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**MEASURING INNOVATION IN THE BC PUBLIC SECTOR:  
DEVELOPING A PERFORMANCE MEASUREMENT  
FRAMEWORK FOR IGRS' INNOVATION PROGRAM**

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## EXECUTIVE SUMMARY

The British Columbia (BC) government's Intergovernmental Relations Secretariat (IGRS) served as the client for this report. The twin purposes of this report are to:

1. Develop a clear understanding about measuring innovation initiatives in the public sector for the BC government; and
2. Create a performance measurement template for the BC government's Intergovernmental Relations Secretariat's innovation program (that can be adapted and adopted by other agencies in the BC government).

Before a particular initiative can be measured, it is important to have a clear understanding about its rationale and underpinnings, which requires that a program or initiative have an understanding of its objectives. This is because often an initiative's objectives form the core basis of selected measures (McDavid and Hawthorn, 2006). To facilitate this understanding, the report includes a detailed literature review on the subject of public sector innovation, performance measurement, and measuring innovation in the public and private sectors. This broad scope has made it possible to provide an authoritative account of public sector innovation in the BC context, alongside the primary measuring innovation mandate of IGRS.

### *What is public sector innovation and why is it important?*

Innovation in the BC public sector is about generating and implementing new ideas – radical or incremental – that aim to increase efficiency and effectiveness (McDonald, 2008, BC Public Service, 2009 and BCPS, 2008). The BC public sector recognizes that its operating context requires a new culture, one that actively pursues innovation. Demands for services that reach citizens even better, along with pressures to reduce costs, form the core justifications for why innovation is so important. Add to this the impending workforce capacity reductions, associated with baby-boomer retirement numbers outpacing new hires, as well as the need to find new solutions for longstanding and emerging problems, and the need for innovation is amplified (McDonald, 2008 and Albury, 2005). Innovation is the strategy that prepares the BC public sector for the future; innovation is about finding new ways to carry out government business.

### *Challenges to public sector innovation*

There are four key challenges to cementing innovation in the public sector that may slow the BC government's innovation initiative unless they are met with meaningful complementary strategies. The public sector is often accused of being too risk averse because of the perception that the consequences of initiatives that fail to achieve positive results will be harsh (Borins, 2001). The need for government stability also poses a challenge: citizens count on having a strong public sector when they need it most (Mulgan, 2007). There is also the view that in addition to being punished for unsuccessful innovations, there is little incentive to be actively innovative; employees do not see the same types of direct benefits from their innovations as their counterparts in the private sector (Borins, 2001). The fourth key challenge to cementing innovation is the bureaucratic processes that impede change: legislative rules, budgeting restrictions, demands from diverse stakeholders and reporting requirements are just a few of the bureaucratic processes and realities that can put a stop to implementing innovative ideas (Macpherson, 2001 and Mulgan, 2007). While these challenges point to significant hurdles for

public sectors to overcome, it should be noted that innovative work has persisted across public sectors for decades.

### ***Characteristics of an innovative public sector organization***

Public sector organizations can develop strategies that reduce the scope of challenges to innovation. According to the literature, there are organizational characteristics that can lead to greater innovation, and many of them correspond with the challenges listed above. Borins (2001) developed a list of seven characteristics of an innovative organization. His list has received widespread support from other public sector innovation researchers (Albury, 2005, Hartley, 2005, Moore, 2005, and Canadian Centre for Management Development [CCMD], 2002). Borins' (2001) list has been expanded in this analysis to eight characteristics that include the *use of teams*. This addition is based on the recommendations of many of the above authors. The eight defining characteristics of an innovative organization are:

1. Support from the top;
2. Rewards and awards;
3. Resources (including time, space, and money);
4. Diverse staff;
5. Learning from the outside;
6. Innovation is everyone's responsibility;
7. Experiment and evaluation (Borins, 2001); and
8. Use of teams (CCMD, 2002).

The aim of nurturing these eight characteristics of an innovative organization is to create a culture of innovation. Indeed, Jessica McDonald – leader of the BC public service – has made it clear that she believes establishing a culture of innovation is an important step in becoming an organization where innovation happens regularly. Developing this culture is certainly a key objective of IGRS' innovation program because it will help staff become less risk averse and welcome well thought-out experiments/pilots that have the potential to add significant value to the work of IGRS (among many other benefits).

### ***Measurement for innovation programs***

Performance measures should reflect the objectives of the program being assessed. The overall emphasis of the BC public sector's drive for more innovation has two primary objectives. First, it aims to generate and implement innovative ideas that increase government efficiency and effectiveness. Second, develop an organizational culture that is conducive to innovation (McDonald, 2008). To satisfy both of these objectives, performance measures for innovation must be divided between assessing: (i) the impact of innovative ideas; and (ii) the organizational capacity for promoting innovation.

Perrin (2002) and Moore (2005) present a number of challenges associated with measuring innovation. These challenges include:

- Innovative initiatives are constantly evolving making it difficult to set clear objectives in advance or know exactly what should be measured;
- Assessing the impacts of innovations is not conducive to the use of quantitative methods, like dollars saved or number of clients reached, because it is difficult to get a clear indication of the exact incremental change caused by an innovative idea; and

- Learning is a vital component of innovation, understanding the benefit from learning, both from successful and unsuccessful ideas, in quantitative terms, is not possible.

Qualitative approaches like focus groups and case studies, however, can provide some answers to questions pertaining to the impact of innovative initiatives. By asking program administrators and users to speak to how initiatives have been successful and what lessons they have learned along the way their views can be systematically collected and used to make informed decisions both during and after the process as a way of informing future initiatives.

While qualitative approaches are effective for assessing the impact of innovation, such as changes in efficiency and effectiveness, quantitative methods, such as tallying numbers or reporting percentages, can be used to help identify the inputs and outputs of a culture of innovation. That is because input and output measures of a culture of innovation can include counting the number of employees with distinct backgrounds, the number of teams formed across work units, or the number of employees involved in generating and implementing ideas. It is possible to collect this information with relative ease, and it provides an objective indication of how successfully a program has heeded the call to develop a culture of innovation.

Learning should be the central focus of efforts to measure innovation. Innovation is difficult, and the impact is never certain. If efforts are made to systematically learn from innovative ideas, both successes and failures, then past mistakes can be avoided and past achievements emulated. By avoiding mistakes the benefits of innovative programs can be maximized and the case for why innovation is important can be strengthened; thereby, helping to ensure long-term support for innovation in the public sector.

### ***Recommendations***

This report makes three recommendations based on the literature review. The three recommendations are that:

1. IGRS take into account the following five principles to guide the development of a performance measurement framework:
  - Develop a shared understanding of what innovation means
  - Understand the limitations of measuring innovation
  - Include objectives of the innovation program as performance measures
  - Employ both quantitative and qualitative methods to maximize learning
  - Communicate results and celebrate successes
2. IGRS adopt the performance measures for public sector innovation programs outlined in Table 3 on page 63 of this report and the performance measurement plan beginning on page 71 of this report.
3. IGRS consider dissemination of this material to other agencies in the BC public sector for adaption and adoption as appropriate.

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## INTRODUCTION

The BC public sector's campaign for more and/or improved innovation is about generating and implementing new ideas – radical or incremental – that aim to increase efficiency and effectiveness (McDonald, 2008, BC Public Service, 2009 and BCPS, 2008). The BC public sector recognizes that its operating context requires a new culture, one that actively pursues innovation. Demands for services that reach citizens even better, along with pressures to reduce costs, form the core justifications for why innovation is so important. Add to this the impending workforce capacity reductions, associated with baby boomer retirement numbers outpacing new hires, as well as the need to find new solutions for longstanding and emerging problems, and the need for innovation is amplified (McDonald, 2008, Albury, 2005, Horne, 2008 and Moore, 2005). According to the Office of the Premier, innovation is the strategy that prepares the BC public sector for the future.

BC government organizations are responding to the call from the Office of the Premier to be more innovative by developing innovation programs, looking for ideas that aim to improve their business, and nominating people from within the service who can take the innovation agenda forward. The Intergovernmental Relations Secretariat (IGRS) – an office connected to the Office of the Premier that manages BC's intergovernmental activities – has developed a bold innovation program that has generated 107 innovative ideas and intends to launch a series of innovative ideas every three months. As part of this initiative, IGRS is also working to create an organizational culture that looks for opportunities to be innovative in everything it does.

IGRS has recognized an important gap in the discourse on public sector innovation. While efforts to be more innovative are ramping up, little attention has been paid to developing a system for reporting on the progress derived from innovation activities in the public sector at the organizational level. The objective of this analysis is therefore to review the literature on public and private sector innovation and performance measurement, and develop a performance measurement framework for IGRS' innovation program.

There are two important components to developing an innovation performance measurement framework. First, measuring the impact of innovative initiatives by asking program administrators and users how an innovative idea has impacted them in terms of efficiency and effectiveness. Second, measuring the extent to which a culture of innovation is being nurtured by developing a system to track success in regards to entrenching the characteristics of an innovative organization. The characteristics of an innovative organization include support from the top, rewards and awards, resources (including time, space and money), diverse staff, learning from the outside, innovation is everyone's responsibility, experiment and evaluation, and use of teams (Borins, 2001 and CCMD, 2002). The first measures assess the *impact* of innovation and the second measures assess the *promotion* of innovation (developing an organizational culture that promotes innovation). Both the *impact* and *promotion* of innovation are important considerations in the BC public sector's drive for more innovation.

It is hoped that once equipped with this framework IGRS will be in a position to learn from its innovative activities by building on successes and making improvements to weaknesses, as well as demonstrating where its innovation program has added value. IGRS also aims to add to the

discourse on public sector innovation. It intends to do this by providing its framework as a case study for others to emulate and providing a detailed analysis about why measuring public sector innovation is important and what types of performance measures are necessary for innovation programs.

This report is divided into five sections. The sections are intended to build upon each other. First, the background section sets the context of innovation in the BC government and IGRS and explains the rationale for why performance measurement is important to IGRS' innovation program.

The methodology section explains how this report arrived at the answer to the problem: how do you measure innovation in the public sector? The methodology used by this investigation is a literature review that emphasizes learning from across public sector jurisdictions, between the public and private sectors, and from academic peer reviewed journals.

The literature review follows the methodology and builds on the background by going into greater detail about what public sector innovation means, why it is important, and the challenges it faces. It also provides a brief overview of what performance measurement in the public sector context means, before going into a deeper analysis about measuring innovation in the public and private sectors.

The fourth section, *Findings and Analysis*, includes five general principles for measuring public sector innovation, specific performance measures for measuring the performance of public sector innovation programs, and a performance measurement plan for IGRS' to measure its innovation progress in 2009. The fifth section outlines the three recommendations made by this report based on the literature review and the development of IGRS' performance measurement framework.

## **1. BACKGROUND**

This section addresses four topics. The first outlines the purpose and role of the BC Intergovernmental Relations Secretariat (IGRS), and the second discusses the source of the motivation for promoting innovation in the BC public sector. The third topic, in a very general manner, explains the progress made by IGRS towards developing an innovative culture, while the final topic outlines the core purpose of this report by explaining IGRS' need to measure the promotion and impact of innovation.

Together these four topics provide the appropriate context for the report that follows. IGRS is a small organization in the BC government charged with advancing BC's intergovernmental relations mandate, and like all BC government organizations, has been called upon by the Office of the Premier and BC government leaders to cultivate a culture of innovation among employees and throughout the organization's activities. This background section also demonstrates that IGRS has made significant progress in identifying innovative ideas as well as establishing an environment where an innovative culture can flourish, while recognizing that a performance

measurement framework is necessary for IGRS to manage its innovation agenda and how progress is reported.

### 1.1 BC Intergovernmental Relations Secretariat

IGRS has a mandate to “advance British Columbia’s provincial, federal and international priorities for the Province, in order to bring coherence to the government’s intergovernmental relations and be the creative catalyst so that British Columbia emerges as an innovative leader on the world stage” (Queenswood Consulting Group [QCG], 2008, p. 5). Key areas of IGRS’ operations that support this mandate include the need to:

- Coordinate across BC ministries the province’s relationship with other governments in Canada;
- Advance BC’s interests in negotiations with other federal and provincial governments;
- Support the Premier in First Ministers’ and Premiers’ meetings;
- Communicate with foreign governments, and border US states and Canadian provinces concerning BC’s international relations;
- Provide support to the Premier for international visits;
- Maintain ongoing dialogue with the United States on areas of mutual interest;
- Provide leadership among regional groups, such as the Pacific Northwest Economic Region;
- Administer the Protocol and Events Branch, including: advice on protocol and ceremonies, key contacts for BC Consular Corp, and managing events and conferences; and
- Assist in coordinating major inter-jurisdictional provincial policy where many ministries are involved (Intergovernmental Relations Secretariat [IGRS], n.d.)

IGRS is integrally linked with the BC Office of the Premier. Its goals, objectives and strategies, and resource allocations fall under the Office of the Premier’s Service Plan (Office of the Premier [OP], 2008). While it does have an independent organizational structure from the Premier’s Office, it does view the Premier’s Office as a key stakeholder to which it aims to provide expert analysis, briefing books, and event organization (QCG, 2008).

### 1.2 Rationale for Promoting Innovation

The BC government, like governments around the world, has recognized that developing an innovative culture and supporting innovative ideas are critical to delivering public services in the twenty-first century. Indeed, the leader of the BC public service – Jessica McDonald, Deputy Minister to the Premier and Cabinet Secretary for the province of British Columbia – has made it clear that she believes innovation will be central to improving the efficiency and effectiveness of the BC government (McDonald, 2008).

Underlining the need for improving efficiency and effectiveness through innovation are the demographic pressures being placed on the government by the fact that baby-boomer retirement numbers are expected to outpace hiring numbers. By 2015 The BC government estimates that they will “lose 35 per cent of bargaining unit staff and 45 percent of management staff due to

retirement” (BC Public Service [BCPS], 2008, p. 27). This means that if the BC government fails to come up with more efficient methods of delivering public services, there will be fewer public sector employees to do what is expected to be an increased workload (McDonald, 2008). The workload is expected to increase because the demands from the public are changing. As Albury (2005, p.51) points out, an increasingly diverse set of users are expecting instant and tailored access to the public sector on a “24-hour/seven-days-a-week” basis. No longer will difficult to access one-size-fits-all programs be acceptable. Instead, innovation will be necessary to respond to the new demands facing the public sector. These elements – demand for increased efficiency and effectiveness, demographic shifts, and changing expectations from the public – form the core justification for why innovation is important to the BC government.

McDonald (2008, paragraph 2) has said that a difference exists between “being a truly innovative organization and just being an organization where innovative things happen.” To become a truly innovative organization, the Office of the Premier is working to weave a culture of innovation into the BC public sector. A culture of innovation is the key factor that makes an organization truly innovative because of its role in developing an environment where innovative ideas are much more likely to be implemented on a regular basis.<sup>1</sup> At the highest level, the Office of the Premier’s Service Plan identifies innovation, along with vision and strong leadership as being integral to reaching the Premier’s Five Great Goals (OP, 2008). These goals cut across the BC public sector and are:

1. Make BC the best-educated, most literate jurisdiction on the continent;
2. Lead the way in North America in healthy living and physical fitness;
3. Build the best system of support in Canada for people with disabilities, those with special needs, children at risk and seniors;
4. Lead the world in sustainable environmental management, with the best air and water quality, and the best fisheries management, bar none; and
5. Create more jobs per capita than anywhere else in Canada (OP, 2008, p. 12).

The fact that innovation is given such recognition in goals that touch on the mandates of almost every BC government organization sends a clear message to BC public sector employees: develop a culture where innovation flourishes and where innovative ideas enable objectives to be exceeded. The Premier’s Office has also recognized the need for the BC government to incorporate innovation into all areas of its activities as a means of increasing efficiency and effectiveness, as well as providing citizens with seamless public services. Areas of concentration include examining traditional ministry structures, program integration and government processes (OP, 2008).

In *Being the Best 3.0: Human Resource Plan 2008/2009 – 2010/2011* the Deputy Ministers of the BC public sector call on all 30,000 employees across the BC government to bring innovative ideas forward, and when possible, have them implemented. They hope that this will strengthen the link employees feel to their organization, help develop an innovative culture, and create a sense of responsibility among employees to constantly look for opportunities to achieve better

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<sup>1</sup> The characteristics of an innovative organization that help to develop this culture are outlined in section 3.3. Measuring the culture of innovation makes up a significant part of the performance measurement plan discussed in section 3.5 and outlined throughout section 4.

results (BCPS, 2008). *Being the Best 3:0* acknowledges that innovations require that risks be taken and that a certain amount of failure be accepted for an innovative culture to really flourish.<sup>2</sup> It is hoped that an acceptance of risk will provide employees throughout the public service with the necessary confidence to constantly apply their skills and creativity to improving the provision of government services in the province (BCPS, 2008). The issue of risk taking in the public sector is widely debated and will be addressed in greater detail in the literature review (Section 3).

The BC government has been active in regards to promoting greater innovation within the public sector. Below are examples of how the BC government has already been working to promote innovation in the public sector:

1. The Assistant Deputy Ministers' Committee: Service Network Innovation was formed in April 2008 and aims to promote innovation broadly across the public sector. Its members meet monthly to develop strategies for accomplishing this goal. Member responsibilities include identifying ways for organizations to free up resources for innovation, encouraging staff to constructively question the status quo, promoting social networking tools, organizing innovation events, and uncovering the characteristics of innovative habitats and innovative teams (Assistant Deputy Minister's Committee on Service Network Innovation [ADMC: SNI], 2008). This committee is calling ministries to:
  - a. Challenge the status quo and develop a culture of continuous improvement<sup>3</sup>;
  - b. Ensure employees have the tools and time to be innovative; and
  - c. Include input from ministry innovation champions in action plans (ADMC: SNI, 2008).
2. Deputy Ministers in all the Ministries were asked by the leaders in the BC government to identify representatives from within their organizations to be innovation champions; 112 have been selected so far. These innovation champions were to be selected from across government and to represent, both geographically and by position, the BC public sector. The primary objective of the innovation champions is to help support the development of an innovative culture within the BC public service by promoting innovation within their ministries (ADMC: SNI, 2008). It is up to each champion to determine the best way in which to do this.
3. An online space called *SPARK!* has been created by the Office of the Premier as a way to help facilitate the exchange of ideas among BC public sector employees. This is a private

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<sup>2</sup> Public sector organizations are often accused of being highly risk averse, especially when compared against private sector organizations (Borins, 2001); therefore successfully overcoming this challenge and recognizing where risk aversion might actually be necessary are important milestones for any innovation initiative to achieve. The topic of risk aversion is discussed in detail in section 3.3.

<sup>3</sup> The term continuous improvement is often tied up in the current movement towards greater public sector innovation. This is because at their core public sector innovation and *continuous improvement* are aiming to do very similar things. Innovation is essentially about empowering employees to explore avenues that will lead to increases in efficiency and effectiveness (McDonald, 2008 and Albury, 2005). Continuous improvement is about systematically identifying areas where improvements can be made and then making the changes that lead to a desired end (Liu, 2008 and Zangwill & Kantor, 1998). They both aim to benefit their organization by increasing efficiency and effectiveness; continuous improvement is discussed in greater detail on page 22 in section 3.3.

virtual space where employees are invited to submit and comment on ideas about how they think the BC government could be improved. Ideas range from suggesting new organizational systems for office supplies to calling for the re-organization of the entire ministry structure. Everything is open to debate and employees are expected to collaborate constructively with one another and vote on ideas that they think will work. The Office of the Premier has committed to looking into ideas that receive over 100 votes or any other idea that they deem to be worth pursuing. The aim is that *SPARK!* will play a central role in developing an innovative community across the government (BCPS, 2008).

4. Part of the Ministry of Labour and Citizens' Services' mandate is to improve the delivery of services and information to the public sector (Ministry of Labour and Citizens' Services [MLCS], 2008). The Ministry's third and final goal in its 2008 Service Plan is to ensure that "government works innovatively with the broader public sector" (MLCS, 2008, p. 28). To achieve this, the Ministry is looking for innovative ways to connect people and share information through technology. The technologies it advances will likely facilitate the exchange of ideas more broadly in the government and in turn lead to greater innovation. While this does not represent a central directive for organizations to innovate, it does demonstrate across the public sector that the BC government is active and serious on the innovation file.

### 1.3 Overview of IGRS' innovative activities

It is in response to the above movement towards fostering greater innovation in the BC government that IGRS has begun to facilitate a more innovative culture within its organization as well as start to examine the implementation of innovative ideas. Understanding the status of IGRS' innovation program, its current objectives and long-term goals is key to the successful development of an innovation performance measurement framework and will be described in greater detail in section 4, which outlines the template for IGRS' innovation program performance measurement framework. For now, a brief overview of IGRS' activities is offered:

1. An innovation champion was appointed within IGRS by the Deputy Minister to create a plan for developing an innovation strategy at IGRS; a strategy that emphasises both promoting a culture of innovation and advancing innovative ideas.
2. The innovation champion hosted one-on-one consultations with each employee at IGRS; employees were asked to voice their opinions on making IGRS more innovative. They were given the freedom to take the conversation in their preferred direction and suggest any ideas that they felt were relevant. These consultations resulted in 107 ideas being generated.
3. Using these 107 ideas, an IGRS Innovation Roadmap has been created by this author and two colleagues to advance a selection of IGRS' innovative ideas on a quarterly basis between October 2008 and December 31, 2009. The chosen ideas were selected in an all-staff planning session, but are expected to be refined by the individuals who volunteer to implement them.

4. Several specific innovative ideas have also been launched, including:
  - a. Hosting *Policy Round Tables* with experts from inside and outside of IGRS to discuss issues of interest to IGRS;
  - b. Developing a leadership team approach that brings a number of individuals from IGRS into the executive decision-making process; and
  - c. Increasing joint work between the business units of IGRS (Policy, Protocol and Francophone Affairs program), both in regards to committees and projects.

