the Commission.

Increase the number of submissions to knowledge bases.

Increase the number of knowledge-based products launched.

Increase the use of knowledge repositories.

Increase employee satisfaction with the ability to access knowledge.

¹⁴ There are numerous examples of measures used by the private sector in measuring both intellectual capital as a stock for the organization and knowledge flows within the organization. These measures will need to be adapted for use in a public sector context and, more specifically, in a way that is meaningful and practical to the Public Service Commission of Canada.

Appendix 1

Examples of Knowledge Management Programs

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Company/Organization	KM Management Practices	Measurement Technique
Skandia (AFS)	Knowledge Sharing Culture Intranet	External reporting of IC measures
CIBC	Technology structure that captures IC Development of JIT learning Development of competence maps Cultural change to recognize strategic importance of knowledge	Some internal measures of training and knowledge sharing
Royal Bank	Development of Expertise in servicing knowledge-based business	Measurement models to evaluate credit risk
Bank of Canada	Establishing communities of practice Use Intranet to share knowledge	
Stentor Resource Centre Inc.	Knowledge-sharing culture SLED (Single living electronic database) to share knowledge and expertise Corporate Yellow Pages	Semi-annual measurement
Hewlett-Packard	Knowledge-sharing culture Recognize and communicate knowledge initiatives	
Dow Chemical	Patent review process that evaluates IC content Extending to other forms of property Shift in cultural attitude	Direct measures of value of patent portfolio
Hughes Space	Creation of knowledge maps Attempt to eliminate knowledge silos Technological capture of corporate memory on database to eliminate repeating previous mistakes	Measure speed of development Measure repeated mistakes
Merck	Measure of NPV of R&D investment Use of life-cycle costing	Monitor value over time
Nova Care	Creation of knowledge nets Inverted organization where administration serves front line professionals Technology supports the administrative service	Monitor satisfaction Monitor costs
Ernst & Young	Creation of Centre for Business Innovation Centre for Business Knowledge Support conferences	Development of strategic balanced scorecard including IC
Arthur Anderson	KMAT Benchmarking Tool Global Best Practices Knowledge Base	Subjective measures of satisfaction with practices

¹⁵ Many of these examples are cited in The Society of Management Accountants of Canada, "The Management of Intellectual Capital: The Issues and the Practice". Others have been included from various sources in the literature as well as IME's experience with its clients.

Booz Allen	Knowledge sharing culture Organized around knowledge database and intranet	Compensation on overall organization results
McKinsey & Company	Revamping of internal knowledge-sharing network	
IBM Consulting	Created ICM framework Created Competency Networks using Lotus Notes and core Team Evaluators Integrated IC into performance evaluation	Use quarterly report Health Check program that includes quantitative and qualitative IC elements

Appendix 2 Glossary of Key Terms

Communities of Practice: Networks of individuals who work together in an organization, sharing information and knowledge on a regular basis. Such individuals may be, but are not necessarily, part of formal teams or units, but often do not collaborate on particular projects or products or hold the same or similar jobs. They are “peers in the execution of ‘real work.’” Communities of practice are held together by shared goals and a need to learn what each other knows. The creation and exchange of knowledge that occurs within these communities may be of great value in knowledge companies.

¹⁶

Explicit Knowledge: Knowledge that can be articulated in formal language and transmitted among individuals. (*see tacit knowledge*)

Human Capital: The knowledge, skills and competencies that reside within employees. Unlike structural capital, human capital is always “owned” by the individual employees who possess it. Nevertheless, human capital is the source of considerable value to organizations as the renewable portion of intellectual capital – the constant source of creativity, innovation and adaptability to change within an organization.

¹⁷

Information: Data that have been organized and given a context.

Information Ecology: Emphasis is on an organization’s entire information environment. It addresses all of a firm’s values and beliefs about information (culture); how people

¹⁶ John Seely Brown and Ester Solomon Gray, “The People Are the Company,” *Fastcompany*, February 1997.

¹⁷ The Conference Board, “Leveraging Intellectual Capital,” *HR Executive Review*, Vol. 5, Number 3, 1997.

actually use information and what they do with it (behaviour and work processes); the pitfalls that can interfere with information sharing (politics); and what information systems are already in place (technology).¹⁸

Information Management: The management of activities related to the life-cycle of information – defining information needs, collecting and storing information, creating usable information products, transmission of information as well as retention and disposal of information.

Intellectual capital: Knowledge of value to an organization. It is made up of human capital, structural capital, and customer capital.¹⁹

Knowledge: Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.”

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Knowledge Management: The process of creating, capturing, and using knowledge to enhance organizational performance. Knowledge management is most frequently associated with two particular types of activities:

Those activities that attempt to document and appropriate individuals’ knowledge (sometimes called the codification of knowledge) and activities to disseminate that knowledge throughout the organization.

Those activities that facilitate human exchanges in which knowledge that is not codified can be shared.

Learning Organization: An organization that is able to adapt to change and move forward by acquiring new knowledge, skills, or behaviours, and thereby transform itself. In successful learning organizations, individual learning is continuous, knowledge is shared, the company culture supports learning, employees are encouraged to think critically and to take risks with new ideas, and all individuals are valued for their contributions to the organization.²¹

¹⁸ Thomas H. Davenport, *Information Ecology: Mastering the Information and Knowledge Environment*. New York: Oxford University Press, 1997.

¹⁹ Leif Edvinsson and Michael S. Malone. *Intellectual Capital: Realizing Your Company’s True Value by Finding Its Hidden Brainpower*, New York: HarperCollins Publishers, Inc., 1997.

²⁰ Thomas H. Davenport and Laurence Prusak, *Working Knowledge: How Organizations Manage What They Know*, Harvard Business School Press, 1998

²¹ Victoria J. Marsick and Karen E. Watkins, “The Learning Organization: An Integrative Vision for HRD,” *Human Resources Development Quarterly*, Volume 5, Number 4 (Winter 1994). See also Martha A Gephart, Victoria J. Marsick, Mark E. Van Buren, and Michelle S. Spiro, “Learning

Structural Capital: The set of structures, routines, information systems, patents, etc. that stay behind in an organization when its employees leave.

Tacit Knowledge: Knowledge that is embedded in individual experience and not easily codified. Subjective insights, intuitions, and “rules of thumb” fall into this category of knowledge. (*see explicit knowledge*)

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