#### 1.4 The Need to Measure the Promotion and Impact of Innovation

While the BC public sector is adamant about increasing the role of innovation across the broader organization little attention has been paid to judging how success on this file will be measured within ministries and other BC government organizations. However, IGRS – having heeded the call from BC government leaders to strengthen the role of innovation in its activities – is determined to develop a system for measuring how well it promotes innovation as well as the impact of its innovative activities. There are at least two clusters of ideas – measuring the results of implemented innovations, and measuring the extent to which a culture of innovation has been achieved.

*Promotion* refers to activities that help foster an innovative work culture while *impact* refers to the results of innovative activities. The BC government has made it clear that it expects its BC public sector organizations to develop a culture conducive to innovation; therefore, it is necessary that IGRS develop a method for reporting progress on its initiatives that support this goal. Second, the justification for promoting innovation is that it will lead to more efficient and more effective government, it is therefore also necessary to look into developing a method for reporting on how successful innovative activities are at increasing government efficiency and effectiveness. Meaningful innovation performance measures will strengthen IGRS' understanding of the importance of innovation, help IGRS position and focus its innovation resources, and enable IGRS to demonstrate the success of its innovation agenda, including noting areas for future improvement. However, it is also important to recognize the limitations of using performance indicators to judge the success of an initiative. A change in an indicator for an initiative can be caused by other factors besides the initiative; therefore, attribution from these factors should be considered and noted (McDavid & Hawthorn, 2006). By considering these other factors for innovations more informed decisions can be made because a particular change is not wrongfully attributed to the innovation.

IGRS falls under the Office of the Premier and works closely with other ministries to achieve its objectives. IGRS' close proximity to the centre of government and its close working relationship with organizations throughout the BC government positions its innovation unit as a potential catalyst for meaningful change across the sector. It is paramount that IGRS champions innovation and breaks down barriers that prevent innovative thinking from being adopted throughout the BC government.

By fostering a clear understanding of the opportunities and challenges of measuring public sector innovation IGRS can help develop meaningful performance indicators for innovation in the BC government. By offering itself as a case study for the development of an innovation performance measurement strategy and by taking a champion and leadership role in this regard, IGRS is

providing an example for measuring innovation that can be adopted and adapted by other organizations in the BC government.

Performance measurement is an important tool in determining whether a program has achieved its goals, though the utility of performance measurement is limited by the fact that it cannot, with complete certainty, assess whether a program was responsible for the behaviour of indicators. At any rate, performance measurement information can be used to make more informed decisions about the changes that are necessary to a program's processes to help it better meet its goals and to report on the results it achieves. This information can be used by central agencies, elected officials and the public to judge whether the public service has completed the tasks it had been mandated to carry out (McDavid & Hawthorn, 2006). For example, if a government was committed to reducing hospital wait-times, a performance measure for its Health Ministry might include an *output measure* that tallies the number of doctors it hired during a given period, and an *outcome measure* that counts the change in average wait times. As innovation is given increasing emphasis in the BC government it is important that results are reported so that progress can be noted and areas where greater support is required can be identified.

As the BC public service dedicates part of its attention towards the cause of public sector innovation it is necessary that performance measures be in place so that accountability for these efforts can be readily demonstrated both internally and to the public. With that said, it is necessary to develop a clear understanding of the limitations of performance measurement in general and specifically in regard to the measurement of innovation. The limitations centre on the fact that it is often difficult to collect accurate data. More information on these issues is contained in the literature review (sections 3.4 and 3.5).

## 2. METHODOLOGY

An in-depth literature review on public sector innovation and performance measurement, an IGRS innovation performance measurement framework, and recommendations about developing performance measures for public sector innovation make up the three primary deliverables of this report. This combination of deliverables was selected to provide IGRS with a plan for monitoring progress on its innovation activities; clear background to IGRS about public sector innovation and its relationship to performance measurement; and recommendations that IGRS can share with the broader BC government.

The emphasis of this research has been placed on examining academic journal articles, business and government reports, and documents from public policy research institutes. Information has been obtained through library and internet research, and journal article online database searches. Literature was selected based primarily on two criteria. It must either be published in a peer-reviewed academic journal or be associated with an organization known to be active in the areas of public sector innovation and performance measurement. These criteria were considered important because they provide integrity to the information included in this report. First, by ensuring that the literature is reviewed by other academics and researchers to ensure they are accurate in their logic and conclusions, and second, by ensuring that information is from

professional sources dedicated to promoting and supporting both public sector innovation and performance measurement.

The literature review is based on two sets of research questions. The first set of research questions deal with the nature of public sector innovation and focus on definitions, reasons for its importance, challenges, and the characteristics that make up an ideal innovative public sector organization. The specific research questions are:

1. What is public sector innovation?
2. Why is public sector innovation important?
3. What are the challenges to being innovative in public sectors?
4. What are the characteristics of an innovative public sector organization?

The second set of research questions looks at performance measurement in the public sector, and applying performance measures to innovation, in both the private and public sectors. The specific research questions are:

1. What is performance measurement?
2. What challenges does performance measurement face?
3. Why is measuring innovation important?
4. What challenges exist to measuring public sector innovation?
5. What can be learned from the private sector about measuring innovation?
6. What has been done in the public sector in regards to measuring innovation?

The report uses a building-block approach towards the research in that the literature review informs the findings which in turn inform IGRS' innovation performance measurement framework the recommended performance measures. The case for why the recommendations are justified is also based on the literature review. Findings from the research are thus used to inform the IGRS innovation performance measurement framework and the recommendations that flow from the development of this document.<sup>4</sup> The actual shape of the framework is based on recommendations made by the BC Auditor General and the Public Accounts Committee of British Columbia, frameworks from other public sector organizations and the steps recommended in McDavid & Hawthorn (2006). These authors established a list of steps that are necessary for developing a successful performance measurement strategy. Their steps are combined with the findings from the literature about public sector innovation and performance measurement to complete the IGRS performance measurement framework for its innovation program. The recommendations that follow are based on both the literature review and the IGRS performance measurement framework.

A key advantage associated with the literature review is that information was obtained from authors and public sectors from around the world. The literature review focused on sources emanating from jurisdictions identified in preliminary research as having a well-developed public sector innovation agenda and includes the Governments of British Columbia, Canada,

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<sup>4</sup> The implementation of the approach recommended in this report is expected to begin starting with a quarterly report in July 2009, and then another quarterly report in October 2009 and a final report for the 2009 program in January 2010.

Britain, United States, and Australia. These jurisdictions also share a similar western liberal democratic tradition, which means that policy learning and policy transfer can occur more easily (Rose, 1991). A number of leading researchers on the topic of public sector innovation and performance measurement have authored journal articles and government reports, meaning that a long list of experts and a variety of opinions have been consulted.

The Government of British Columbia has released a number of public and internal reports dealing with its innovation agenda and, given the status of this author as an acting research officer with IGRS, access has been possible to much of the internal documentation of this subject. This status also leaves open the potential for bias. There is the potential that the findings by this author could be slanted by perceptions that emanate from the IGRS perspective. To mitigate the potential for this every effort was taken to maintain objectivity by cross-referencing information where possible, as well as consulting a variety of sources external to IGRS.

This broad selection of research materials provides a solid foundation upon which to develop IGRS' innovation performance measurement strategy and make recommendations to the BC public sector. There are other research avenues that are available to address these questions, including expert interviews and focus groups; however, they were not pursued due a lack of time and resources. It is also unlikely that these avenues would have added significant enough value at this point given that a number of experts on public sector innovation have authored detailed articles on this subject.

### **3. LITERATURE REVIEW**

The literature review is divided according to six themes based on the research questions that inform this report. The first two broadly answer the question of what is innovation; the first looks at a number of definitions for innovation and the second reviews innovation classification systems. The third theme discusses what is meant by public sector innovation, including why it is important and what challenges it faces, as well as provides a description of what an ideal innovative public sector organization looks like. The fourth theme outlines the advantages and disadvantages associated with performance measurement. The final two themes discuss the application of performance measures to innovation; first in the private sector and then in the public sector. Together these six themes provide the necessary context for the development of performance measures and a performance measurement framework for IGRS' innovation program (in section 4).

#### **3.1 Defining Innovation**

Understanding what is meant by innovation is the first challenge in establishing innovation performance measures. It is important to have a precise idea of what is being measured in order to ensure the right things are counted. The following section suggests that there is a general agreement at a high-level about what innovation means; however, with more detailed definitions come deeper divisions. Differences emerge over whether innovation should have a positive value embedded in it and whether incremental change should be considered part of the equation.

The core of any definition of innovation is the word *new*. From there exactly what innovation means will likely differ depending upon whom is asked, either in minor or major ways. Walker's (2003) combination of Rogers (1995) and Kimberly's (1981) ideas on innovation perhaps offer the broadest definition. Walker (2003, p.93) argues that innovation is "a process through which new ideas, objects and practices are created, developed or reinvented." This definition does not specify scope or a qualitative value as contributing characteristics of innovation, and therefore allows an innovation to be either radical or incremental, as well as have either a positive or negative impact. Also, by emphasizing the words *developed* and *reinvented* Walker demonstrates that innovations are:

- i. New to individual organizations at a certain time;
- ii. Do not necessarily have to be invented by that organization; and
- iii. Can be adapted or copied from another source.

Hartley (2005) offers two simple definitions for innovation. The first, "novelty in action" (Altschuler and Zegans, 1997 in Hartley, 2005 p. 27), has no positive qualification, and the second, "new ideas that work" (Mulgan and Albury, 2003 in Hartley, 2005, p. 27), does. This distinction between Hartley's first and second definition is important. The preceding values neutral definitions allow for innovations to have either negative or positive results. Indeed, some discussions explicitly remind readers of the potential for an innovation to have unanticipated and negative impacts (Osborne, 1998), whereas Hartley's second definition seems to imply that an idea must somehow be qualified as practically successful before it be deemed an innovation.

The reason this distinction is drawn is because it would seem a values neutral definition invites people to explore new approaches, accept some calculated risks and possibly even fail. By including the possibility of failures or successes, the values neutral definitions appear more inviting and open to entertaining new ideas, some that are likely successes, and others where the outcomes are uncertain, but there are possibilities for improvement.

Perrin (2002) makes it clear that innovation requires risk and unpredictability in terms of projected benefactors and likelihood for success. A *failed* innovation could spawn other ideas that are successful, or fail in one capacity, but prove successful in another (Albury, 2005 and Drucker, 1998). An individual who fails with one idea, but is still considered an innovator, may go on to produce another new idea that is successful. So, with all these possibilities in mind it is clear that failure is a critical component of innovation. Definitions that embrace the possibility of failure (or at least leave the outcome neutral) are more conducive to the development of a culture of innovation because they allow participants the freedom to consider a broader selection of ideas, including those where risk is present, but the potential benefit is enormous.

Albury (2005, p. 3) recognizes that innovations can fail and then defines successful innovations as "the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes, efficiency, effectiveness or quality." Albury correctly cautions that innovations can fail before describing what he deems a successful innovation. This way it is clear that innovations do fail and there is risk involved. Since he is defining successful innovation his definition is much more explicit about the ideal results of an innovation – improvements in outcomes, efficiency, effectiveness or quality. His

definition is complementary to Perrin's emphasis on risks because by pointing to the goals of innovation it articulates why risk-taking and bearing unpredictability is necessary.

While Albury (2005) emphasizes the outcomes required for an innovation to be successful, Rogers & Shoemaker (1971) highlight what they consider to be the top five attributes of a successful innovation. These attributes complement Albury's outcome focus by adding to the list of the features that are important for deeming an idea a successful innovation. These complementary features are:

- Improvement on its predecessor;
- Supportive of current technologies/skills;
- Simplicity for users;
- Easily tested/piloted; and,
- Results are easily evaluated (in Osborne and Brown, 2005, p. 127).

The definition offered by IBM adds another element to the equation. It does not contain a value component, but does specify the intended scope of an innovation. IBM (2006, p. 4) states that innovation is "new ideas or current thinking applied in fundamentally different ways resulting in significant change." Perrin (2002, p. 14) agrees, and argues that innovation is "novel ways of doing things better or differently, often by quantum leaps versus incremental gains." Osborne & Brown (2005, p. 4) add to these definitions by explicitly pointing out that innovation "represents discontinuity with the past." This would seem to suggest that a new idea or activity must be something entirely different from what was done previously for it to count as innovation.

Albury (2005) argues that there are two types of innovation. In the first case, there is disruptive innovation, similar in scope to what is described above by IBM (2006) and Perrin (2002). Disruptive innovations require a complete change in "organizational, social and cultural arrangements to have full impact" (Albury, 2005, p. 52). One example of this may be the movement towards e-government across public sectors. Here governments move services online and completely alter how they interact with their citizens. A disruptive innovation or an innovation that results in fundamental differences and significant change are the exception. The more common innovations are those that bring about incremental change. Incremental innovations are minor adjustments to existing services by public sector employees aimed at improving effectiveness (Albury, 2005). The dichotomy between disruptive and incremental innovations was first advanced by Joseph Schumpeter in 1934. He viewed incremental innovations as important because of their role in continuously advancing change (Organization for Economic Co-Operation and Development [OECD], 2005).

To Perrin (2002) innovation requires risk and unpredictability in terms of the projected benefactors and likelihood for success. Someone committed to this definition then could very well take exception to the notion that incremental change is innovation. They may argue that incremental change does not insinuate enough risk. After all, these smaller changes are much more likely to be reversible and their results much easier to predict than grandiose systemic changes. However, when you consider the goals in Albury's definition of successful innovation – significant improvements in outcomes, efficiency, effectiveness or quality – it seems perfectly reasonable to expect that both disruptive and incremental innovations could represent a successful innovation.

Indeed, it is this drive to continuously advance change that has captivated the BC government's innovation agenda. While it has not ruled out the potential for disruptive innovation the emphasis appears to be placed on incrementalism. Through BC government initiatives like SPARK!, the BC government has made it clear that it is willing to at least entertain any innovations that make sense, both large and small. These innovations could include ministry re-organization or creation all the way down to a new organizational system for office materials. In the BC government innovation is either incremental or disruptive, as long as an idea makes sense and is worth a well-calculated risk. Indeed, the BC government may find the Canada's Public Policy Forum's definition of innovation most appropriate: "the introduction of something new," noting that it "may take the form among others, of an idea, activity, initiative, structure, program or policy" (Joyce, 2003, p. 21).

When the BC government uses the term innovation, what exactly does it mean? The BC Public Service has an official definition, one with a positive value attached. According to SPARK!: Innovation In Action, a pamphlet developed for BC public sector employees to inform them about the innovation initiative, innovation "is defined as ideas new to the organization that contribute to more efficient or effective delivery of public administration, programs or services" (BC Public Service, 2009). However, in other places the government is very careful to point out that it recognizes that ideas do fail, and emphasizes that value is found in both failures and successes (BCPS, 2008 and McDonald, 2008). It also recognizes that there is no single answer to what innovation is or how the government can develop a true culture of innovation (BCPS, 2008). This may be a reflection of the multitude of definitions and opinions about innovation that exist. Perhaps the prescription is to latch on to them all and allow individual innovators the opportunity to decide how they wish to define it. In closing, the Office of the Premier suggests that innovation thrives "where ideas are welcome" (BCPS, 2008) and where the status quo is challenged when it makes sense to do so (BCPS, 2008). To the BC government innovation is everything listed above, and the aim of its interpretation of innovation – through failed and successful ideas – is to produce better results for British Columbians.

### 3.2 Types of Innovation

Outlining the types of innovations that exist is an interesting exercise because it demonstrates the large cross-section of areas where innovation takes place within organizations' activities. When considering performance measurement for innovation, classifying the different types of innovations becomes important. Classifications can help manage performance by assisting in determining which areas of an organization have made progress towards including innovation in its activities and which areas have not. This information can then be used to help make decisions about resource allocations, personnel, organizational processes and sources of resistance to innovation.

To help illustrate the different types of classification systems available, two different systems have been drawn from the literature and are outlined below. The IBM system was selected because of IBM's well established commitment to innovation research, both in the private and public sectors. IBM's attention to the public sector through its Center for the Business of Government in addition to its long history as a successful private sector company lend it credibility as an authority on developing an innovation classification system that spans the

public-private divide (Abramson, Breul, Kamensky, & Wagner, 2008). By way of comparison, the 2005 Organization for Economic Co-Operation and Development Oslo Manual will be used. This manual's contents are informed by business sector surveys covering OECD countries. Its aim is to support the collection of innovation data among private sector firms (OECD, 2005). These classification systems were selected for two reasons. First, the selected classifications are similar to those offered by other researchers, which lends them legitimacy as representing the standard in classifying innovation types. Second, the fact that the OECD focuses on the private sector and IBM on the public sector, yet both have similar classification systems, demonstrates that innovation in both sectors is aimed at similar areas.

The IBM Center for the Business of Government identifies four different types of innovation. The four types of innovation they highlight are:

- i. *Business model* innovation: Alters the structure of organizations “that provide programs, delivery services, or support operations”.
- ii. *Operations* innovation: Strengthens efficiency and effectiveness at the level of delivery (on the front end).
- iii. *Product/Services* innovation: develops new programs or services (Abramson et al., 2006, p. 120).
- iv. *Management* innovation: Complete re-organization of management practices and “customary organizational forms” (Hamel, 2007 in Abramson et al., p. 120).

The Oslo Manual also highlights four types of innovation. They are:

- i. *Product* innovation: development of a new good or service that is “new or significantly improved” in its intended uses.
- ii. *Process* innovation: implementation of a “new or significantly improved” delivery system.
- iii. *Marketing* innovation: implementation of a marketing technique that is new and involves “significant changes” in product design, promotion, pricing, or packaging.
- iv. *Organizational* innovation: implementation of “a new organizational method” for businesses practices, external activities, or workplace (OECD, 2005).

An encouraging observation upon reviewing these two classification systems is that they encompass a number of commonalities. The Oslo Manual links both business model innovation and management innovation from the IBM classification under its heading organizational innovation. The Oslo Manual's organizational innovation includes new management methods at both the focused program management level as well as at the broad structural level; therefore, it would appear that the IBM typology could be adjusted to only include three types of innovation. Operations innovation provided by IBM is basically the same as process innovation in the Oslo Manual, and the same is true for the product innovation heading found in both classifications.

Marketing innovation is the only outlier, and is found in the Oslo Manual. While it is largely geared towards the private sector, its application for the public sector should not be dismissed. Governments do market their brands, services, and changes in policies (OECD, 2005). Innovation in this area may well be as important to government as the private sector and should

not be left out of a classification system just because it is designed for government. Indeed, IGRS plays an important role in marketing and promoting British Columbia as part of its advocacy role.

Based on these two lists it is possible to develop a consolidated list of the four types of innovation. The first type is *product/service* innovation, which is the development of new goods or services. The second type is *process* innovation, which is the implementation of a new delivery system. The third type is *organizational* innovation, which is implementing a new method for business practices, the work place, or external activities. The final type is the outlier from the Oslo Manual, *marketing* innovation, which is the development of a new technique for advertising key information. Again, it's relevance for government should not be dismissed; IGRS is currently considering the implementation of new virtual advocacy tools.

### 3.3 Public Sector Innovation

From the material reviewed so far in this report, innovation in both the public and private sector can be summed up as *new ideas* that are intended to *produce better results*. However, there are important differences in why private and public sector organizations innovate, as well as the opportunities and challenges they face in innovating. This section will outline what is meant by public sector innovation by reviewing why innovation is increasingly important in the public sector, the challenges it faces to innovate, and what an ideal innovative public sector organization looks like. This final issue – which offers clues to what makes some public sector organizations more innovative than others – will play a key role in informing the development of performance measures to judge how well IGRS promotes innovation.

#### *Why Public Sector Innovation is Important*

Public sector organizations around the world are looking at how they can be more innovative in their work, and they are doing this for a number of good reasons. A central driver is that the world is a rapidly changing place where issues are seen as increasingly complex and interrelated (CCMD, 2002). This has meant that governments must reach outside of their normal boundaries to find new ways of doing things better, collaborating with internal and external partners to find new solutions. Much like the private sector, governments also face continuous pressures to reduce costs and innovation can ensure inputs achieve maximum output. Citizens are demanding better and more effective services; innovation can help find new ways to reach users and ensure services create maximum value. Innovation can also be used to deal with new problems where existing techniques are unable to provide a solution, or apply a new method to a long-standing problem that has gone unsolved. Innovation is often associated with the private sector, in fact the public sector is often criticized for lacking the right environment for promoting innovation. As the discussion below will demonstrate, creating a culture of innovation in the public sector is vital as governments around the world shift their focus to operating in the twenty-first century.

Part of understanding why public sector innovation is an important initiative is to reach back and understand how it is different from previous initiatives that were aimed at reinventing public sectors. Led by the UK in the 1980s, public sector organizations began to adopt a new operating paradigm, which would later become known as *New Public Management* (NPM) (Hood, 1995, Hartley, 2005). This paradigm emphasized private sector tools, with outcome-based

accountability, cost reduction, competition within the public sector and between the public sector and private sector, and more “hands-on” management as being among its key attributes (Hood, 1995, p. 4). At its core, NPM intended to transform public sectors into “results-oriented and transparent” entities “supported by efficient and effective public managers” (Noordoek & Saner, 2005, p. 35).

The current push for innovation does have some similarities with NPM. For example, both initiatives have increased efficiency and effectiveness counted as key goals (McDonald, 2008 and Hood, 1995). However, unlike NPM, innovation initiatives are not emphasizing the use of private sector tools. Instead, innovation initiatives, as demonstrated by the BC government’s *SPARK!* website, invites and will consider, any idea that aims to improve the public sector, so long as the ideas are well justified. While perception about NPM centers on cost reduction and small government, the innovation agenda’s main emphasis is to provide better services to users; the selected methods of improving services are not to be limited to the norms of the NPM paradigm. Last, while the NPM movement was about giving managers the room they need to achieve their objectives, the innovation movement aims to give all employees the freedom they need to apply a critical lens to their organization, and express any new idea that they think might be beneficial.

*Networked government* is another public sector reform initiative. The central idea behind *networked government* is about improving performance by having multiple government organizations work together to address a shared problem (Ives & Yan, 2004). While *networked government* has been used previously – consider efforts to coordinate government resources during World War II – the emphasis on the need for *networked government* as a regular governance tool only began in earnest over the last decade. Its need is associated with the recognition that the complex issues faced by public sectors today, like terrorism, pandemic diseases, climate change, and globalization require a consorted effort to coordinate across organizations in order to apply the right combination of expertise (Ives & Yan, 2004). *Networked government* can also refocus attempts to deal with longstanding issues, like homelessness, gang activity, and the rising cost of health care, by recognizing that these problems often touch on the mandates of multiple government organizations.

With the argument that *networked government* can respond to the complexity of new issues and the stubbornness of old issues, some parallels can be drawn between *networked government* and the newer emphasis being placed on public sector innovation. Both public sector innovation and *networked government* recognize that the current approaches to managing public issues are not satisfactory. One way to reconcile *networked government* with public sector innovation is to consider *networked government* as a component that fits into the innovation agenda. *Networked government* is really just an innovative process that aims to deal with the issues faced by governments today. By calling for more public sector innovation, governments are in part asking for more initiatives like *networked government* to be piloted, and where successful, diffused to other organizations. In this sense, innovation is about taking the best of new and old ideas, either from *networked government* or aspects of NPM, and adapting them to a specific operation with the intention of improving performance. Unlike *networked government* and NPM, creating an innovative culture is not about setting a specific course using certain tools, instead, it is about

having employees, from all levels of government, recognize areas where improvements can be made, and inviting them to take their ideas forward.

The role of innovation manifested differently in each of the past eras of public sector governance. In the post-World War II era innovation in government was widespread, but was expected to emanate from political leaders. Innovative approaches were developed on a much larger scale, often focusing on national and universal systems (Hartley, 2005). Politicians were expected to rally the correct mixture of resources and support to see their initiative succeed. In Canada, the most obvious example from this era is the development of universal publicly funded healthcare. Public sector innovation changed under the 1980s paradigm shift that resulted in NPM. Innovation under NPM brought about a specific agenda. Under NPM the aim of innovation was to bring about widespread organizational change by incorporating private sector tools into government. While the NPM process was initiated by elected politicians calling for more government efficiency, the deliverer of the innovation agenda shifted from politician to public sector managers (Hartley, 2005). NPM managers were expected to use innovative approaches to transform government operations to ensure they were as efficient and effective as possible, which often implied that managers should employ private sector approaches to public sector responsibilities. Starting in 1997 the paradigm shift to *networked governance* brought about another change for public sector innovation. This shift saw a return to strong political leadership (necessary for bringing agencies together to tackle a shared problem), but also recognized that there was a need to provide resources to experimental approaches, such as pilots. Managers were expected to take on a leadership role as explorers searching for public value (Hartley, 2005).

Innovative initiatives in the past were defined by the governance era in which they were launched and often had a specific agenda. Today's call for greater innovation is about empowering public sector employees, at all levels, to evaluate the services they provide, and look for ways to increase efficiency and effectiveness using any tools they deem appropriate (so long as they can justify their approach). Today's public sector employees are empowered to harness enabling technology that can help them do their work better and are expected to incorporate useful technology as it becomes available. The responsibilities of managers include developing an environment where innovation can flourish throughout the organization. Unlike previous manifestations, innovation today is about both large and small initiatives, either on a national or organizational level, and they are not guided by a particular mindset. Last, innovation today continues the *exploratory* emphasis developed under *networked government*, but extends responsibility for exploring to all members of the public sector, rather than limiting it to managers only.

Today's drive for public sector innovation can also be assessed in light of other management processes that aim to make organizational improvements, most notably *continuous improvement*. In much of the literature on public sector innovation the term *continuous improvement* is used to refer to innovation's drive to make improvements to public sector activities. *Continuous improvement* however, does have a very specific definition, particularly in private sector management literature. *Continuous improvement* is about systematically and regularly identifying areas where improvements can be made to current products and then making the changes that lead to a desired end (Liu, 2008 and Zangwill & Kantor, 1998). Public sector

innovation is similar to *continuous improvement* in that its aim is also to review current activities and identify and implement new ideas that will increase efficiency and effectiveness. However, *continuous improvement* is not exactly the same as public sector innovation because *continuous improvement's* emphasis is largely limited to making changes to existing products, while innovation goes beyond this to include developing new products and processes. Public sector innovation is also about giving employees the freedom to explore new approaches as they see fit, whereas with *continuous improvement* there is likely an established process for making changes (Liu, 2008). So, when the term *continuous improvement* is used in public sector innovation literature it is likely that it is intended more generally and broadly than is implied by the private sector definition.

Albury (2005, p. 51) argues that in today's world public sector innovation is "not an optional luxury." It is instead a "core" and must be "institutionalized as a deep value." He points out that in a general sense there are continuous pressures to reduce government costs, and that without innovation workloads for already overworked employees will increase (Albury, 2005). From this it can be inferred that without innovation overworked employees will be dissatisfied and potentially leave their positions. Ultimately, the quality of candidates vying for and occupying public sector positions may suffer. Alternatively, employees that remain will produce work of a lesser quality, a reflection that they had less time for analysis and scrutiny in the work they complete. By increasing efficiency, innovation can contribute to reducing overall workloads and hopefully avoid these troubling scenarios.

That is the point that Albury (2005) and others are making; that innovation is key to increased efficiency. However, others are prioritising innovation for much more dire reasons than Albury, though his concerns are still relevant. Jessica McDonald, leader of the British Columbia Public Service is concerned because forecasts project that retirement numbers in the BC public sector will outpace new hire numbers in the coming years. This means that there will be fewer employees available to handle what is expected to be an increased workload. McDonald sees a growing workload as an inevitable result of changing citizen demands (McDonald, 2008). If the public sector is projected to shrink and the workload is projected to increase, then new more efficient and effective processes, products, and organizational structures need to be developed. The government must find better and more innovative ways to achieve its results.

The workload is expected to increase because citizen demands are changing. In the United Kingdom the government has found that citizens have more information now to compare available services, and as a result they are demanding higher quality from their public services (Department for Innovation, Universities & Skills [DIUS], 2008). Osborne & Brown (2005) also link changing expectations to a more sophisticated citizenry; a citizenry they say demands more choice and higher quality from their public services. Albury (2005, p.51) sees the changing demands as a result of an increasingly diversified citizenry, who expect instant and tailored access on a "24-hour/seven-days-a-week" basis. In summary, more informed citizens demand better quality, and increasingly diverse sets of users want better and more tailored choices. The key point is that governments have to be more effective at achieving their results and reaching their citizens.

There are also systemic reasons why a greater focus on innovation is required in the public sector. Generally, in the private sector companies innovate – develop new approaches, some of which respond more appropriately to the demands of their clients – or eventually they lose out to the competition and cease to exist. However, in the public sector the consequences for not innovating do not have the same urgent sense of termination (Bartos, 2002). This, so the argument goes, has meant that there has been much less emphasis placed on innovation in the public sector than in the private sector, which has contributed to less efficiency and rising costs, and perhaps in some areas less effective services matched inappropriately to their users. In this context not innovating is more risky than innovating and has the very serious consequence of causing a loss of “public confidence in government and the public service” (Bartos, 2002 p. 13), along with decreased efficiency and effectiveness (Moore, 2005). This is because innovation is increasingly seen as being at least part of the answer to correcting many of the perceived shortcomings of the public sector. This argument is somewhat problematic, because it assumes that competition is necessary in order to achieve top results and it ignores the existence of governments’ use of competitively tendered processes from external providers. However, it still may provide at least part of the explanation for why innovation is less likely to take hold in the public sector.

Mulgan and Albury (2003, p.5) argue that costs in the public sector generally increase at a faster rate than the rest of the economy, and therefore without innovation to increase efficiency and reduce costs the “inevitable pressures to contain costs” can only be met by increasing workloads to already stretched staff or delivering services of a lesser quality. Horne (2008, p. 6) suggests that public services are coming out of an era of “unprecedented investment”, and as the fiscal climate tightens there will be pressure for improvements to be made without increasing public spending; this will require innovative approaches that maximize efficiency and effectiveness.

Public sector organizations around the world are also viewing innovation as paramount to successfully dealing with emerging issues, old long-standing unsolved problems, and responding to new operating environments. In Britain, the government has recognized that innovation will play a central role in combating the “defining social challenges of the 21<sup>st</sup> Century” (DIUS, 2008, p.70), including climate change, an aging population, and globalization. These problems are certainly not unique to Britain, and there are several other emerging issues that will also require new approaches. In this context innovation becomes “new ways of tackling” (Horne, 2008, p. 6) public policy problems. Indeed, the importance of developing new approaches is highlighted by the recognition that “the pace of change is increasing rapidly” (CCMD, 2002, p.15), and issues are seen as increasingly risky, complex, and interrelated (CCMD, 2002). It is in this environment that in Canada, the Clerk of the Privy Council wrote in his 2001 Annual Report to the Prime Minister, “the public service of the future is... dynamic and adaptive, flexible and responsive. It values and rewards excellence and innovation (CCMD, p. 4).” The prevailing view is that the public policy problems faced today are not the same as those from the past and that new innovative approaches will be required in order to solve them.

The persistence of long-standing unsolved problems, like homelessness, gang violence, and rising healthcare costs in the face of deteriorating healthcare services are also seen as part of the justification for innovation. It is increasingly apparent that “more of the same” approaches will not solve the most stubborn of problems (Horne, 2008, p. 6). Indeed, Moore (2005) argues that

“break-through” innovations are needed to “transform government’s overall approach to a problem” (p. 45). As noted in the discussion above, citizens are demanding higher service quality from their governments and it will become increasingly unlikely that they will accept continued poor performance on these longstanding issues. Public sectors will be required to apply a different lens to these issues and come up with new, more innovative approaches to how they are managed.

In many ways *innovation as a response to long-standing unsolved problems* seems like a basic extension of what is already known as policy analysis. Policy analysis is about applying “intellect to public problems” (Pal, 2006, p. 35). Presumably by applying intellect to public problems approaches are generated that aim to solve the problem and then the approach with the strongest business case is implemented. At first glance, this appears to be what the calls for more innovation for long-standing unsolved problems is about. However, innovation differs from *basic* policy analysis because it is asking policy thinkers to develop strategies that go beyond the suite of approaches that are currently available in order to find approaches that have a better chance of providing a solution to a problem. In this sense innovation is about reminding policy thinkers that they should be constantly re-evaluating the options that lay before them.

Public sectors also must respond to new developments in their operating environment, like technological advances or new processes (Bartos, 2005 and DIUS, 2008). If they are unable to respond to a change in their operating environment they run the risk of decreasing their effectiveness and failing to satisfy the demands of citizens. For example, imagine if governments had decided not to provide services online, or significantly lagged behind in their adoption of this technology? E-government provides instant access to information and services that previously required telephone conversations, printed materials, forms sent via the post and trips to government offices. Without an embrace of e-government principles, governments would have been viewed as unresponsive and unable to keep up with the changing demands of their citizens (Accenture, 2003). The increase in efficiency and effectiveness to governments from moving online is clear. Indeed, the Government of Canada, having recognized the importance of e-government, launched their *Government On-Line* program in 1999 with the goal of being “the government most connected to its citizens” (Accenture, 2003, p. 50). Public sectors must also be aware of changes in their operating environment that impact how they conduct their business. For example, as public policy problems are increasingly recognized as interconnected, public sector organizations in some jurisdictions, including British Columbia, are recognizing the importance of working across ministry boundaries to solve issues. Public sector organizations should innovate by adopting these processes where it makes sense to and at a minimum ensure they are thinking innovatively about how these processes may impact their operations and how they may interact with other organizations that have integrated horizontally.

This overview of the importance of innovation to public sectors has identified a number of justifications for why innovation is perceived as being necessary. The scope of these justifications might lead some observers to note that innovation is being sold as the solution to *everything*. This report’s aim is not to decipher which justifications are more relevant than others or discuss the potential issues that may arise if the utility of innovation is amplified beyond its means. By identifying these justifications the aim has been to share examples of how

innovation has been justified. This report's author has detailed the justifications for public sector innovation in the BC government; these are the justifications that motivate this work.

Innovation is recognized as a central component to increasing public sector efficiency and effectiveness, thus ensuring government costs are kept down, public sector employees are not overburdened, and citizens' expectations are satisfied. By offering new approaches to dealing with problems and changing circumstances, innovation will be vital in dealing with emerging complex problems, as well as re-evaluating responses to old long-standing problems and preparing public sectors for new developments in their operating environment.

### *Motivation for Public Sector Innovation*

While the justifications in the above section outline reasons why innovation is increasingly important, the evidence presented in this section draws on research from Borins (2000) and Walters (2001) to outline the motivating factors that led successful public sector innovators to innovate in the past. They reveal a set of stimuli to which public sector innovators have responded, which may offer clues about how to nurture innovators within public sector organizations today and develop performance measures to track the success of such efforts. The stimuli can also be linked with many of the justifications outlined in the above section, which suggests that public sector employees are capable of responding to challenges and constraints with innovative solutions.

Borins (2000) uncovered the main motivations for public sector innovation directly from the source. He examined a sample of the semi-finalists for the Ford Foundation-Kennedy School of Government Innovations in American Government Awards and Institute of Public Administration of Canada's public management innovation awards between 1990 and 1994. From this survey he uncovered the top five motivations for why these leading public sector innovators were innovative. They are:

- i. Political reasons, usually dealing with an election mandate or new legislation;
- ii. New leadership;
- iii. Crisis, such as a publicly visible failure;
- iv. Internal problems, like resources or failing to reach a target group; and
- v. New opportunities, like technological advances (Borins, 2000, p. 55).

Walters (2001) also focused on the Innovations in American Government Awards and asked what inspired innovation and what made it successful. From his analysis of 15 years of award winners he uncovered six primary motivations for innovation. They are:

- i. Frustration with the status quo;
- ii. Responding to crisis;
- iii. Focusing on prevention;
- iv. Emphasizing results;
- v. Adapting technology; and
- vi. Doing the right thing<sup>5</sup> (Walters, 2001, p. 11-22).

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<sup>5</sup> Walters (2001, p. 24) notes that there are those innovators who are motivated by "their essential humanity" or "doing the right thing." Basically, he notes that these are the people who are not innovating for reasons one through

Borins (2000) and Walters (2001) both identify crisis, internal problems (called focusing on prevention in Walters), and new opportunities and adapting technology as important motivators for promoting innovation. However, Borins' list emphasises external motivations while Walters' emphasises the perspectives of individual public servants and their motivations for innovation. Also, a second divergence is found in Borins' focus on political reasons and new leadership and Walters' emphasis on changing the status quo, doing the right thing, and emphasizing results. Together they come up with eight unique motivators for promoting innovation.

These motivations can be linked back to the previous discussion on why innovation in the public sector is important, which suggests that public sector innovators have likely been responding to the justifications uncovered in the literature. For example, award winners identified internal problems and frustration with the status quo as important motivations for innovation. This theme was also uncovered in the justification section; innovation was seen as part of the answer for re-evaluating how public sectors deal with long standing problems that have gone unsolved for too long. New opportunities and crisis were also identified in the justification section; advances in technology and responding to demographic challenges and global warming were seen as requiring new approaches from the public sector.

The fundamental issues in the promotion of innovation then becomes what are the challenges that impede innovators in the public sector from being innovative and what type of organization is most likely to capitalize from the growing call for public sector innovation? By uncovering why innovation has been seen as critical in public sectors in Britain, Canada and the United States a rallying cry has been sent out to the leaders of public sectors to become active in regards to innovation. The factors outlined by Borins (2000) and Walters (2001) provide the first glimpse into the types of organizations that are likely to be innovative by uncovering the characteristics that are likely to promote more innovative ideas. In addition to offering clues about how to motivate potential innovators they also can provide an early basis upon which to measure innovation. For example, organizations may benefit by explicitly identifying potential crises, internal problems, and strategies for adapting new technology. It is hoped that a similar conclusion can be drawn from the following discussions dealing with the challenges of public sector innovation and the ideal innovative public sector organization.

### *Challenges to Public Sector Innovation*

It is necessary to consider the factors that may impede the development of a culture of innovation or innovative ideas within the public sector. By identifying these challenges it may be possible to develop strategies to mitigate them, which could form the basis for several measures in an innovation performance measurement framework. The literature reveals several challenges to public sector innovation. They are: the existence of a risk averse culture in public sector organizations, a perceived need for establishing or maintaining stability, unsupportive bureaucratic processes, and a lack of incentives for being innovative.

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five, but have decided to be innovative because of some "clear sense of positive purpose" (Walters, 2001, p. 24). He suggested that he hopes all the award winners he reviewed had this positive purpose in addition to their other reason for innovating.

### ***Risk Averse***

The first and most often cited reason for why public sector innovation is a challenge is the view that public sector organizations are risk averse; they are not prepared to make changes to programs and policies that they believe are functioning properly, especially when the impact of those changes is unknown. Innovation is risky and innovative ideas do fail or often the benefits of their impacts are vague. Some innovations may fail outright, or appear to fail, but create unintended benefits in the future (Hartley, 2005). Or an innovation may initially appear to be useless, but as it becomes better understood is found to be a success (Mulgan, 2007).

In the private sector one estimate suggests that only 38% of product innovations are successful (Hartley 2005). There are no similar estimates for the public sector, but the point is clear: trying new approaches causes an increased risk of failure. However, despite the inherent risk in innovation, it is often seen as the key to survival and success in the private sector because of the ability of the successful ideas to carry the weight of the failed innovations and propel a firm ahead. This is a notion that public sectors are attempting to make central within their organization – with innovation seen as the key to increased effectiveness and efficiency – however, given the risk averse culture found in public sector organizations the innovation agenda is difficult. Reducing risk aversion is about taking those risks that can help improve the public sector, whereas maintaining stability is about exercising caution when a risk might interrupt a vital public service.

As Borins (2001, p. 311) points out the “consequences for unsuccessful innovation are grave”. A failure is likely to be exposed by the media and opposition parties. From there, the career of the public servants responsible for unsuccessful innovation is bound to suffer (Borins, 2001, Joyce 2007 and Moore 2005). Bartos (2002) agrees, but adds that once an innovation is proved to be a success the concern becomes over why the idea was not implemented sooner, rather than praise for the innovators. MacPherson (2001) suggests the main deterrent to public sector innovation is the “public gaze which is often unsympathetic and naturally critical” and goes on to declare that in a political environment “the costs of failure tend to be much higher than the benefits of success.” This is why Hartley (2005) contends that very often political leaders are unlikely to support innovative ideas in the first place making the promotion of a culture of innovation within the public sector a losing battle. This is a more negative analysis of why the public sector is traditionally risk averse. Outlined below in the *Maintaining Stability* section are justifications for why the public sector should be risk averse.

Given the above context, the main concern against taking risks centers on accountability; how do public sector managers demonstrate accountability for time spent on innovation, particularly on those ideas that fail to net positive results? Hartley (2005) suggests that the problem is that, in the public sector, innovation can only be justified when there are increases in quality and efficiency, but that in the private sector successful innovation is a virtue in its own right as it moves the firm towards greater competitiveness. Indeed, in the private sector the intended outcome of innovation is ultimately more profit, which is much easier to measure than the whole range of outputs of public sector innovation that would fall under maximizing public value (LSE Public Policy Group [LSEPPG], 2008).

Given the risk averse nature of public sector organizations, Moore (2005, p.43) found that most public sector managers he interviewed felt they would require special authorization to “gamble taxpayers dollars, client welfare, and the public interest on new, untested ideas.” Moore’s view is that in theory elected officials and politically appointed leaders are selected on the basis of their judgement; therefore, they should be responsible for promoting innovative and risky ideas as they are the ones who will ultimately be held to account for the government’s record (Moore, 2005). Albury (2005) takes the accountability angle in another direction; he argues that the diversity of groups and their different goals means that stakeholders are unable to agree on the terms of a program’s success. So, rather than attempting new innovative approaches a public sector organization may opt to stay the course if it has managed thus far to balance the interests of its varied stakeholders. Joyce (2007) points out that even in public sectors where innovation is being actively promoted it will still take time for the risk averse culture to be broken down.

### ***Maintaining Stability***

The need for stability – also linked to risk aversion – is the second reason why the public sector may find it challenging to be innovative. Mulgan (2007) provides several reasons for why controlling innovation may be important for maintaining government stability. He suggests that in the public sector there should be less tolerance for risk because the services provided by the public sector are often essential for the lives and livelihoods of their users. He also contends that it is important that the public sector remain familiar so its users are able to navigate it with relative ease. Last, he suggests that the current approaches in the public sector have been “tried and tested” (Mulgan, p. 14) and may represent the best possible techniques available given the constraints faced within the sector. Mulgan’s view is clear: risks must be well calculated before they are taken, given the importance of the public sector’s services to its users and the likelihood that existing approaches represent a compromise between what is desired and what is achievable. The word *calculated* is key, because as pointed out previously, there is a lot at stake in not innovating as well.

### ***Deficit of Incentives***

Given the discussion above about the expected fall-out from failed innovations there is a clear disincentive for public sector employees to risk new innovative approaches that could possibly fail. While the threat of failure is a certain deterrent, there are no, or few, explicit incentives to be innovative (Borins, 2001, Albury, 2005, Mulgan, 2007, and Macpherson, 2001). As Borins (2001) points out, innovations developed in the public sector become the property of the government, rather than the individual innovators. Unlike in the private sector where stock options, meaningful bonuses and perks bolster employees’ desire to innovate, public sector employees gain no ownership rights and are paid fixed salaries, occasionally complemented with very modest bonuses (Borins, 2001). However, there are some incentives, such as promotions and the respect of peers and bosses that can help to bring about more innovation. The next section outlines the model public sector organization, and rewards and awards, including recognition, are seen as key to developing a strong culture of innovation.

Borins (2001) also discusses the impact of public sector funding arrangements on innovation. In the private sector venture capitalists seek out innovative ideas they believe could turn a profit; they are often new developments that may fail. The goal of the venture capitalist is to fund enough successful ideas to outweigh the cost of the failed ideas they also supported. In the

public sector funding is allocated by legislative appropriations and new funding initiatives must be backed by a rigorous business case. It is unlikely that a risky, but potentially successful innovation would pass the public sector test, and therefore there is little incentive for public sector organizations to pursue new funding for the more risky innovative ideas.

### ***Bureaucratic Processes***

In addition to a risk averse culture, the need for stability, and a lack of incentives for promoting innovation, there are governance processes in the public sector that act as challenges to public sector innovation. In the United Kingdom, the government has found that more needs to be done to align the gears of the public sector around promoting innovation. These gears include policy development, legislation, budget requirements, and performance reporting (DIUS, 2008). Central agencies and legislation could aid innovation by allowing greater freedom for public sector organizations in the areas of planning and implementing initiatives and reporting results (Macpherson, 2001). They also suggested that the existence of multiple goals constrains attempts by public servants to be innovative. For example, when considering a new idea, program developers must aim for equality, universal access, protection of citizens' rights and respect for the rule of law, among many other considerations (LSEPPG, 2008). Indeed, Mulgan's (2007) view is somewhat aligned with the constraints view outlined above. He argues there are too many rules and that bureaucracies have been "designed to stop capricious and unpredictable actions" (Mulgan, 2007, p.17). This is not to suggest that the rules and goals of the public sector should go unconsidered, rather it is an attempt to help understand the full range of challenges faced by the public sector in being more innovative.

The other major process constraint to public sector innovation besides government structures centers on the issue of capacity. In 1998 the Auditor General of Canada released a report about innovation in the federal public sector in Canada and in one of his conclusions he stated that there is too little capacity for managers to innovate because they are being asked "to do more with less" (in Joyce, 2007 p. 24). This interesting critique runs contrary to other views. Indeed, as noted earlier, McDonald (2008) has pointed out that workforce reductions in the BC public sector brought on by demographic shifts are a primary justification for innovation; having to develop methods that do more with less is why innovation is so important. Adding to this, Albury and Mulgan (2003) conclude that because public sector managers spend the "overwhelming proportion of their time" on administrative functions, including running day-to-day functions and reporting to senior officials, they have very little time for considering innovative approaches (even though these very approaches could alleviate time pressures). Lack of time among managers for innovation cements the idea that innovation is an impediment to the work of the public sector rather than a key driver of its success in the future.

### ***As Challenging as it seems?***

This discussion has centered on highlighting the challenges faced by public sector innovators, however, the literature also offers counter-arguments and plenty of examples of successful public sector innovation. Much of the preceding discussion centered on concern and caution about applying the private sector innovation agenda to the public sector without regard for the public sector's unique settings and demands. However, this does not mean that there is no will for innovation in the public sector. It has been emphasized that there is a strong drive for public sector innovation from the top of the public sectors in the province of British Columbia, and in

the Governments of Canada, United Kingdom and the United States, among others. Support from the leaders of the public sector and recognition that risks must be taken in the drive for innovation may go a long way towards mitigating the risk averse culture that apparently blankets public sector organizations.

Many – though not all – of the above arguments have their basis founded in theoretical positions on the nature of public sectors and bureaucracy; there are, however, alternative observations that would suggest the public sector is fertile ground for innovation. Moore (2005) comments that public sectors, at least in democratic systems, actually have a long history of innovation. This history is grounded in the fact that they must continuously adapt and re-invent themselves and their programs as new governments and changing political mandates take hold, not to mention the need for prompt responses as new crises unfold in the world in which they operate. Hartley (2005) notes that if you consider the paradigms in which governments have operated over the course of the twentieth century the persistence of innovation is also evident; public sectors in the western world have shifted from a traditionalist approach to NPM and now in the twenty-first century to networked government. Each shift has brought innovative approaches to managing growing public sectors.

There is also hard evidence of public sector innovation in much of the literature surveyed. A handful of examples have been drawn out from the work by Joyce (2005), Albury (2005), Borins (1998), and Walters (2001). Joyce, reflecting on the Canadian experience, highlighted the creation of a “one-stop” access point by Service Canada as a new efficient way to enable Canadians to access all federal government services from across ministries from one single source. Joyce also highlighted the profound impact of Government On-Line, which had the objective of moving government information and services online, the ultimate aim being to increase the access Canadians have to their federal government.

Albury’s (2005) review highlights Britain’s Open University Program, which in the 1960s used available technology to provide part-time education to new students who may not have been able to study full-time; the aim of this program provides an early example of a government’s attempt to increase access to its services given the diverse demands of potential users. He also highlighted the SureStart programme, which aimed to ensure that disadvantaged children in Britain were being provided with top quality social services from across ministries; the goal here being to increase the effectiveness of government programs for a hard to reach group. Albury (2005) also made honourable mention of another six profound British public sector innovations, including congestion charging in London, health “collaboratives” and motorcycle-based paramedics.

Walters (2001) uses the example of the drive to open public works contracts up to competitive bidding (between the private sector and existing city departments) by the mayor of Indianapolis’ as a case for public sector innovation in the face of frustration with an underachieving status quo. Borins (1998) explains that Seattle’s drive for a comprehensive recycling system in 1990 was in response to a crisis: two of Seattle’s landfills faced closure due to serious environmental violations. The aim of this brief overview has been simply to demonstrate that innovation is not a foreign concept to the public sector and that innovation has existed in the public sector over a long period of time and across areas of public sector activity.

While the prevailing view is that public sector innovation faces a number of challenges – risk averse culture, need for stability, lack of incentives and uncompromising processes – it is important to remember that there are also arguments for why public sector innovation can thrive, as well as evidence of a number of successful public sector innovations. This counter-balancing evidence helps to make the point that what is presented in this section are *only challenges* to public sector innovation, rather than absolute obstructions. Strategies to mitigate the impact of these challenges should be woven into public sector innovation plans, and performance measures should be developed to track progress and recognize areas where challenges could be reduced further.

### *The Model Innovative Public Sector Organization*

This section lays the foundation for measuring the promotion of a culture of innovation because it uncovers the characteristics that led public sector organizations to be innovative in the past; the assumption being that it is possible to emulate these characteristics and to create the right type of environment for innovation to flourish. By identifying these characteristics it is possible to develop measures that examine how innovative an organization is and what steps have been taken to promote an innovative culture.

Borins (2001) examined a sample of 217 semi-finalists for the Ford Foundation-Kennedy School of Government innovation awards and Institute of Public Administration of Canada's public management innovation awards between 1990 and 1994. From this survey he uncovered seven defining features of what an innovative public sector organization looks like. All seven of these defining features have been recognized as key contributors to fostering innovation by other public sector innovation researchers, including Albury (2005), Hartley (2005) and Moore (2005). They are joined by a final characteristic, the use of teams, which have been recognized elsewhere as instrumental in the development of a culture of innovation (CCMD, 2002 and Hartley, 2005). All together, the eight defining features are:

1. Support from the top;
2. Rewards and awards;
3. Resources (including time, space, and money);
4. Diversity of staff;
5. Learning from the outside;
6. Innovation is everyone's responsibility;
7. Experiment and evaluation (Borins, 2001); and
8. Use of teams (CCMD, 2002).

### *Support from the Top*

Albury (2001) agrees with Borins (2001) that support from the top, in either the political or public sector realms, is vital to successfully developing a culture of innovation within the public sector. He points out that it is particularly important during the difficult phases often encountered during the development of innovations. Indeed, ultimately senior public servants are responsible for whether an organization becomes more innovative or does not. This support becomes fundamental to the innovation process because it provides staff with the licence they need to break down barriers to innovation, in particular the persistence of a risk averse culture and concerns about accountability for time spent on innovation.

### ***Rewards and Awards***

Borins (2001) also highlights the importance of rewards and awards to the promotion of innovation. He notes that in the private sector financial awards, in the form of stock options and bonuses can be quite generous for successful innovations. These types of financial incentives are certainly not available in the public sector, and not in all cases in the private sector. Instead, Borins notes that recognition can also be an important incentive for promoting innovation. This recognition, applied to both successful innovations and those honest efforts that happen to fail, could have the effect of complementing the increased support coming from the top. It may also promote competition among staff to be more innovative as a way of vying for recognition from above; the existence of competition was singled out by Mulgan and Albury (2003) as an important motivator for innovation.

### ***Resources***

One of the most important – and difficult – defining features of an ideal innovative organization is the availability of resources for innovation. As Joyce (2005) points out, smaller innovations may be able to proceed by using existing funds, but any large-scale project will require new funding in order to succeed. Borins (2001) suggests that the difficulty with resource availability is found in the fact that innovations are often funded with “budgetary slack due to enhanced efficiency” (p. 316). However, often the government agencies responsible for finances will respond to calls from government leaders for cost savings by swallowing up these slack funds. He suggests that a more proactive approach be adopted where special central funds are established to provide funding for innovations throughout government. This would complement a point made by Moore (2005) that while the task of developing innovations is fairly simple, actually implementing them can be quite difficult.

Moore highlights the role of venture capitalists in the private sector to invest in risky, but potentially profitable innovations, as a model that is important for promoting innovation. A special fund for innovation, either from a central agency or within individual agencies and work units, would have an enormous impact on the promotion of innovation. It would provide an avenue from which innovative ideas could be launched, ensuring that ideas move beyond the planning and into the implementation phase. It may also promote the development of more thoughtful ideas, as innovators compete for what would most likely be very limited funding.

Funds are not the only type of resources, and the availability of time and space are also important considerations. Employees require time to think creatively and come up with new ideas; overburdened and stressed employees are unlikely to have the capacity to think creatively. For example, 3M, a hugely successful corporation, provides its researchers with the freedom to use 10 percent of their time on innovation activities they select (Perrin, 2002). The impact of this initiative is that employees are given the time they need to explore new avenues and consider alternative approaches. Certain spaces and workplace configurations may also be more beneficial than others. For example, Albury (2005) highlights the case of Royal Mail in Britain, where they have developed spaces with floor to ceiling whiteboards and rooms with break-out tables for small groups to think collaboratively, and hopefully innovatively. These types of resources are important and should not be discounted.

### ***Diversity of staff***

A fourth consideration for developing an ideal innovative organization is the prevalence of diversity within an organization. Mulgan & Albury (2003) argue that “innovations depend on the ability to see things differently” (p.13). Mulgan & Albury along with Borins (2001) all agree that people with different backgrounds working together will be more likely to be innovative. Albury (2005) builds on this argument by pointing out that diversity helps to build *creative tension*, which is instrumental in flushing new and exciting ideas to the surface. Borins (2001) calls for job descriptions to be less narrowly defined. This, he believes, will ensure that people with a variety of backgrounds apply for posted positions and that, once hired, individuals will be free to consider a variety of approaches to the tasks they encounter. Last, Borins (2001) recommends that opportunities be provided for individuals to develop new skills that can help with problem solving and promoting creativity, as well as bring new perspectives to the business of the organization.

### ***Learning from the Outside***

By working with and monitoring the activities of external entities an organization can learn from other organizations and avoid its mistakes while looking for opportunities to implement new ideas based on others’ successful initiatives (Albury, 2005). Also, working with external entities provides partners the opportunities to learn from each others’ approaches and possibly develop a whole new set of strategies. By actively pursuing learning opportunities and external partners an organization recognizes the potential that there is room for it to develop new techniques. Borins (2001) suggests that individuals be encouraged to read about what other organizations are doing, attend external events, and become active in professional networks. Adding to this, it is also important to attract outside guest speakers and send staff on short-term assignments to other organizations. This way a constant dialogue with outside organizations is maintained and the channel for developing new innovative ideas is kept open.

### ***Innovation Involves Everyone***

Increasingly the view is that innovation, while requiring strong support from the top, is the responsibility of individuals throughout the organization. Hartley (2005, p. 32) suggests that innovation is “as much a bottom-up and sideways-in process as a top-down one,” meaning that traditional structures for brainstorming, information sharing, and decision making are not appropriate for developing a culture of innovation. Instead, a culture of innovation requires processes that are inclusive of all employees and not directed from the top. CCMD (2002) found that middle managers and front-line staff were the source of 50 percent of all public sector innovations. Albury (2005) implicitly links this notion that innovation involves everyone with the need for support from the top by pointing out that people throughout an organization can be an excellent source for new ideas if provided with the right tools, support, and space. Young and new employees are essential to the innovation process; younger employees may have a better grasp of technology and cutting edge issues (Borins, 2001) and new employees having not yet been absorbed into the organization’s regular flow, may be better situated to provide fresh insights (Albury, 2005).

Given these arguments, it is vital to the success of any culture of innovation that it be as inclusive as possible; meaningfully consider all the ideas developed within the organization; and, regularly meet to discuss new and previously rejected ideas. Failing to be as inclusive as

possible could lock out the input of the people from the frontlines who have first-hand knowledge of the organization's activities and performance. Swiftly and inconsiderately rejecting ideas could mean that the source of new ideas dries up as employees become jaded with the innovative process. Last, by failing to regularly update the innovation agenda, windows of opportunities for moving forward on good ideas and getting valuable insights from new employees could be missed.

### ***Experimentation and Evaluation***

Experimentation and evaluation strike at the key challenge to public sector innovation – the persistence of a risk averse culture – by recognizing that trial and error are an essential component to the innovation process (Borins, 2001). By providing employees with room to pilot new ideas a licence is being granted to really *think out of the box* about ideas that can propel an organization forward in terms of its effectiveness and efficiency. Providing space for experimentation is also about recognizing that well-thought-out ideas can and do fail, but that all innovative ideas are about moving beyond what is sometimes seen as an unsatisfying status quo. Therefore, experimenting refers to taking a calculated risk and evaluation refers to testing results and using the findings to “expand, modify, or scrap the innovation” (Borins, 2001, pg. 318).

Evaluation can be broken into two parts. Internal evaluation is important because an innovative organization must also be prepared to learn from innovations that fail as well as those that succeed (Borins, 2001, Albury, 2005, Hartley, 2005, Joyce, 2007). Also, internal evaluation can be used to develop a system to ensure that unsuccessful innovations are only allowed to go so far before they are stopped (Moore, 2005 and Hartley). Albury (2005, p.54) argues that evaluation is a critical component of innovation, as it “generates the next wave of possibilities.” By learning from successes and failures these next innovations build on the preceding innovations, thus strengthening the ideas that are generated (Albury, 2005).

The second part of evaluation is external evaluation related to the process of generating ideas. Individuals and organizations should evaluate the activities of others, and “benchmark themselves against good practice – wherever it might be found” (Mulgan and Albury 2003, p 14). Evaluation is as much about judging internal innovation as it is about assessing current practices against new external ideas that can be adopted and adapted. In conclusion, experimentation can be used as a gestation period to ensure a well-intentioned but unsuccessful idea is contained within a limited mandate, and evaluation can work to ensure that lessons are drawn from both successful and unsuccessful ideas. Ultimately, experimentation and evaluation will increase the appeal of the innovation process by maximizing successful ideas over unsuccessful ideas (Moore, 2005).

### ***Use of Teams***

Working in team dynamics is the final defining feature for fostering a culture of innovation. Hartley (2005) recognizes teams as instrumental in creating a climate where employees are comfortable working together. Teams are also an important response to the increasingly complex and interrelated issues faced by public sectors. Increasingly, individuals only hold a piece of the answer to a problem, and require the help of colleagues and partners both internal and external to their organization (CCMD, 2002). Teams also play an important role in bringing all the other defining features together; innovative teams can be made up to: include more

diversity; actively learn from the outside; and pilot new ideas (CCMD, 2002). The use of teams is an important unifying feature in the development of a culture of innovation.

According to the literature, with these building blocks in place an organization is most likely to have a well entrenched culture of innovation. *Support from the top* is a central component because it is the catalyst that makes all the other defining features possible. *Rewards and awards* and *resources* help to create incentives that encourage employees to look for better ways to achieve their objectives. *Diversity* and *learning from the outside* bring in new perspectives and new ideas that can invigorate and strengthen the innovation process. *Innovation is everyone's responsibility* and *experimentation and evaluation* provide the mandate for implementing innovative ideas, as well as the tools for testing results to ensure that the right ideas have been selected for implementation. Last, *use of teams* play an important role in bringing all the defining features together and serving as a vehicle for moving the innovation agenda forward.

### Outstanding Issues for the Model Innovation Public Sector Organization

However, more research is required in order to develop a complete understanding about the most appropriate way these characteristics should be developed within an organization. First, it is possible that some of the characteristics are more beneficial to developing a culture of innovation than others, if this were to be the case a weighting system might be required in order to ensure that the most beneficial characteristics are given priority. A related consideration is that some of the characteristics might be more important to one organization than another; meaning that different organizations would emphasize a different set of characteristics. A final consideration is that there may be a specific order in which these characteristics should be implemented; meaning that a few characteristics might lay the foundation upon which the other characteristics can be implemented. Incorporating an understanding of these three issues would help ensure an organization had a strategic plan in place for how it plans to develop a culture of innovation.

There are many other suggestions for factors that can help create a culture of innovation within organizations. Mulgan and Albury (2003) highlight the importance of working backwards from a program's outcomes as an important approach for ensuring a much wider range of options is considered. They also suggest that fostering a dissident culture, where conventions are challenged, can help create a more innovative environment. Albury (2005) suggests that regular dialogue between the innovators and program users is the key to successfully cementing a culture of innovation. The eight defining features presented in this report were selected because of their broad support by a number of influential researchers, but should not be considered the only relevant characteristics. They represent an excellent foundation upon which to build a culture of innovation within organizations and in later sections of this report will form the basis for performance measures for measuring the innovation culture in public sector organizations.

### 3.4 Performance Measurement

Now that innovation has been defined, its importance to the public sector and the challenges it faces have been outlined, and the defining features that will help spur the development of a culture of innovation explained, it is time to shift focus to the central theme: measuring innovation in the public sector. The first stage is to understand: what is meant by performance

measurement; why it is important; the disadvantages it faces; what should be measured; and the role of quantitative and qualitative methods. While this section presents a high-level overview of performance measurement, a detailed account of the development of a performance measurement framework will follow in the section outlining the design of IGRS' innovation performance measurement framework. This section will inform that section by making sure that the high-level lessons revealed in this section are applied to the IGRS framework.

The Treasury Board of Canada Secretariat (2004, paragraph 23) defines performance measures as “a qualitative or quantitative means of measuring an output or outcome, with the intention of gauging the performance of an organization, program, policy or initiative.” The report continues by stating that performance measurement is a “process and system” of selecting and developing performance measures “to guide decision-making.” Lebas (in Radnor, 2008) agrees, but further elaborates by discussing specific types of measures. He states that measures can relate to: key success factors; detecting deviations; tracking past achievements; and describing a program's overall status. Christensen & Gazley (2008) add that in practice the focus of performance measures centers on efficiency and effectiveness, the idea being that performance measures are often designed around outputs and outcomes that can offer an indication of a program's ability to maximize benefits from the resources it invests as well as achieve its stated objectives. A final addition is that performance measures can be used to compare the results between different reporting periods; this can be used to judge whether a program is improving upon past results and reaching or surpassing targeted results.

Performance measurement is one response to the emphasis in public sectors around the world on results-based management. Under results-based management managers are held to account for the results they achieve (McDavid & Hawthorn 2006). Performance measurement tracks whether results are being achieved. McDavid & Hawthorn (2006) suggest there are two ways in which performance measures are useful. First, results from performance measurement reports can be used to identify areas of a program that need to be improved. This point is echoed by Cavalluzzo & Ittner (2004), who state that the central emphasis is on improving decision making. Indeed, Joyce (2007, p.11) comments that the Government of Canada's justification for moving towards a performance measurement paradigm is rooted “in a commitment to responsible spending” and helping “managers make sound, more effective decisions on their policies, programs and initiatives.” Second, performance measurement results can be reported as a way of demonstrating accountability to stakeholders (McDavid & Hawthorn, 2006). In the public sector stakeholders include elected officials and members of the public. A third important reason for developing performance measures is their ability to focus program managers on articulating their key objectives and developing strategies to satisfy them (Murray, 2004 and Verbeeten, 2008). In this way performance measures serve as a guide for managers to use to focus on achieving meaningful results. Performance measures are important because they can be used to help focus a program on achieving results under its priorities.

While making improvements to programs and ensuring accountability for resources is important, there are several disadvantages associated with performance measurement and target systems. Hood (2006) studied the impact of performance measurement and target systems in the British public service during the 1990s. He found that these systems, if used inappropriately, can lead to *gaming*, which has three main impacts:

1. Ratchet effect: Managers restrict performance gains each year below what is actually possible as a way of demonstrating incremental advances each year.
2. Threshold effect: Output targets can have the effect of restricting performance by gearing managers towards achieving only what is required. There are no incentives to go beyond targets and achieve excellence.
3. Output distortion: Targets are met, but they relate to the objectives that are easy to achieve, and say little about other, perhaps more important, objectives. By distorting the focus, the selected targets say little about the actual performance of the program (Hood, 2006).

There are of course much less devious reasons for why performance measurement systems can sometimes miss the point. Often the tasks being carried out are difficult to “accurately evaluate using objective, quantifiable performance metrics” (Cavalluzzo & Ittner, 2004, p. 247). Meyer (2002) agrees, and argues that it is often difficult to attribute specific outcomes to particular programs anyway, given the actions of other governments and agencies, and the role of the economy and societal trends in impacting outcomes. This has the potential to move managers towards favouring objectives that are easily measurable, even if they are not the objectives that are the most important for their particular program.

Cavalluzzo and Ittner (2004) elaborate further by explaining that it is difficult to measure results for programs designed to prevent rare events (like a terrorist attack), to deliver outcome-based results within tight annual reporting time-periods, and measure goals that relate to social welfare. The reasons for these observations are clear. Rare events happen infrequently and it is therefore unclear if a program has had an impact in mitigating the effects. The expected outcomes of a program may take years to take form, and by then there will likely have been a significant combination of factors that contributed to a given measure’s status. Social welfare is an ambiguous concept with a number of competing views about what it means, there are often a number of factors that contribute to it, and it is unlikely that the impact of any single program could be separated from the rest in order to make reasonable judgments.

Last, Meyer (2002, p. 2) reminds his readers that “performance measurement is not an exact science,” because the required data may not be available or may cost too much money to collect and aggregate. As a result the conclusions reached about a program may not be entirely accurate. Sterck and Bouckaert (2008, p.436) add to this by asking the question, “How can we measure whether a goal is achieved when it is not defined in measurable terms?” They suggest that the central challenge to performance measurement is how objectives are defined. Objectives are often vague and call for success, but do not define precisely what success means or stipulate a clear time-frame for when success must occur. There is a central message from these critiques of performance measurement: often the results of government programs are difficult to measure given the interplay of multiple actors and events, as well as the complexity of designing measures that can link programs to specific outcomes within tight reporting time-frames.

Together these critiques make performance measurement seem unappealing, however, by returning to the original intent behind performance measurement it is possible to re-focus and understand its importance. If managers do not feel threatened and can recognize the important

role performance measurement can play in helping to improve their program they may avoid *gaming*. By identifying successes and areas for improvement performance measurement can help make sure that a program is on target, and then allocate resources to areas where additional support is required. Performance measures may not always be perfect in how they line up with program outputs and outcomes, but in those cases general conclusions can still be useful for managers to make inferences about areas where they can make improvements. Indeed, Verbeeten (2008) argues that in cases where the stated objectives are ambiguous performance measures still have a place as an exploratory tool. Once it is accepted that performance measurement can be employed as an exploratory tool – a way for managers to share information about their program and learn from that information – it is possible to shift the emphasis from only hard quantitative measures and instead employ a joint focus between qualitative and quantitative measurement.<sup>6</sup>

Quantitative and qualitative measurement techniques can be used for gauging the status of a particular program. Quantitative indicators “are numerical or statistical measures that are often expressed in terms of unit of analysis” (Murray, 2004, paragraph 23). For example, they will often count the number or percentage of times a particular event takes place. These measures are likely to use specific procedures and a large number of cases for collecting information. They are rigid in their experimental design, and provide no room for deviation, meaning that while concrete information is gathered on certain variables, there is little room for the comparison of the uniqueness of each case (O’Sullivan, Rassel, Berner, 2002), whereas qualitative indicators aim to expose the “unique features” of each case by relying on verbal accounts (O’Sullivan et al., 2002, p.28).

Indeed, this reveals an important difference between the two techniques. It appears that quantitative information is better suited for generalization beyond an individual study, while qualitative indicators are better situated to provide richer insights into the individual cases being examined (Manheim, Rich, Willnat & Brians, 2008). In addition, qualitative research can answer certain questions that quantitative research cannot. Qualitative research’s emphasis on opinions and viewpoints means it is better suited to assessing intangible concepts, which is why qualitative methods makes up such an important component of the performance measurement framework for IGRS’ innovation program; evaluators can ask respondents what impact an innovation had (outlined in section 4).

Quantitative indicators are often viewed as being the more objective measures. The view being that there is little room for a researcher or respondent to impose their own bias into numerical results; however, this perception is somewhat problematic as it ignores the potential for researchers to manipulate the results or elevate in importance only part of the data (leaving out

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<sup>6</sup> Borin’s (2001) point about the importance of evaluation goes beyond performance measurement. He is referring more broadly to program evaluation, of which many analysts in the evaluation field note performance measurement is intrinsically related (McDavid & Hawthorn, 2006). These two approaches share the same methodological tools (logic models, research designs and measurement techniques) and the purpose of the information they collect is to inform decision-making. Where they differ is that program evaluation – seemingly the more in-depth of the two approaches – is often called upon to address a specific information need, and is therefore time- and issue-specific, whereas performance measurement is on-going and is expected to continuously assess the general performance of the program it is measuring (McDavid & Hawthorn, 2006).

other more revealing information). Qualitative research has been perceived as the more subjective field, because researchers are specifically soliciting individual opinions and viewpoints; this is often seen as leaving qualitative data open to more bias. However, given the potential for bias to find its way into quantitative research as well, it seems perfectly reasonable to conclude that both qualitative and quantitative methods can be inappropriately used.

With qualitative data the aim is to collect a number of descriptions and responses to questions from specific cases that are closely related to a program, and then establish themes and key concepts from the information (O’Sullivan et al., 2002). Case studies and focus groups are two important qualitative techniques. Case studies aim to review a certain entity in detail. They can provide powerful information about a unique case that a broader measurement technique might have missed. Case studies are often targeted at programs that are excelling or where a program appears to be achieving unique outcomes (O’Sullivan et al., 2002). Focus groups bring a small number of participants together to have a discussion on a shared experience or common topic. They are useful when the aim is to establish an understanding about a “particular program in a specific setting” (O’Sullivan et al., 2002, p.42).

In summary, qualitative measures are about gaining an in-depth understanding of a particular set of individual cases and less tangible concepts (like perceptions on innovation, culture or love), while quantitative measures aim to gain a clear understanding of a well-defined and tangible variable (or set of variables), across a broad set of cases (like dollar figures or physical counts of individuals). Quantitative methods appear more scientific and objective because of their strict adherence to scientific techniques and the nature of the data they are collecting. They are therefore better suited for external reporting and demonstrating a clear account of the work that has taken place.

Qualitative measures appear to provide a more complete picture of the cases being examined, and are therefore very useful for managers attempting to gain a rich understanding of their programs’ performance. They are an excellent tool for learning, enabling respondents to provide their own perspectives on how a program is performing and what can be done to help it improve.

Both qualitative and quantitative methods are important and can be used together. By employing both types of measures a program can cross-reference information gleaned from two separate indicators (Patton, 1997 in McDavid & Hawthorn, 2006). For example, a quantitative measure might reveal that 75 percent of participants gained employment following a work training program while a qualitative

### **Key Definitions**

The following definitions from McDavid & Hawthorn (2006) are important for performance measurement.

**Inputs:** The resources that go into a program (knowledge, money, people).

**Activities:** The tasks that translate resources into work.

**Outputs:** The direct results of the work that was completed.

**Outcomes:** Desired results of a program; linked to specific objectives.

**Quantitative Measures:** Use countable data to expose viewpoints about a program.

**Qualitative Measures:** Use words and surveys to expose viewpoints about a program.

**Validity:** Ensures a measure is appropriate for the objective/program.

measure might involve conducting interviews to determine whether participants felt the work training program helped them gain employment. Qualitative methods can also be used to support quantitative methods. A quantitative measure can expose a result and a qualitative measure can be used to delve into the specific issue to find more concrete meaning. Again, with the same example above, after the quantitative method revealed that 75 percent of participants gained employment, a series of interviews could have been conducted with the most successful and unsuccessful participants in order to understand how the program impacted their ability to gain employment. This way more specific information could be returned to the program administrator that might help in redesigning the program in the future. A good performance measurement framework employs both methods in order to maximize the completeness of the information generated. Indeed, the Treasury Board of Canada Secretariat recommends that programs use a combination of quantitative and qualitative methods for each indicator they measure (Murray, 2004).

The development of a performance measurement framework for innovation will be dealt with later. The purpose of this section is to introduce the high-level issues that are important in performance measurement, including what it is, why it is important, the challenges it faces, and the techniques that are used to gather data. It is hoped that by revealing these issues now, a clear understanding about how they relate to measuring innovation can be revealed in the following section.

### 3.5 Measuring Innovation

This is the final section of the literature review and it aims to bring public sector innovation and performance measurement together. First, the challenges and opportunities in applying performance measures to public sector innovation will be reviewed and discussed. Then private sector innovation will be reviewed and applicable ideas for measuring innovation in the public sector will be mined. Last, the limited research on measuring public sector innovation will be assessed. Together, lessons from these three themes will be drawn into the design of IGRS' innovation performance measurement framework; this framework includes a detailed logic model, which sketches out the intended inputs, activities, outputs and outcomes of the IGRS innovation program.

#### *Challenges and opportunities in measuring innovation*

The same themes for why performance measurement is difficult are present in the discussions that centre on measuring innovation. There are four main reasons why measuring innovation is challenging. First, the impact of an innovation or a set of innovations is not easily quantifiable. Second, selected measures have the potential to miss the point of what innovation is about. Third, performance measurement systems can prevent innovation from even happening. Last, because there are many different answers as to what constitutes an innovative organization it can be difficult to pinpoint those measures that accurately depict the state of an innovation program.

Managed properly these four challenges can be turned to the advantage of an innovation program by: developing learning and reflective elements into measurement techniques; structuring performance measurement frameworks to specifically facilitate more innovation; and determining those characteristics of an innovative organization that are most important and incorporate corresponding measures into the innovation performance measurement framework.

Developing quantitative measures of the impact of innovation is difficult, perhaps impossible in many cases. The impact of an innovation often occurs years after it has been implemented and the ultimate form and purpose may very well be completely different from what had been originally intended (Perrin, 2002, Hartley, 2005 and Drucker, 1998). Therefore, attempting to measure the impact of an innovation in quantifiable terms too soon may result in an unfavourable review and interrupt what could have been a hugely successful idea. In addition, many innovative ideas do not reach fruition or appear to have failed outright, but are still recognized as valuable for their role in advancing the innovation agenda.<sup>7</sup>

If an innovation is designed to reduce costs, it may take years for the idea to take the right shape for it to actually start leading to reductions. Annual performance measure reports could lead to a program being terminated before it had a chance to really demonstrate its value. Alternatively, an innovation that is intended to reduce costs might fail in that regard, but succeed in strengthening an organization's response to citizens' needs. Since there are so many different interpretations about what innovation means and different purposes for what it is required to do, it is unlikely that a set of measures designed in advance of an innovation being implemented would take into account the broad number of impacts and evolving nature of innovative ideas (LSEPPG, 2008). To really probe at the impact of an innovation it is likely necessary that an evaluator communicates directly with both the users and administrators of the program. Then, from those interactions, develops conclusions based on the patterns and themes that emerge.

An innovation that fails offers a valuable learning opportunity for future innovations; presumably by learning from a mistake once, a similar error can then be avoided in the future. Using quantitative tools to measure the impact of failed innovations would reveal that these ideas did not succeed, but likely not reveal their importance in advancing innovation (Perrin, 2002). The learning aspect of a failed innovation has two benefits. First, it helps to strengthen the likelihood that the impact of future innovations will be positive by providing a *lessons learned* component to an innovation program. Second, it creates a strong culture of innovation by creating an environment where continuous learning is a virtue and well-calculated risks are celebrated. Again, only by really probing into the innovative idea's implementation strategy and outcomes can this information be gleaned. This will also require a very delicate strategy where the evaluator interviews program managers in order to understand what they felt went wrong. A non-confrontational environment can help bring to light real lessons. To continue to promote innovation the evaluator can send the clear message that well calculated risks that fail are an important part of the innovation agenda. By celebrating failed innovations, lessons can be learned about when to stop an idea from continuing, how to judge if an idea should even be considered, and what the best enabling environment for innovation looks like.

The second concern associated with measuring innovation is that performance measures miss the point of what innovation is even about. Perrin (2002) is concerned about applying typical quantitative performance measurement approaches to innovation programs because of their emphasis on the mean score. He draws this idea out with an example. Generally, in a program

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<sup>7</sup> Quantitatively assessing the impact of an innovation is similar to attempting to quantify the impact of research. Research capacity is considered a valuable asset, but the outcomes can be indirect and take considerable time to realize.

where a high level of completion is desired, an average completion rate of 70 percent is considered to be good and alternatively an average completion rate of 10 percent would be bad. However, this way of thinking fails to recognize that a positive score for a minority of cases might legitimize the entire program.

Perrin is concerned, because in innovation it is often those few successes that make the whole program (including the failures) worthwhile. When it comes to innovations a single idea may succeed in the face of several failures, the ultimate objective being to learn from failures and implement enough successful ideas that the overall investment in innovation is seen as positive. Any performance measurement system must therefore reach deeper in its reporting than simply counting successful and unsuccessful ideas. Given that a variety of interpretations about what constitutes success is also likely, it would seem necessary to delve a little deeper into finding out why and how a program succeeded or failed. This would suggest that qualitative means, actually asking program users and providers about the impact of innovative ideas, might yield the most accurate reporting on innovation.

A third concern of measuring innovation – related to the second – is that performance measurement frameworks can have the effect of preventing an innovation program from taking form. Measures may be based on “what is already known, or ensure that only less risky short-term goals are pursued” (Perrin, 2002, p. 18). The idea behind public sector innovation is to explore new unknown ideas that have the potential to make a program or policy better. Implied in this is a certain amount of risk; ideas may not succeed. If these ideas are matched with performance measures that centre on the bottom line, rather than learning and growth, the “unintended result” might be “to discourage people from trying anything truly innovative” (Perrin, p. 18). Indeed, Moore (2005, p. 45) found that when innovative ideas required “scientific evaluation” in order to be declared successful, the end result was an emphasis on innovations that can be safely evaluated, rather than exploratory innovations, which may have unclear, but potentially enormously beneficial impacts. However, if performance measurement frameworks can be adapted to reflect an understanding of the risk associated with innovation as well as the less than perfect understanding of what the potential impact of an innovation might be, it can represent a positive force in driving innovation.

Joyce (2007) argues that performance measurement should play a central role in innovation. His view is that performance information will be necessary in making the case for any funding that might be required for an innovation and that demonstrating progress over the lifetime of an innovative initiative will be required in order to sustain momentum. He also points out that because learning is so important to innovation, a system must be in place to ensure information is collected. Reporting information that validates a program is important, especially in a cost-cutting environment; developing performance information that accurately depicts an innovative program’s performance may play an important role in ensuring that a case is made for why innovation is important.

In combining Joyce’s (2007) view and the discussion above the emphasis should then be on designing an appropriate performance measurement framework for innovation. It cannot focus too heavily on quantifiable impacts, like cost reductions, number of successful ideas, or number of target audiences reached or served. Instead, it must recognize that innovation is risky and

focus on an organization or program's emphasis on learning.<sup>8</sup> When assessing the impact of innovation, the performance measurement framework will likely be most appropriate to directly consult with service users and service providers who have had first-hand experience with a particular program. Their interpretation of the program's progress may provide specific insights into its success or likelihood for future success rather than relying on quantitative measures alone. Further, a well-designed performance measurement framework may provide the licence employees need to be more innovative. By emphasizing learning and qualitative interpretations of impact, employees are able to justify and explain their approaches rather than fear that a simplistic report will surface that uses numbers to suggest that a particular idea was a complete failure. Last, a performance measurement framework may promote greater innovation by signalling to employees that innovation is an important priority for the organization, and that their involvement is important. This could create the right type of incentive for employees to actively think about and implement innovative ideas.

The final concern associated with the measurement of innovation deals with the promotion of innovation. As mentioned in a previous section there are a number of characteristics that are important in creating an environment where innovation is celebrated and able to flourish. These characteristics are support from the top, rewards and awards, resources, diversity, learning from the outside, experiment and evaluation, innovation is everyone's responsibility and teams (Borins, 2001 and CCMD, 2002). Developing and nurturing these characteristics will help facilitate innovation. It can be difficult to determine which of these elements might be most important for the organization. This then becomes a challenge to measuring innovation because the constructs that are selected for measurement are given greater attention than those that are not. Indeed, when it comes to performance measurement, one view is that what is included as a measure will ultimately get done. Research has indicated that where there are measurable targets concrete actions are taken to achieve them (Turrell, 2004).

This challenge can be easily addressed by actively reflecting which innovative characteristics are most important or under-developed, and targeting them for measurement. Developing a culture of innovation ensures that an organization has employees that actively promote innovation, look for opportunities to be innovative, and celebrate their innovative efforts. It is important, then, that the innovative constructs be promoted and actively accounted for in innovation performance measurement frameworks. For example, support from the top reminds employees that their leaders are behind their ideas; this can be measured by examining how many innovative events senior employees attend or host, or if senior employees implement their own innovations. Also, if diversity is recognized as a key construct to foster, one measure might be to determine how

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<sup>8</sup> There is an entire literature on *learning organizations*. The *learning organization* literature concentrates on "creating an ideal type" or an organization that actively promotes learning by having a combination of features that enables it to maximize learning (Easterby-Smith, 1997, p. 1086). McDavid & Hawthorn (2006, p. 442) characterize the *learning organization* as one that uses "information to correct its performance in relation to current objectives as well as assessing and even changing its objectives." Performance measurement should be viewed as an important component of the *learning organization* because of its role in identifying how effectively performance is satisfying current objectives, which enables an organization to learn from past performance. Also, it is clear that the culture of innovation includes a *learning organization* culture. A *learning organization's* openness to changing its objectives based on new learning is critical to creating an environment that welcomes innovation. By referring back to the eight characteristics of a culture of innovation discussed earlier it is clear that an organization with a culture of innovation seeks to actively learn from the diversity of its staff, external partners, and its own innovative experiments. Being a *learning organization* is an important asset for developing a culture of innovation.

many teams with members from diverse backgrounds are formed. By measuring the constructs that are important for innovation it can be ensured that an organization is actively implementing the call to be more innovative.

The main lesson to draw from this analysis of the challenges to measuring innovation is that performance measurement frameworks should be largely applied towards ensuring that managers learn from both successful and unsuccessful ideas. Frameworks should emphasize the importance of exploratory tools that ask program users and administrators to reflect on how innovative ideas have impacted them. Indeed, focusing only on quantitative tools may disable a framework from appropriately assessing the performance of a program. By measuring predetermined constructs like the number of dollars saved, a framework may ignore the variety of other impacts an innovation may have had. Ultimately, by highlighting the qualitative methods outlined above, the performance of an innovation program can be made increasingly clear. Also, frameworks must not be too intrusive or strict with reporting requirements, or they may stifle the development of innovative ideas. Performance measurement frameworks must be designed so that they complement and assist an innovative program with developing successful innovations and strengthen an organization's culture of innovation.

#### **An example to draw out the Qualitative and Quantitative Divide:**

The problems associated with measuring innovation in a quantitative manner are illustrated most effectively with an example. A specific innovative idea from the second quarter of IGRS' innovation roadmap is for IGRS to host a conference for its partners in other BC ministries. This idea has two measurable components, first is it helping to create a culture of innovation by facilitating greater *learning from the outside*, and second, what is the impact of this idea on IGRS' effectiveness and efficiency? It is possible to measure the first component's output in a quantitative manner; IGRS could opt to use the number of presentations given to IGRS and from IGRS to ministry partners as an indication of its efforts to *learn from the outside*. However, when it comes to measuring the outcomes of this idea developing qualitative measures may be more appropriate.

An increased efficiency associated with this conference might be that because IGRS and ministries better understand each others' roles and there is less duplication of work. As a result, IGRS does not have to recreate briefings or spend time researching a new topic. Instead, they now have a richer set of ministry contacts from whom they can draw information. To measure this increase in efficiency in quantitative terms IGRS would have to systematically track the number of briefings they no longer have to produce, convert each non-briefing into a common unit, such as hours or dollars, measure that total, and then compare that data with similar data over a period of time. The time burden and complication associated with this makes it a clear non-starter.

The data produced would be suspect anyway, given the issue of attribution. A certain level of collaboration with ministries already occurs. To accurately measure the impact of the conference IGRS would have to only measure the incremental benefit that followed the conference. This would mean that IGRS staff would have to decipher whether a change is associated with conditions that existed before or after the conference before making a judgement. This type of

discrepancy would render the whole exercise suspect; how would it be possible to ensure everyone makes their judgement based on the same criteria? Also related to attribution, measuring the total number of briefings in a year would be an inappropriate way to judge the conference's success as well. There are several reasons why the number of briefings produced might fluctuate. The main indicator of the number of briefings is of course the number of events in a time period that call for briefing material, something the conference has little control over.

In drawing out this example the intention was to demonstrate the level of complexity associated with measuring innovation in quantitative terms. The same innovation measured qualitatively would be much more straightforward. IGRS staff could be asked about what they felt was the biggest benefit from the conference, where improvements could be made for the next time, and how the conference has impacted their business or could be more beneficial to their business. Patterns found in the answers to these questions could be organized into themes, which might provide clues about the value of the conference or how the conference could be changed in later years to create more value.

### *Measuring Innovation in the Private Sector*

There are lessons to be learned from the private sector when it comes to innovation and measuring innovation. This section will review what gets measured in the private sector and use that information, where applicable, to assist in developing measurement techniques for IGRS' innovation performance measurement framework. However, this section will also stress the limited applicability of taking lessons from the private sector on performance measurement, given the different goals that exist in the public and private sectors.

There are important distinctions between the public and private sector that mean that not all the suggested innovation measures and performance tools in this section can simply be transferred between the sectors. The existence of different goals ultimately means that the focus of what is being measured will differ between the sectors. In the private sector the emphasis on innovation is on profit making (Boston Consulting Group [BCG], 2007), whereas in the public sector it is aimed at making changes that "maximize public value" (LSEPPG, 2008, p. 9). In fairly simplistic terms, this is because the private sector is geared towards satisfying the interests of shareholders while the public sector must satisfy the public interest (Hood and Rothstein, 2000). For example, a private sector performance measure for innovation may judge a new idea a success if it increases revenue through the use of user fees. However, if by implementing user fees certain elements of the population can no longer access a program, it might be deemed unsuccessful in the public sector in some contexts.

In the private sector, innovation can also be seen as a tool to increase market advantage by adding more choices to a firm's product line. Hartley (2005, p. 30) contends that in the private sector "this can be seen as a virtue in itself," but in the public sector an increase in choices is only a virtue if it provides better, rather than more, services. Therefore, the public sector may not be as interested in measures that highlight new product development, unless they are accompanied by measures that can articulate exactly why this new product or service helps to serve the public better. Simply capturing a larger piece of the market share is not an important indicator of success in the public sector.

A private sector firm's limited responsibilities enables it to take more significant risks in its pursuit of innovation, whereas in the public sector there is a constant responsibility to ensure service users are not adversely impacted and that public dollars are used appropriately. So, while public sector innovation campaigns do call on public sector organizations to take more calculated risks, they may not be suggesting that risks be taken on the same scale as the private sector. Examples of measures in the private sector literature that relate to risk include ratios of low- to high-risk innovations (Adams, Bessant and Phelps, 2006) and percentage of the overall budget spent on research and development (Chen, Zhu and Xie, 2004). These measures may not be appropriate in all public sector contexts given the fact they seem to imply that plenty of risk and fresh investment are positive. In the public sector, measures dealing with risk will have to balance calculated risk-taking with maintaining stability. Maximizing risk-taking and investing in new areas is not acceptable in many public sector contexts, particularly when lives or livelihoods are at stake or where a high percentage of a program's budget is allocated towards a necessary initiative that cannot risk interruption to its service.

Despite these important limitations lessons can still be taken from the private sector and applied to measuring innovation in the public sector. Both sectors are interested in developing a culture conducive to innovation as well as implementing innovative ideas that increase their effectiveness and efficiency. Given that the private sector has a long history of promoting and measuring innovation, it is important to review what they have done, even with the limitations noted above. The remainder of this section reviews the specific measures in use in the private sector.

Being innovative in the private sector is seen as a precursor to success. Indeed, companies are spending billions of dollars a year to be more innovative (BCG, 2007). In their survey of 377 private sector executives, the Boston Consulting Group (2007, p. 15) found that only 37 percent of respondents felt their company was doing a satisfying job of measuring innovation. A key recommendation made in its report is that better measurement techniques must be employed by firms, as this will ultimately improve "returns on innovation spending" (p. 15). As mentioned previously, sound performance measurement systems can offer insight into areas where improvements to a program can be made. As lessons from the private sector are drawn out in this section it is important to be aware that even in the private sector there is recognition that their strategies for measuring innovation are not perfect.

Adams, Bessant and Phelps's (2006, p. 22) review of innovation management models revealed that there was no single generalized measurement framework for innovation at the organizational level that "would provide a useful basis for managers to monitor and evaluate their innovation processes, diagnose limitations and prescribe remedies." Given this shortcoming they endeavoured to fill the gap with the development of their own framework. Their framework is informed by a diverse set of resources and has a heavy emphasis on what has been termed *promoting innovation* in this report; meaning they are focused on measuring the characteristics that lead to innovation and create a culture of innovation. In their detailed review they established seven areas where innovation should be measured. These areas are:

1. **Inputs management:** They suggest looking at people, equipment, facilities, and funds. *People* refers to the number of individuals involved with research and development (or

innovative tasks) and diversity of skills, experience, and education present. Other inputs include resources like *funds* for research and development, the availability of slack (unused capacity – to be focused on innovative activities), and number of ideas generated.

2. **Knowledge management:** The focus here is on innovative idea generation, storing knowledge and the availability of knowledge, and “information flows” (Adams et al., 2006, 28). Information flows refers to gathering information through communicating and discussing ideas, as well as networking externally. Ideas are seen as the “raw materials of innovation” and are “relatively inexpensive to generate” (Adams et al., 2006, 28). There are quantitative measures here, like number of value patents (new ideas) brought in through external linkages, however, this leaves many gaps as not all ideas are patentable. They suggest that the focus becomes increasingly qualitative at this point; getting direct feedback from employees about the availability of knowledge and the extent to which active networking takes place.
3. **Strategy:** Refers to the existence of a plan to facilitate greater innovation. The goal here is to determine whether there is a plan in place to promote innovative ideas, how resources are allocated in regards to innovation, level of commitment to innovation, and what the positions are on risk taking.
4. **Organization and culture:** This area considers the type of environment in which it is most likely that innovations will be generated and suggests measuring the security to participate (not being deterred by potential responses from sharing ideas) and support for innovation (from leadership). They add that “freedom to experiment” (Adams et al., 2006, 34) and taking calculated risks are important indicators of innovation.
5. **Portfolio management:** Here the emphasis is on product innovation and returns. The idea is to design criteria that can help ensure ideas selected for implementation maximize benefits while minimizing resource requirements. Generally, measurement strategies have looked at profits in relation to investment to judge whether an innovation has been successful. Increasingly, however, qualitative measures that ask respondents to judge the merit of a project based on objective and subjective criteria are being used. Another measure, related to risk management, might deal with examining the risk level of projects to ensure that there is a satisfactory ratio of low- to high-risk projects; though Adams et al. (2006) offers little in the way of specifics about how to measure risk level.
6. **Project management:** This is a vital area given the ambiguity that often surrounds innovation. Measures may include funds budgeted versus actual expenses, time to production, communications, and number of staff temporarily assigned from external projects. These measures would add some real clarity about the scope of the innovation program and its results, thus reducing ambiguity.
7. **Commercialization:** The main focus here is on the number of innovations launched in a particular time period. Basically, has the organization followed through with its plan to implement innovations, and how many have they implemented? A second focus here

may be on deciphering the scope of the ideas implemented, as some may be larger and more difficult to implement than others.

After surveying 377 business executives, BCG (2007) made several recommendations about where they believe the emphasis for innovation performance measurement should be placed. They were careful to stress that tracking every aspect of innovation is not necessary or desirable, and that a firm should focus on measuring those aspects of a firm's innovation program that generate profit. BCG's (2007) list is divided into three categories. Under *inputs* they suggest measuring the financial resources allocated to innovation programs, the people committed to the projects, and number of ideas generated. Under *processes* they suggest measuring the time it takes to go from idea generation to idea implementation (time to market), the efficiency of how resources are employed, and the kill rate (time it takes to stop implementing an unsuccessful idea). Last, under *outputs* the suggested measures are: the number of products developed; the "actual versus projected incremental revenues and profits" (BCG, 2007, p. 17); product quality; number of patents; employee satisfaction; and number of new costumers.

An interesting difference between Adams et al. (2006) and BCG (2007) is that BCG puts no emphasis on indicators that measure the culture of innovation where as Adams et al. take special care to ensure that the culture of innovation and characteristics that are important to innovation promotion are weaved throughout their suggested framework. BCG (2007) is geared towards the bottom-line and perhaps misses a very important component of innovation as a result. By not taking care to ensure that a culture of innovation is nurtured firms run the risk of creating an environment where fewer innovative ideas are implemented. By not measuring the cultural aspect of innovation firms are unable to make informed decisions about where to deploy resources to help strengthen their innovative capacity.

Muller et al. (2005) developed a guide to construct custom innovation metrics. In their guide they mirror many of the suggestions above. Their measures fall under four headings. Under *Resources* they call for the measurement of inputs like the percentage of capital invested in innovation, and the percentage of time spent on innovation projects, as well as outputs like number of new products and percentage of revenue from recent products. Under *capability* they suggest measuring inputs like the percentage of employees educated about innovation, number of innovative tools available to employees, and outputs like the number of innovative competencies. Under *leadership* they emphasize the importance of management involvement in innovation by calling for measures that judge the percentage of time that executives spend on innovative training and strategic innovation planning. Last, under *processes* they consider the number of ideas generated by employees, the ratio of successful ideas, the time it takes from idea generation to implementation, and the number of experiments as being vital to innovation.

These authors have a framework that balances the cultural and impact aspects of measuring innovation. *Resources* and *Processes* are looking at the success factor associated with the innovative ideas: how many innovations were launched, how long did it take, and did profits increase as a result? These are important measures because they are detailing the work that took place, and through profit measures, the impact associated with that work. *Capability* and *leadership* on the other hand are looking at the extent to which an innovative culture is nurtured: who received innovation-related training, were innovative competencies acquired and is support

from the top explicit? These measures are also important because they are reporting on the extent to which the organizational environment is able to facilitate the implementation of innovative ideas.

Chen et al. (2004) aim to develop a new model for measuring intellectual capital. Innovation is one component of intellectual capital. The other components they identify are human capital and customer satisfaction. Examples of elements of human capital include people's competencies, staff stability and team building. Examples of elements of customer satisfaction include customer base and loyalty (Montequín, Fernández, Cabal & Gutierrez, 2006). Intellectual capital makes up part of the so-called intangible or soft benefits of a firm. Other intangible assets include a firm's brand or patent. Firms invest in intellectual capital as a way of increasing their value (Ittner, 2008) or competitive advantage (Montequín et al., 2006). In the past measuring these aspects of a firm's value was largely ignored because it was considered a significant challenge. Measuring the financial value of intellectual capital (and intangible assets) is a challenge because it is difficult to put a definitive figure on what these assets are worth, and often they are worth different things to different people. Financial accounts, like resources, liabilities, and facilities, represent the tangible assets. They are easier to measure because they are physical objects that often have a clear dollar value associated with them. The emphasis on measuring intangible assets with tangible assets has increased because it is believed that this provides a more complete picture of a firm's value.

Chen et al. (2004) argue that innovation is increasingly being viewed as the key to a firm's long-term competitiveness and should be elevated in its importance among intangible assets. Their first of three categories is the *innovation achievements*, under which they suggest measuring the average quantity of patents per employees, and the percentage of newly created product sales against total sales. Their second category, *innovation mechanism*, suggests measuring the percentage of research and development dollars, the quantity and quality of employees involved in research and development, cooperation with internal and external entities (in regards to innovation), and incentives for being innovative. Last, under the heading *innovation culture*, they single out support for innovation from management along with encouragement and support for employees' innovation through the corporate culture.

The balanced scorecard is a measurement technique that was introduced in the 1990s to ensure that companies have accurate information about both their tangible and intangible assets; innovation is a key element of the scorecard. Innovation was viewed as being important because "intense global competition" demands that companies keep improving their business (Kaplan & Norton, 1992, p. 75). In developing the balanced scorecard approach Kaplan & Norton (1992) intended to provide managers with a snapshot of the overall performance of their company. The measures are to be organized under the four perspectives: financial, customer, internal, and innovation and learning. The aim is for companies to select a set of priority measures for each perspective as a way to keep the performance information they receive about their company at a manageable level. In addition to hitting the four core perspectives, the measures should be linked with "an organization's strategic objectives and competitive demands" (Kaplan and Norton, 1993, p. 134). This means that measures under each perspective should be customized to ensure that they are measuring performance in regards to supporting an organization's strategic

objectives. The key is to only measure those things that accurately depict the overall performance status of the company.

Kaplan & Norton (1992) highlight a number of innovation measures in their breakthrough article on the balanced scorecard. The emphasis is on company capacity to develop new products, including the time it takes to develop an innovation and achieve full seamless implementation. They also suggest measuring the time it takes for a product to reach the market as well as the percentage of sales derived from new products. In a follow-up article Kaplan & Norton (1993) uses the example of a service firm to highlight a number of other important innovation measures. Here they suggest measuring the development of a “supportive climate of empowered, motivated employees” (Kaplan & Norton, 1993, p. 137). To do this the firm measured staff attitude and the number of innovative ideas recommended by employees. The balanced scorecard is a breakthrough because it is the first widely used performance measurement framework to systematically measure innovation with the same level of intensity as financial information. However, it does little in terms of offering unique performance measures for innovation.

The measures listed above reflect an overview of the types of areas where private sector firms are investing their energy when it comes to assessing innovation. Themes among the measures include: measuring the number of people and funding attached to innovation programs; the extent to which an innovation plan is in place; the number of ideas generated and the time it takes to get them to market; the extent to which a culture of innovation is nurtured (training, learning from the outside, diversity of staff); and in regards to outcomes, the existence of a culture of innovation and the level of profits and increased quality associated with innovation.

These themed measures are useful because they detail the resources (inputs) that go into an innovation program, which provides a clear indication of how important an innovation program is to a particular firm. They also examine the specific deliverables produced (outputs) by the resources that went into the innovation program. Accounting for the outputs enables a firm to track the effectiveness and efficiency of how they use their resources and hone in on the areas where a firm has met or failed to meet their targets. Activities are added in some of the literature because they help to demonstrate how a program’s resources (inputs) are translated into what gets produced (outputs). Last, *outcomes* describe the impact of a program, though a definite relationship cannot always be determined (McDavid & Hawthorn, 2006). Understanding the outcomes of an innovation program, or any program for that matter, is a very important task because it enables a firm to judge whether they have met their objectives (McDavid & Hawthorn, 2006 and Murray, 2004). Table 1 provides a summary of the innovation performance measures found in the private sector.

**Table 1: Private Sector Innovation Performance Measures**

Authors	Inputs	Activities	Outputs	Outcomes
Adams et al. (2006)	<ul style="list-style-type: none"> <li>• # of people involved with R&amp;D</li> <li>• Diversity of skills, experience and education among staff</li> <li>• Funds for R&amp;D</li> <li>• Availability of slack</li> <li>• Funds budgeted versus actual expenses</li> </ul>	<ul style="list-style-type: none"> <li>• How information is stored and made available</li> <li>• Plans in place to promote and facilitate innovation</li> </ul>	<ul style="list-style-type: none"> <li>• # of ideas generated</li> <li>• # of value patents brought in through external linkages</li> <li>• Low- to high-risk ratio</li> <li>• Time to production</li> <li>• Communications</li> <li>• # of staff assigned from external projects</li> <li>• # of innovations launched</li> <li>• Freedom to experiment</li> <li>• Support for innovation</li> <li>• # of external linkages</li> <li>• Security to participate</li> </ul>	<ul style="list-style-type: none"> <li>• Profits to investments ratio</li> <li>• Merit of a project</li> </ul>
BCG (2007)	<ul style="list-style-type: none"> <li>• Financial resources devoted to innovation</li> <li>• People committed to projects</li> <li>• # of ideas generated</li> </ul>		<ul style="list-style-type: none"> <li>• Time to market</li> <li>• Efficient use of resources</li> <li>• Kill rate</li> <li>• # of patents</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation profits</li> <li>• Product quality</li> <li>• # of new customers</li> <li>• Employee satisfaction</li> </ul>
Muller et al. (2005)	<ul style="list-style-type: none"> <li>• % of capital invested in innovation</li> <li>• % of time spent on innovation projects</li> <li>• % of employees trained in innovation</li> <li>• # of innovation tools available</li> </ul>	<ul style="list-style-type: none"> <li>• Management develops a strategic plan</li> </ul>	<ul style="list-style-type: none"> <li>• # of new products</li> <li>• # of ideas generated</li> <li>• Time to market</li> <li>• # of innovation competencies nurtured</li> <li>• Involvement of management</li> <li>• Innovation training</li> <li>• # of experiments</li> </ul>	<ul style="list-style-type: none"> <li>• % of revenue from recent products</li> <li>• Ratio of successful to unsuccessful ideas</li> </ul>
Chen et al. (2004)	<ul style="list-style-type: none"> <li>• % of R&amp;D dollars</li> </ul>		<ul style="list-style-type: none"> <li>• Patents per employee</li> <li>• Employee skills</li> <li>• Incentives for being innovative</li> <li>• Networking externally</li> <li>• Support from the top</li> </ul>	<ul style="list-style-type: none"> <li>• % of new product sales against total sales</li> <li>• Innovation corporate culture</li> </ul>
Kaplan and Norton (1992); Kaplan & Norton (1993)			<ul style="list-style-type: none"> <li>• Development time</li> <li>• Time to market</li> <li>• # of innovative ideas recommended by employees</li> </ul>	<ul style="list-style-type: none"> <li>• % of sales from new products</li> <li>• Staff attitudes</li> </ul>

Note: Orange highlight signifies measures for the impact of an innovative idea while purple highlight signifies measures for the culture of innovation.

### *Measuring Innovation in the Public Sector*

There is only limited research on measuring innovation in the public sector. This section will use that limited research as well as lessons from the private sector to explain why measuring public sector innovation is important and to assist in the development of a list of relevant measures for innovation programs. Given that the aim of performance measurement frameworks is to reveal whether a program is achieving its goals, performance measures should also be informed by the objectives of the program they seek to assess (Cavalluzzo & Ittner, 2004). Therefore, measures will also be informed by reaching back into the literature review to uncover the reasons why public sector innovation is important and how it can be instilled into the culture of the public sector. This section will address the issue of measuring public sector innovation in general terms, whereas the performance measurement framework outlined in section 4 will tailor the discussion to the specific example of IGRS' innovation program.

The reasons why performance measurement is important were detailed above in section 3.4. There are four main reasons. First, performance measurement enables a program manager to identify the strengths and weaknesses in their program and make adjustments accordingly (McDavid & Hawthorn, 2006). Second, they ensure accountability for the resources invested by reporting on the results of a particular program (McDavid & Hawthorn, 2006). Third, given this reporting aspect, performance measures can also pressure managers to ensure they achieve meaningful results, thus focusing their attention on achieving the key objectives identified for their program (Verbeeten, 2008 and Murray, 2004). Fourth, performance measurement can also be used to report on whether a program is using its resources in the most efficient and effective manner possible (McDavid & Hawthorn 2006). For all these reasons, well designed performance measures are as important for innovation programs, as they are for any other program.

Joyce (2007) agrees that performance measurement is important for public sector innovation programs. He argues that often innovation initiatives can “require additional resources” and that performance information could be an important data source to attaining or retaining these resources (Joyce, 2007, p. 26). Basically, having information that reports the work that has been completed and the results that have been achieved can help to strengthen the case for why resources should be devoted to an innovation program. Second, Joyce (2007) mirrors the discussion above about performance measurement as key to learning about innovation, but adds to it by stating that because innovative ideas can take a significant amount of time before their impact is known, periodic performance information can help sustain interest and momentum for the activity. Presumably then, it can also be used to help managers gauge the likelihood of whether a risky idea will succeed or not. Ending a bad idea before it has its full impact is an excellent way to ensure that an innovation program maximizes its benefits. For these reasons performance measurement systems should accompany innovation programs.

The limited literature on public sector innovation places a strong emphasis on the need for evaluation, with the main claim being that learning from innovative activities, successes and failures, is of the utmost importance (Perrin, 2007, and Mulgan & Albury, 2003). Understanding the performance of new ideas provides an excellent learning opportunity about what does and does not work for both the innovative ideas as well as the different approaches to implementing those ideas. If an organization does not take the time to learn about why an idea has failed they

run the risk of repeating the same mistake again. If they continuously miss the mark support for their program may wane and efforts to be more innovative could end. Given the importance placed on innovation – as a new paradigm that can reduce costs, provide new solutions to longstanding and emerging problems and reach citizens better – it seems imperative that innovation programs not be allowed to fail (as opposed to specific innovations being allowed to fail). Performance measurement for innovation programs then becomes paramount to these programs' longevity. In essence, they are the key to developing a strong innovative capacity, one where the innovative organization is constantly learning from its achievements.

Mulgan and Albury (2003, p. 28) suggest that innovation measures should focus on three areas: “improvements in outcomes”; efficiency (productivity); and effectiveness (“responsiveness to individuals and localities”). In the private sector *improvements in outcomes* would essentially mean increased profits or market value, whereas in the public sector it might mean “to maximize public value” (LSEPPG, 2008, p. 9). Understanding the incremental change due to an innovation in terms of profits and market value on an existing product or service in quantifiable terms is difficult due to the issue of attribution and is likely extremely time consuming. Yet it is still more straightforward than attempting to do the same in regards to the impact on public value. Not only does the same attribution issue stand, but what constitutes public value has many different interpretations. Therefore, when developing a list of measures it is necessary to determine what is reasonable and useful to attempt to measure, and what is not. When a particular measure is deemed important, but quantitative data is too difficult to collect or unavailable, qualitative measures should be employed.

London School of Economics Public Policy Group (2008) was hired by Britain's National Endowment for Science Technology and the Arts to develop an innovation index that can report on innovation performance in public sector organizations. They draw lessons for their index from two other innovation indices. First, they examined the US Department of Commerce's efforts to measure innovation in the US economy. The main lesson was that measurement must shift focus from its heavy reliance on inputs, such as research and development funding, and instead focus more on measuring outputs in combination with inputs. Second, LSEPPG (2008) examined the innovation index developed by the Ministry of Government Administration and Home Affairs in the Republic of Korea for Korean local governments. This index is entirely survey based, which LSEPPG (2008, p. 20) argues is problematic because it may lead to respondents answering with the most “politically optimal” answers. However, they recognize that given the difficulties associated with measuring innovation using objective (or quantitative) measures, that survey-based questions will provide access to information that would have otherwise been unavailable. LSEPPG (2008) praises the Korean example because of its attention to the enabling aspects of innovation, like personnel capacity and leadership, in combination with attempting to determine the impact of innovation. However, they are concerned with its lack of attention to the specific outputs of innovation.

LSEPPG (2008) developed its own innovation index that has ten categories. This highly inclusive measurement system is likely far beyond the scope of what most public sector organizations would consider implementing for their innovation programs. This index has 54 separate indicators, each weighted according to their relative innovative value. In their system LSEPPG (2008) has attempted to carefully balance the number of questions that require survey

answers with more objective quantitative measures. They also detail the obstacles, problems and limitations with each metric where applicable. The ten areas they aim to measure in British public sector organizations are outlined in Table 2.

**Table 2: LSEPPG's suggested topics for measuring public sector innovation:**

		Measurement Questions	
	Category	Culture/Promotion Measures	Impact/Product Measures
1.	<b>R &amp; D Activities:</b>	<ul style="list-style-type: none"> <li>Is there a dedicated innovation unit?</li> <li>How much money/time is spent on research and development, in-house research, and skills development?</li> </ul>	
2.	<b>Consultancy and strategic alliances:</b>	<ul style="list-style-type: none"> <li>How many joint ventures does the organization participate in and does the organization collaborate with universities or research groups?</li> </ul>	
3.	<b>Intangible assets:</b>		<ul style="list-style-type: none"> <li>Has the organization applied for patents and how do they manage intellectual property?</li> </ul>
4.	<b>IT Infrastructure:</b>	<ul style="list-style-type: none"> <li>What is the percentage of total administrative costs spent on IT? How often is computer equipment updated? Is there an intranet system in place?</li> </ul>	
5.	<b>Human Resources:</b>	<ul style="list-style-type: none"> <li>What percentage of employees has graduate education and/or post-secondary education? How satisfied are employees with their job? Is innovation related to individual performance reviews? Last, how many training sessions related to innovation have occurred?</li> </ul>	
6.	<b>Institutional performance:</b>		<ul style="list-style-type: none"> <li>What percentage of targets has been achieved, how long did it take, and was the reaction to this positive? Also, were any innovative prizes awarded?</li> </ul>
7.	<b>E-government, online services:</b>		<ul style="list-style-type: none"> <li>What is the percentage of services carried out online?</li> </ul>
8.	<b>Origins of innovations:</b>	<ul style="list-style-type: none"> <li>Where did the innovative idea originate (Supranational regulations, ministerial/political level, senior staff, frontline staff, or customers)?</li> </ul>	
9.	<b>Innovation outputs:</b>		<ul style="list-style-type: none"> <li>How many innovations were implemented (innovations for new outputs/innovations for existing outputs)?</li> </ul>
10.	<b>Impact and scope:</b>	<ul style="list-style-type: none"> <li>Number of people involved with innovations? Last, what number of innovations involves multiple government organizations</li> </ul>	How many innovations are improving performance?

This table does reveal that LSEPPG (2008) has taken care to include measures that relate to both the *impact* and *promotion* of innovation. Under the *promotion* measures they do not include all of the factors identified earlier as being important to developing a culture of innovation, but many do appear. A notable omission in this table is the lack of mention concerning the role of leadership and experimentation and evaluation in developing a culture conducive to innovation. They do touch on other important culture development-related themes, like resources and innovation as being everyone's responsibility. They also include additional features, such as IT infrastructure. Presumably IT infrastructure is an important indicator of *promoting* innovation because it helps to ensure an organization is maximizing the benefits of new technologies as they become available. Indeed, taking advantage of emerging technologies was identified earlier on as an important reason for why public sector innovation is so important (Bartos, 2005 and DIUS, 2008).

Themes do emerge between the measurement techniques found in the private sector and those found in the public sector. Both sectors propose looking at the resources that have gone into the innovation program. Suggested inputs found in both sectors include the time, money and number of people devoted to research and development (LSEPPG, 2008, BCG, 2007 and Adams et al., 2006), as well as the level of education among staff (LSEPPG, 2008 and Adams et al., 2006). The private sector literature does suggest measuring some inputs that the public sector misses. Adams et al. (2006) suggests measuring the diversity of staff, particularly in terms of experiences, skills and education, as well as the availability of time as important indicators of innovation. While not present in the early literature on measuring public sector innovation, these characteristics are heavily profiled in much of the public sector literature about promoting a culture of innovation (Borins, 2000).

There are similarities among the recommended output measures as well. On the impacts side of measurement both sectors propose measuring the number of ideas generated and implemented (LSEPPG, 2008, Muller et al., 2005 and Adams et al., 2006). LSEPPG (2008) goes one step further and suggests where it is possible measuring the origin of each idea (senior versus junior staff) and whether an innovation applies to an existing or new output. This adds significant value because it helps an organization recognize where its innovation capacity is strongest; therefore, pointing to areas where additional support should be applied. The private sector literature also adds an important element in its suggestion to measure the time it takes for an idea to be implemented (BCG, 2007). This important indicator provides an immediate indication of how effective an organization is at identifying ideas with a high potential and then testing them out. It is an excellent indicator of whether an innovation program has a strong plan in place to support its activities.

A second measure of outputs is how successful an organization is at implementing a culture of innovation. Both sectors suggest measuring the extent to which innovation training is nurtured as well as the extent to which the organization interacts with external organizations (Muller et al., 2005, Adams et al, 2006 and LLEPPG, 2008). The private sector literature is much more focused on outputs that promote a culture of innovation. They suggest measuring the extent to which support is demonstrated from the top (Adams et al., 2006, Muller et al., 2005 and Chen et al., 2004), freedom to experiment (Adams et al., 2006), incentives for being innovative (Chen et al., 2004), and the number of innovative competencies that are nurtured (Muller et al., 2005).

These are the characteristics that are conducive to helping an organization become innovative and are important if an organization hopes to sustain momentum around its innovation agenda. In regards to measuring outcomes, the same split stands; outcomes are suggested that deal with the development of innovative ideas as well as those that promote a culture of innovation.

However, the suggested public sector measures differ from the suggested private sector measures. LSEPPG (2008) recommends that the public sector focus its outcome measures on whether there has been a change in performance. Mulgan and Albury (2003) suggest that public sector measures consider whether there have been changes in regards to efficiency and effectiveness. The private sector literature suggests measuring product quality (BCG, 2007), which does relate to measuring performance, but the real outcomes measures for private sector innovation are geared towards having an account of the changes in profits associated with innovation (Adams et al., 2006, Muller et al., 2005, and Chen et al., 2004). The private sector's focus on profits demonstrates the clear limitation in drawing lessons between the two sectors; the very different goals show that each sector is trying to achieve different things with their innovation strategies.

Another source for performance measures comes from the objectives public sector organizations have for their innovative ideas and programs. As previously mentioned, performance measures should be informed by the objectives of the program they seek to assess (Cavalluzzo & Ittner, 2004). The desired impacts of innovation make up one part of the objectives of public sector innovation initiatives. These impacts are that: reduced costs by increasing efficiency and finding better ways to reach the demands of citizens, and better responses for emerging issues (McDonald, 2008 and Albury, 2005). A second part of the objectives of public sector innovation initiatives is that a firm culture of innovation takes root. A culture of innovation is a key objective because once achieved it can ensure that an organization is a place where innovative ideas are regularly considered and implemented.

With these objectives in mind it is possible to add more innovation metrics to the public sector's roster. With regards to the impact of innovation, adding the output measure to *the number of innovative ideas implemented* is important because it provides an indication of how seriously an organization is taking the call for innovation. Also, given the views expressed above, there is clear support for including the outcome measures suggested by Mulgan and Albury's (2003), *change in efficiency* and *change in effectiveness*. These measures speak to the objective and impact of innovation, and are very important – in the long run – for demonstrating whether an innovation program has been a success. By referencing these measures an organization can make a case for why its innovation program is necessary and how its innovative ideas have added value to what the organization does.

The real value from the literature comes from the discussion centring on developing a culture of innovation. While the private sector literature on measuring innovation exposed several measures dealing with this topic it was not given the same attention in literature dealing with the public sector. Remember: the objectives that have performance measures are where managers are most likely to focus their attention; therefore, key objectives should always be accompanied by measures (Verbeeten, 2008 and Murray, 2004). Given the fact that establishing a culture of

innovation is a key objective of public sector innovation initiatives, it seems important that corresponding measures be incorporated into performance measurement plans.

Eight defining characteristics necessary for establishing an innovative public sector organization were outlined in a previous section (and are highlighted on the next page); weaving these characteristics into suggested public sector measures is paramount to developing a complete picture about the state of innovation within an organization. Having measures for each of these characteristics is useful because it enables an organization to know in which areas it is performing well and in which areas it can improve. If, for example, an organization reports that it is excelling in developing diverse work teams, it may choose to devote more resources towards emphasizing another area in subsequent plans. Also, organizations should take the time to determine which of these characteristics are most important for its business, and ensure that it has measures in place for those characteristics.

### **Why the 8 defining characteristics are important for developing a culture of innovation**

- 1. Support from the top:** This is fundamental to the innovation process because it provides staff with the licence they need to break down barriers to innovation, in particular the risk averse culture and concerns about accountability for time spent on innovation.
- 2. Rewards and awards:** Recognition can serve as a reward that complements the need for support from the top and promotes competition among staff to develop and implement more innovative ideas. Recognition should be applied to both successful ideas and those honest efforts that happen to fail, as a way of signalling to employees that well-calculated risks are acceptable.
- 3. Resources:** Additional funding can help get an idea off the ground; time to think creatively creates an environment where new ideas are regularly surfaced and considered; and certain spaces may provide for greater collaboration, which can spur on greater creativity.
- 4. Diversity:** People with different backgrounds working together are likely to bring a number of unique perspectives to the discussion, which can lead to new innovative ideas and approaches.
- 5. Learning from the outside:** Looking at best practices (and the mistakes) of other organizations or working on joint projects with a number of organizations can help in the development of new innovations by adding an inventory of additional approaches, perspectives, and team-combinations from which to draw inspiration.
- 6. Innovation involves everyone:** People throughout an organization have ideas about how business can be improved; it is important to tap into individual experiences at both the top and frontends. Frontend staff have the ground level perspective on how policies impact users; their insights can be very valuable.
- 7. Experiment and evaluation:** Provide employees with the room they need to pilot new ideas, but also profile the ideas that get tested, so the organization can learn from its successes and

failures and strengthen the likelihood that subsequent innovations succeed and do so with increasing frequency and efficiency.

8. **Use of teams:** Working in teams can ensure that issues are constantly matched with a variety of viewpoints and that there is capacity to apply new thinking and develop innovative ideas to longstanding or evolving issues.

These defining characteristics of an innovative organizations are primarily based on the work by Borins (2001); however, his findings are also mirrored in a number of other articles on public sector innovation, including in the work of Mulgan & Albury (2003), Albury (2005), Hartley (2005), CCMD (2002), Joyce (2007), and Moore (2005).

## 4. FINDINGS AND ANALYSIS

This section brings together the findings from the literature review and uses them to outline the specific information and strategies necessary for measuring innovation in public sector organizations. First, it describes five principles discussed in the literature as being important for developing a performance measurement framework for public sector innovation programs. Second, it brings together the performance measures identified as being critical to understanding the performance of public sector innovation programs (both in terms of the impact of innovations and the promotion of a culture of innovation). Third, it outlines the steps necessary for developing a performance measurement framework for innovation programs and provides a template for IGRS's innovation program which other BC government agencies might adapt and adopt.

### 4.1 Five Principles for Innovation Program Performance Measurement

The following five principles are based on the literature review on measuring public sector innovation. They are intended to serve as a set of best practices for measuring innovation in the public sector. To that end, they will also inform the development of IGRS' innovation performance measurement framework.

#### 1. Develop a shared understanding of what innovation means

Innovation takes on a number of different meanings depending on the person being asked. Discrepancies centre on scope, innovation as requiring significant change or incremental change; and achievement, innovation as requiring a successful outcome versus innovation including those ideas that also fail. Knowing what counts as innovation within an organization can help determine what needs to be measured.

In the government context it is useful to know how the leadership defines the concept. The BC government's definition has three elements; innovation is: first, a new idea that increases efficiency and effectiveness; second, it is both disruptive and incremental change; and third, new ideas that both succeed and fail (McDonald, 2008, BC Public Service, 2009 and BCPS, 2008).

This is an open-ended definition that can include a variety of initiatives, so long as their long term goal is to improve efficiency and effectiveness.

## 2. Include objectives of the innovation program as performance measures

Find out what is driving innovation in the organization and develop performance measures that reflect those objectives. The typical drivers in the public sector are to increase efficiency and effectiveness, take advantage of emerging technology, and responding differently to both new and long-standing challenges (McDonald, 2008 and Albury, 2005). In addition to these drivers, innovation programs also aim to establish a culture where innovation regularly takes place. Ultimately, where there are performance measures there is action (Turrell, 2004); meaning that organizations should develop measures for their priority objectives to ensure that work is geared towards achieving them. Innovation measures should centre on: changes in efficiency and effectiveness and the extent to which a culture of innovation is implemented. Efficiency and effectiveness are seen as the justifications for why innovation is so important to public sector organizations and establishing a culture of innovation is seen as paramount to developing those ideas that will lead to greater efficiency and effectiveness. These are the overarching objectives of innovation initiatives in public sector organizations today. For a complete list of generic performance measures for a public sector innovation program review Table 3 on page 63.

## 3. Understand the limitations of measuring innovation

Measuring innovation presents a number of challenges that should be considered in attempts to implement a performance measurement framework for an innovation program. First, the impact of an innovation is often difficult to judge, particularly within tight annual reporting time-frames. Innovative ideas can: take years before their final impact is understood; change as efforts are made to enhance them; and fail to have their intended impact, but be successful in a distinct manner (Perrin, 2002, Hartley, 2005 and Drucker, 1998). The value created by learning from successful and unsuccessful innovations is also an important impact of innovation programs, though quantifying this value would be nearly impossible. These issues make it difficult to develop concrete expectations and performance measures for innovations too far in advance.

Second, selected measures may miss the point of what innovation is really about (Perrin, 2002). Emphasizing the number of innovative ideas implemented might indicate an innovation program is performing poorly; however, one or two great ideas in combination with actively learning from all the attempted ideas might actually represent a highly successful program – it depends on the value created from each individual idea.

Third, performance measurement systems can impede innovation from taking place (Perrin, 2002 and Moore, 2005). It is important that these systems recognize that with innovation comes a certain amount of risks; these systems cannot appear to be imposing any sort of penalty on exploration into well-calculated risks. If they do people will be less likely to consider pursuing new ideas.

Last, measuring innovation, particularly in the public sector, is an under-researched topic, therefore, there is an insufficient amount of evidence on which measures provide the most

accurate depiction of an innovation program. This means that the recommended measures may be subject to change as more research is completed. It is also possible that the current measures do not accurately describe the state of an innovation program.

#### 4. Employ both quantitative and qualitative methods to maximize learning

Qualitative methods also provide evaluators the opportunity to acknowledge outliers, celebrate successes with case studies, and use focus group settings to actively pursue a line of questioning that might lead to more learning. Quantitative methods' reliance on non-verbal measures like numbers and percentages provide a certain level of objectivity, but do not allow for active learning. Learning from innovations has been an ongoing theme in much of the literature, particularly because so much of innovation is about taking calculated risks and trial and error; learning from these activities is instrumental in ensuring that organizations advance.

#### 5. Communicate results and celebrate successes

Innovation programs should regularly communicate their successes to demonstrate where value has been added. This will ensure continued buy-in from leadership as well as spark interest among sceptical employees. Since learning is so strongly emphasized, performance measurement should enjoy an elevated status in discussions on public sector innovation; performance measurement can help establish common understandings about the success of a program, where benefits have occurred, and what needs to be done to become even more innovative. In addition, by demonstrating results, performance measurement can provide concrete evidence on the value created by innovation, thus ensuring that innovation is something that is given prominence despite potential resource constraints (Joyce, 2007).

### 4.2 Generic Performance Measures for Innovation Programs

Table 3 summarises 35 performance measures that are recommended for gauging the impact of innovation as well as the development of a culture of innovation. The top half of the table deals with the measures for the impact of innovation (measures 1 through 13) and the second half outlines the measures for the culture of innovation (measures 14 through 35). Measures for both categories are divided under headings associated with the key components of programs (inputs, activities, outputs and outcomes). These program components are explained in detail on page 64 in section 4.3, which outlines the development of IGRS' innovation performance measurement framework. As noted in section 3.5 measuring innovation is challenging. A plan that incorporates these measures in a manageable manner has been developed for IGRS and is included in this report on page 71.

An organization developing their own framework should not attempt to select all of these measures. It is important that organizations carefully select those measures that it deems important (Office of the Auditor General British Columbia [OAGBC], 2008), and use professional judgement to select the right number of measures to ensure that not too heavy a burden has been placed on the evaluator (and organization being evaluated). Selecting too many measures will likely make the measurement exercise too cumbersome to use regularly. In addition, when incorporating these measures into a framework care should be taken to ensure an

appropriate technique for collecting the information has been developed and that there is the capacity/time to employ it.

This report has taken care to identify those measures that have shown up with the most frequency in the literature and those measures that relate most closely to the objectives of the BC public sector's innovation initiatives and IGRS' innovation program. When selecting measures from this table, program evaluators ought to choose indicators that they have the capacity to measure as well as those that relate most closely to their program's objectives. For examples on how to collect the information consult IGRS' performance measurement framework. Many of the indicators, such as the number of hours spent on an innovation, will require that innovations be captured within an innovation program. By having a program innovative activities can be organized and information can be systematically collected. Depending on the scope of the program being assessed evaluators should include a balanced number of *impact* and *culture* measures, as well as a balanced number of input, output and outcomes measures. This way they can judge how successfully they are targeting the twin purposes of innovation initiatives as well as how outputs and outcomes change according to changes in input investments.<sup>9</sup>

The culture measures are based on the characteristics of an innovative organization identified in the literature as being conducive to developing a strong culture of innovation. The argument runs that if a culture of innovation can be nurtured, then an innovation program will be strong and an organization will be in a position to continuously develop and promote useful innovative ideas. The impact measures are identified as important in the public and private sector, as well as the key objectives for innovation initiatives identified in the literature review. Together, the impact and culture measures provide a complete picture of the types of performance measures that are important for public sector organizations.

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<sup>9</sup> This report does not attempt to systematically rank these measures. The measures included on the next page are those measures that have shown up with the most frequency in the literature and those that relate most closely to the objectives of the BC public sector's innovation initiatives and IGRS' innovation program. However, when incorporating these measures into performance measurement plans it is important to select a balanced number of measures as to ensure that both the impact and promotion of innovation gets measured. Once more literature is available on measuring innovation in the public sector and more frameworks like the one developed for IGRS in this report have been tested, it would be useful if research was conducted that analyzed the relative value of measures for public sector innovation.

**Table 3: 35 generic performance measures for annual<sup>10</sup> reporting on public sector innovation programs**

<i>Impact of Innovation</i>			
<b>Inputs</b>	<b>Activities</b>	<b>Outputs</b>	<b>Outcomes</b>
1. # of hours available to implement innovative ideas 2. Innovation-related knowledge 3. # of people involved with developing/implementing innovative ideas 4. Diversity of education, backgrounds and experience	5. Development of an innovation plan for bringing forward innovative ideas	6. # of innovative ideas generated 7. # of support meetings held for individuals launching innovative ideas 8. # of innovative ideas implemented (emphasis on the # of ideas that change or add to the business of the organization) 9. Amount of time it takes to go from idea generation to idea implementation	10. # of innovative ideas implemented 11. Innovation is found in all areas of the organization's activities 12. Innovation increases the organization's efficiency 13. Innovation increases the organization's effectiveness
<i>Culture of Innovation (promotion)</i>			
<b>Inputs</b>	<b>Activities</b>	<b>Outputs</b>	<b>Outcomes</b>
14. # of hours available for thinking of creative ideas 15. Innovation-related knowledge about the key characteristics for creating a culture of innovation 16. Diversity of educational, backgrounds and experience	17. Development of an innovation plan for establishing a culture of innovation	18. # of innovation events attended by leadership 19. # of innovative ideas championed by leadership 20. # of innovative ideas profiled 21. # of innovative ideas evaluated 22. Amount of slack resources available (funds/time/space) 23. Average # of training sessions attended by staff 24. # of unique teams formed across work-units 25. # of team building exercises 26. # of events aimed at soliciting innovative ideas from throughout the organization 27. # of efforts to work with external organizations 28. # of conferences and talks attended and given 29. # of innovative ideas championed by frontline staff 30. # of innovative ideas launched in each business unit 31. # of innovative ideas implemented (emphasis on the # of ideas aimed at changing work culture)	32. The organization promotes its innovative activities and ideas 33. Characteristics of an innovative organization are nurtured within the organization 34. The organization has a strong culture of innovation 35. The organization learns from its innovative ideas  The best approach to gauging the culture outcome measures would be to employ the culture output measures as proxies. The output measures are based on the 8 characteristics of an innovation organization identified earlier.
<i>The role of qualitative and quantitative methods:</i> A solid performance measurement framework balances the use of both qualitative and quantitative methods. For innovation programs, <b>quantitative techniques should be used for measuring inputs and outputs</b> because these areas are more geared towards tangible/countable subjects, such as time and numbers. <b>Qualitative techniques should be used for measuring outcomes</b> because intangible subjects (such as innovation) or subjects that can take on multiple meanings (such as efficiency and effectiveness), either require that the perceptions/opinions of individuals be collected or are too difficult to gauge using quantitative methods. Focus groups and interviews with program administrators and service users are an appropriate qualitative tool for this purpose. Last, learning is key to innovation; case studies can be used to reveal best practices that can inform future innovative activities.			

<sup>10</sup> The time-specific limitations of annual reporting requirements do present a challenge to the temporal dimensions of innovation – innovative ideas can take longer than a year to implement and their results may be unknown within the year they are launched. Where implementation spans more than one year resources (such as time and money) should be allocated to the measures for the year in which they are invested. Where the results of an innovation are unknown within a given reporting time-frame preliminary results should be sought, and final results updated once they become available.

### 4.3 Designing IGRS' Innovation Performance Measurement Framework

This next section deals with the design of IGRS' innovation performance measurement framework. First, it outlines the specific requests made by IGRS for this report and limitations relating to IGRS that have been factored into the design of IGRS' performance measurement framework. Second, this section outlines a step-by-step process for implementing performance measurement frameworks for innovation programs. Third, the section finishes with a brief introduction to the template for IGRS' innovation performance measurement report.

#### Tailoring to the desires and limitations of IGRS

There are limiting factors and specific requests from IGRS (the client for this report) that inform the innovation program's performance measurement framework. The limiting factors are factors which exist within IGRS that will impose certain restrictions on the scope of its performance measurement framework. The specific requests from IGRS address the intended purpose of the framework and the tools used to report on performance. The limiting factors and specific requests from IGRS are listed below and have been incorporated into the design of the innovation performance measurement framework.

#### *Limiting Factors:*

##### **1. Potential for bias**

IGRS has requested a performance measurement framework be developed for its internal innovation program that can be periodically administered by employees of IGRS. This leaves room for the criticism that IGRS can manipulate results to ensure that it appears favourable. Since IGRS has elected to develop this system for its own learning purposes, manipulating information would prevent IGRS from learning from its innovative activities. To reduce the potential for bias the importance of using performance measurement as a learning tool must be routinely communicated. Further, it should be noted that most performance measurement systems are designed and implemented by managers for their programs as a way of learning and building on their past performance (McDavid & Hawthorn, 2006).

##### **2. Limited Resources**

IGRS has not allocated funding towards this initiative and IGRS employees are already overstretched. Therefore, the framework must be designed so that it requires only limited time (of the evaluator and others involved in gathering information) and can be carried out without incurring any additional costs.

##### **3. Small organization size and scope of innovative activities**

IGRS has approximately 30 employees and the aim of most of IGRS' innovative ideas is to improve its effectiveness and efficiency as well as improve its culture of innovation. Most of the innovations are aimed at making improvements internally in the way in which IGRS conducts its business and at making improvements for IGRS employees. Where innovations are aimed at making improvements for IGRS' stakeholders it is unlikely that collecting formal feedback would be possible given both the limited resources at IGRS as well as the nature of IGRS' work. Therefore, IGRS must focus its performance information gathering at IGRS employees. IGRS may be able to gather feedback from some select stakeholders, such as the Minister, but not

always on a proactive basis. This small size means that the measurement tools available to IGRS may be limited.

### *Specific Requests:*

#### ***1. Learning focus***

IGRS' primary interest in developing a performance measurement framework for its innovation program is to have a clear indication of its innovative activities so it can learn from what has worked and not worked and adjust its program accordingly. Therefore, IGRS is mainly interested in using performance measures to develop strategies to improve its capacity to implement innovative ideas and strengthen its culture of innovation.

#### ***2. Profile initiatives***

IGRS has requested that as part of the performance information collected unique cases that tell an important story about IGRS' innovation agenda be profiled. For example, a specific innovative initiative could be explored to show what successful implementation looks like.

#### ***3. Avoid surveys***

IGRS has requested that attempts to survey the entire office be avoided. Therefore, measurement techniques will rely on focus groups comprising of the individuals working on administrating innovative ideas as well as tallying specific activities where appropriate. IGRS is launching 5 innovative ideas every three months in 2009; each innovative idea will be implemented by a team of 3-6 employees. Focus groups will enable the evaluator to ask a series of questions to teams about their initiatives, where they were successful, and what lessons they have learned. This can complement the learning approach by delving deeper into each idea and looking for ways to improve next time.

#### ***4. Transferability and simplicity***

IGRS has requested that the innovation performance measurement framework be simple enough that it can easily be transferred between evaluators; therefore, if one evaluator is no longer able to collect the necessary data, another evaluator could take their place with relative ease. In addition, IGRS' decision to take on this initiative was in part to add to the knowledge on public sector innovation and develop a framework that other BC Ministries could adopt for their own innovation programs. Therefore, it must be developed in a way that it can be transferred between programs with relative ease and only minor adjustments.

### **Selecting and Implementing a Performance Measurement Framework**

A number of performance measurement frameworks have been reviewed for this project. The aim of this review is to ensure that the composition of IGRS' innovation performance measurement framework reflects the elements that have been identified as important by experts in the field. The work of McDavid & Hawthorn (2006) figures prominently in the sequence of steps selected. Their chapter on designing a performance measurement framework offers a clear analysis of the steps required to implement an appropriate framework, and is supported by an impressive bibliography from other experts in the field. Also, the Treasury Board of Canada Secretariat's performance measurement framework for small federal agencies is an important source document for this review (Murray, 2004). The Treasury Board of Canada Secretariat has a long history of promoting performance measurement in the federal government and has taken

care to design a framework that smaller organizations can use to measure their performance. Last, suggestions from the BC auditor general on performance measurement along with the eight BC government reporting principles are figured prominently (Office of the Auditor General of British Columbia [OAGBC], 2008).

The BC government has taken care to develop reporting principles that it views as important for performance measurement, and it is therefore important that this document respect that process given that fact that IGRS is an organization at the centre of the BC government. These principles also tie in very closely with the steps suggested by the above authors, which provides a clear indication that these are principles shared across the performance measurement community.

Not all of the suggested steps in the frameworks reviewed are relevant to IGRS' innovation program. Often, recommendations for establishing performance measurement frameworks or systems relate to department- or government-wide reporting, accountability reporting for the public and elected legislators (as opposed to reporting for the sake of continuous improvement), or for organizations where performance measurement is an unknown phenomenon. Therefore, some suggested steps will not be included in IGRS' framework or may receive less emphasis than they might have received in a different framework. IGRS' framework emphasizes those steps that highlight accountability and continuous improvement, but not those that stress learning about performance measurement or government-wide reporting. Every effort has been made to base the following five steps on the common themes that have emerged from the literature on performance measurement. However, careful attention has been paid to weaving the findings outlined previously in this report into the process as well.

### *Step 1: Set the context*

Provide an explanation of what is being measured and why it is being measured. More specifically, outline:

1. **An account of the program.** By understanding the purpose of the program upfront the users of the performance information will have the background they need to make relevant connections between program objectives and the selected performance measures (Bamberger, Rugh, Church, & Fort, 2004).
2. **The public purpose served.** This is the first of eight BC government performance reporting principles. The aim is to make clear the benefit of a particular government initiative to BC residents (OAGBC, 2008).
3. **A list of standard definitions.** This will ensure that evaluators and report readers have a shared understanding of what is being measured (Office of the Auditor General of Canada [OAGC], 2000). The first recommendation made in this report suggests establishing a shared definition of innovation.
4. **The people responsible for performance measurement.** This establishes accountability for the performance measurement process and identifies who is responsible for ensuring that measurement activities take place in a timely manner (McDavid & Hawthorn, 2006).

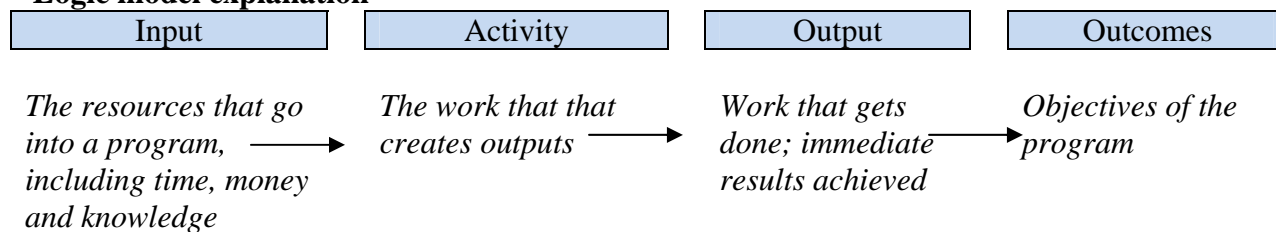
5. **Performance measurement boundaries.** Make the limits clear, so report users are aware of what the framework can and cannot do (McDavid & Hawthorn, 2006 and Bamberger et al., 2004). This is where the specific requests and limitations outlined above should be explained, such as resource availability and avoidance of surveys. Also, it is an opportunity to briefly outline the limitations of measuring innovation; recognizing the challenges associated with measuring innovation was the third recommendation in this report.
6. **Uses of performance information** (McDavid & Hawthorn, 2006). Being clear that measuring IGRS' innovation performance is about continuous learning will maintain the emphasis on exploring new (potentially risky) ideas without adding the expectation that only positive results are acceptable.

### *Step 2: Program Logic*

A logic model (or results chain) links the components of a program together, establishing a clear sequence of events from the resources that go into a program to the objectives the program aims to achieve (McDavid & Hawthorn, 2006 and Murray, 2004). It establishes a cause and effect relationship between the components of the program: the inputs, activities, outputs, and outcomes (short-, medium- and long-term) (OAGC, 2000). The inputs (resources) are organized into activities, which create outputs. The outputs are the work that gets done or the immediate results achieved (McDavid & Hawthorn, 2006). For example, an innovation program may count the number of innovative ideas launched or the number of hours spent thinking creatively as being program outputs. Last, though a definite connection cannot always be drawn, it is hoped that the outputs produce program outcomes. The outcomes are “the intended results that are linked to program objectives” (McDavid & Hawthorn, 2006, p.50). For example, an innovation program may hope that the above-mentioned outputs might be increased efficiency and effectiveness or the establishment of a culture of innovation, which are likely to be the key outcomes of most innovation programs.

This process ensures that clear objectives are in place for the program being measured (McDavid & Hawthorn, 2006), and that measurable results (either outputs or outcomes) are in place to track the level of success achieved in reaching those objectives. The process of linking goals and results, as well as the process of linking resources and strategies with results (outlined in the preceding paragraph) are two more of the eight key BC government reporting principles (OAGBC, 2008). A program logic model has been developed for IGRS' innovation program and is provided in the IGRS template on page 78 of this document.

#### **Logic model explanation**



\*Note: A logic model should be accompanied by a narrative that explains the cause and effect relationship between each stage.

*Step 3: Developing performance measures for IGRS' innovation program*

The linkages made in the logic model should inform the measures a program implements (McDavid & Hawthorn, 2006). After all, the logic model outlines what goes into a program, the work that gets completed, and the objectives that are expected to be satisfied from the program. Since performance measures are intended to track a program's performance, it follows that they be informed by the program's logic model (Muller et al., 2005, LSEPPG, 2008 and Likierman, 1993). Therefore the constructs identified in the logic model should serve as the guide for what must be measured. The following advice should be observed when developing performance measures:

1. **Keep the measures manageable.** That means they should be limited to an appropriate number (OAGBC, 2008). McDavid & Hawthorn (2006) recommend using 10 to 20 good measures. The measures should also be simple to collect (Murray, 2004). If measures are to withstand the test of time their simplicity will be an important asset, resource availability for measuring may not always be as strong as it was when the initiative was first implemented (McDavid & Hawthorn, 2006). Measures that are relatively simple to collect stand a better chance of continued usage. An important caveat to this is that performance measurement frameworks should still be developed with the care required to ensure that the selected measures are relevant to the program, and not just those that are easiest to measure (Likierman, 1993).
2. **Demonstrate the validity of each measure** by justifying its importance and explaining potential sources of bias (McDavid & Hawthorn, 2006, Bamberger et al., 2004, OAGBC, 2008, and OAGC, 2000). This will ensure that the most appropriate measures are selected as well as provide an explanation for why each measure holds a piece of the explanation of a program's performance status. It is also necessary to explain how a particular measure represents a particular construct (McDavid & Hawthorn, 2006), and which constructs are going unmeasured, as well as the reason for this decision (McDavid & Hawthorn, 2006). For innovation, measures should reflect the themes that emerged in the public sector literature on innovation, like efficiency and effectiveness and the establishment of a culture conducive to innovation. These are themes that have also been identified as fundamental to IGRS' innovation program. In summary, the key is to make the case for why a particular measure is important, but to also explain any limitations it may have.
3. **Have a comprehensive set of measures.** Measures should provide broad representation across a program providing data on inputs, outputs and outcomes (OAGBC, 2008).
4. **Provide measurement information in a timely manner** (OAGBC, 2008). The people required to collect measurement information should have a clear understanding of what they are required to do and measures should be provided in time to have an impact on decision making (OAGBC, 2008). Given the emphasis being placed on using performance measures as a tool to increase learning about IGRS' innovation program, the importance of having this information in regular intervals is important if it is going to be given a fair opportunity to impact the innovation program.

5. **Emphasis learning techniques.** Where performance information is being primarily used for learning purposes a performance measurement framework should emphasize learning approaches (McDavid & Hawthorn, 2006). However, frameworks should generally still use a mix of both qualitative and quantitative methods. Qualitative techniques allow for managers to gain richer information about how their program is performing. Quantitative techniques are limited to numerical data like dollars saved, clients reached, or initiatives launched, whereas qualitative methods can ask program administrators and users about how a particular initiative impacted them, how it could be improved, and where it went wrong. This is particularly important for innovation programs, given the difficulty associated with collecting concrete numerical data about the incremental increases in efficiency or effectiveness from innovative ideas. Therefore, qualitative data can provide much richer and broader information on a program's performance. The information is also much more conducive to learning, because from patterns that emerge in interviews and case studies, themes and best practices can be established and emulated elsewhere.

#### *Step 4: Reporting results*

Information should be made available in two forms. First, a concise report should be developed that summarizes the key findings, celebrates successes, signals areas where improvements are necessary, and relays important trends and best practices to support future activities. Second, information from the concise report should be converted into a presentation and be shared with IGRS staff at an interactive staff meeting.

The final report should provide an account based on each of the steps outlined above. It should start by setting the context: explaining the program; what performance information can and cannot do; and provide a common understanding of what is being measured. Second, it should include a logic model with a narrative that outlines how each component of a program, from inputs to outcomes, works together to achieve the key objectives of the program. From here the report should develop performance measures based on the logic model, and provide a defence for why particular measures were selected as well as a description of how the data was collected.

A key recommendation in this report has been to ensure that learning is an important aspect of measuring innovation. The report should explain why learning is important to innovation and explicitly list important lessons gleaned from the data that has been collected. This way innovation programs can actively build on themselves, increasingly perfecting the ideas they champion and the methods they develop to bring those ideas forward.

Given the nature of the IGRS innovation program interim reports should be issued to correspond with each quarter (quarters are based on the calendar year). These interim reports should be distributed through IGRS. The interim reports should then feed into an annual report at the end of the year, which should also be shared throughout IGRS (and more broadly if deemed appropriate). The IGRS innovation performance measurement template will provide an indication of what the interim and final report should look like, and provides as much complete information as possible. The final report should explain how successfully the program is achieving its objectives, and make comparisons to previous reporting periods and provide an interpretation of any themes that emerge (McDavid & Hawthorn, 2006). If targets have been identified, efforts should be made to explain the relationship between the actual performance and

the expected performance (OAGC, 2000). The final aspect of the report should review the measuring process that took place, and make suggestions for improvements based on feedback from colleagues and users of the report (McDavid & Hawthorn, 2006).

#### *Step 5: Implementation plan*

Include an implementation plan that details when to collect all the relevant information. Use dates as guidelines and make it clear who is responsible for collecting and reporting information.

#### **Introducing IGRS' Performance Measurement Framework Template**

The final section of this document is a report template for IGRS' innovation program. It has followed the steps outlined above. First, it sets the context by outlining the program, why it is important, relevant definitions, and the purpose of applying performance measurement to innovation programs. Second, it presents a program logic model, which provides a visual representation of the sequence of events that translates inputs into the activities that create outputs and ultimately outcomes. The program logic model is also accompanied by a brief narrative. Third, the specific performance measures are outlined, as well as the plan for how data should be collected, and explanations for why these measures are important. The first round of data collection is scheduled to begin in the first week of July 2009; however, any measures that can be retroactively applied back to January 2009 can be collected at any time. Step 4 is about reporting results and is meant to provide an overview of the program's performance. In the template suggested topics are provided as a guide for how to complete this section once results are known. The final step is an implementation plan, which should serve as a guide to using the IGRS performance measurement framework in 2009, but also as a tool to use in redeploying the framework for future years.

# IGRS INNOVATION PERFORMANCE MEASUREMENT FRAMEWORK 2009

## Introduction

In the fall of 2008 IGRS decided it would actively pursue efforts to apply a performance measurement framework to its innovation program. To do this research was carried out to establish a clear understanding of how innovation is measured in other public sector jurisdictions and private sector companies. Lessons were drawn from the research and applied to IGRS' innovation performance measurement framework.

Performance measurement is important because it helps managers understand the overall health of their program as well as provide accountability for the resources invested in a particular initiative.

Learning is so important to the innovation process because lessons need to be drawn from the innovative ideas that succeed as well as those that miss the mark. This way past mistakes can be avoided and successes can be emulated, thus helping an organization increase the number of successfully implemented innovations among its ranks. It is also important to understand how an organization has nurtured the development of a culture of innovation so that it can review its practices and recognize areas where less or more attention is necessary, thus creating an environment where innovation is more likely to take place. Performance measurement is therefore a vital component of a successful innovation program because of its role in promoting organizational learning by systematically bringing information about innovation performance forward so that informed decisions can be made about how to move forward.

The IGRS Innovation Performance Measurement Framework has the following components:

1. An account of the IGRS program and related contextual information;
2. A description of the program logic along with key outputs and outcomes;
3. A list of innovation performance measures as well as a strategy for collecting relevant data;
4. A discussion on the themes that have emerged from the performance information; and
5. An implementation plan for bringing the performance measurement framework to fruition.

## Setting the Context

### *Key definitions*

Establishing common definitions in advance ensures that there is clarity about what exactly is being measured.

- **Innovation:** The BC government's definition has three elements, innovation is: first, a new idea that increases efficiency and effectiveness; second, it is both disruptive and incremental change; and third, new ideas that both succeed and fail (McDonald, 2008, BC Public Service, 2009 and BCPS, 2008). This is an open-ended definition that can include a variety of initiatives, so long as their long term goal is to improve efficiency and effectiveness. Under this definition innovative ideas that miss the intended mark are still considered important because of their role in helping to facilitate learning.
- **Culture of innovation:** Refers to the development of the characteristics that are known to help facilitate greater innovation within an organization. These characteristics include, support from the top, rewards and awards, resources, diversity, learning from the outside, innovation involving everyone, experimentation and evaluation and the use of teams (Borins, 2001, Mulgan & Albury, 2003, Albury, 2005, Hartley, 2005, CCMD, 2002, Joyce, 2007 and Moore, 2005). Developing a culture of innovation is seen as a necessary step to ensuring that an organization is a place where innovative ideas regularly add value.
- **Efficiency:** Refers to the incremental change in output that can be attributed to a particular innovative initiative. Increasing efficiency is a key objective of the push for more innovation in the BC government. The question is: has an innovation increased efficiency in some way?
- **Effectiveness:** Refers to the incremental change in fulfilling BC residents' demands and reaching an organization's objectives. Increasing effectiveness is a key objective of the push for more innovation in the BC government. The question is: has an innovation increased the effectiveness of the BC government in some way?

### *Why Innovation is important*

The BC government has recognized that developing an innovative culture and supporting innovative ideas is critical to delivering public services in the twenty-first century. Indeed, the leader of the BC public service – Jessica McDonald, Deputy Minister to the Premier and Cabinet Secretary for the province of British Columbia – has made it clear that she believes innovation will be central to improving the efficiency of the BC government (McDonald, 2008).

Underlining the need for improving efficiency through innovation are the demographic pressures being placed on the government by the fact that baby-boomer retirement numbers are expected to outpace hiring numbers. This means that if the BC government fails to come up with more efficient methods of delivering public services there will be fewer public sector employees to do what is expected to be an increased workload. The workload is expected to increase because the

demands from the public are changing. An increasingly diverse set of users are expecting instant and tailored access on a “24-hour/seven-days’-a-week” basis (Albury, 2005, p.51). No longer will difficult to access one-size-fits-all programs be acceptable. Instead, innovation will be necessary to respond to the new demands facing the public sector. These three elements – demand for increased efficiency, demographic shifts, and changing expectations from the public – form the core justification for why innovation is important to the BC government.

As an organization in the centre of government with responsibilities that require it to routinely collaborate with its ministry partners, IGRS is in an optimal position for being a beacon of change in the BC government. IGRS has heeded the call for greater innovation enthusiastically, and views innovation as the path to achieving its objectives with increasing efficiency and effectiveness.

***IGRS’ Innovation Program:***

IGRS’ innovation program began to take shape in the fall of 2008. Sukumar Periwai, Executive Director of Strategic Policy and Planning was appointed as IGRS’ first innovation champion. His first objective was to engage staff on how they felt IGRS could be made a more innovative workplace; this involved one-on-one consultations with each staff member. In total, these consultations generated over 100 ideas, amounting to an average of three innovative ideas an employee. Themes to emerge in these consultations dealt with IGRS’ interaction with other BC ministries, access to external sources of information, developing creative time and space, training, and the team dynamic. These ideas were presented to and discussed by the Leadership Team and Executive Administration Team (both of which are organizational innovations initiated by IGRS’ Deputy Minister).

The next objective was to develop a program that could engage IGRS staff in transforming these ideas into actions. IGRS’ Innovation Roadmap was finalized in February 2009 with the aim of launching its innovative agenda on a quarterly basis. For the purposes of this roadmap quarters were contained within a calendar year. Each quarter aims to launch five ideas. Each of the five ideas relates to some of the key constructs necessary for building a strong culture of innovation. The five key constructs are:

- *Ensure that IGRS’ employees work in a supportive atmosphere* | **PEOPLE**
- *Develop a caring and fun environment* | **TRUST/SOCIAL**
- *Emphasize team-work and team-building* | **SYNERGY**
- *Doing what we do better* | **PRODUCTIVITY**
- *Entrench innovation* | **CREATIVE CULTURE**

Each quarter has also been assigned a theme, and innovative ideas that correspond with each theme have been selected to be launched quarterly. As with the constructs above, guiding themes will serve to group innovations together around some of the key characteristics known to help create a culture of innovation. Since this program began in September 2008, this year’s roadmap includes the last four months of 2008 as part of its plan. The themes:

- **EMPOWERMENT| Quarter -1: September 1 – December 31, 2008**  
*Making everyone aware of innovation and making changes that support it*

- **ENGAGEMENT | Quarter 1: January 1 to March 31, 2009**  
*Moving forward on innovative ideas and continuing to build an innovative dialogue*
- **EXPERIMENT | Quarter 2: April 1 to June 30, 2009**  
*Creating a culture where testing innovative ideas is celebrated*
- **EXPERTISE | Quarter 3: July 1 to September 30, 2009**  
*Strengthening the capacity to be innovative by looking for new sources of inspiration*
- **EXPLORATION and EVALUATION | Quarter 4: October 1 to December 31, 2009**  
*Regarding differences as strengths and maintaining an environment where innovative ideas are continuously generated and assessed.*

While innovative ideas were launched in Quarter -1 and Quarter 1, IGRS' innovation program began in earnest with the launch of Quarter 2. At a March 9 all-staff planning session a brainstorming exercise to refine the specific ideas to be launched for Quarter 2 was conducted. The five ideas to be launched in Quarter 2 are: piloting video conferencing, hosting an IGRS conference, developing a team building exercise, creating a mentorship program, and instituting a social committee. From there a separate meeting was arranged for each of the five ideas during the first week of this quarter. At these meetings interested IGRS employees were invited to attend and give their input. From each of these meetings a team was formed with a key team-lead identified. These teams are responsible for implementing their innovative idea in quarter 2 (though the aim is that several of these ideas will continue beyond the boundaries of the quarter in which it was launched). This model is to be implemented for quarter 3 and quarter 4. Interim reports at the end of each quarter detailing the progress and lessons learned will be completed by the Innovation team, with one final report to compile all the results at the end of 2009.

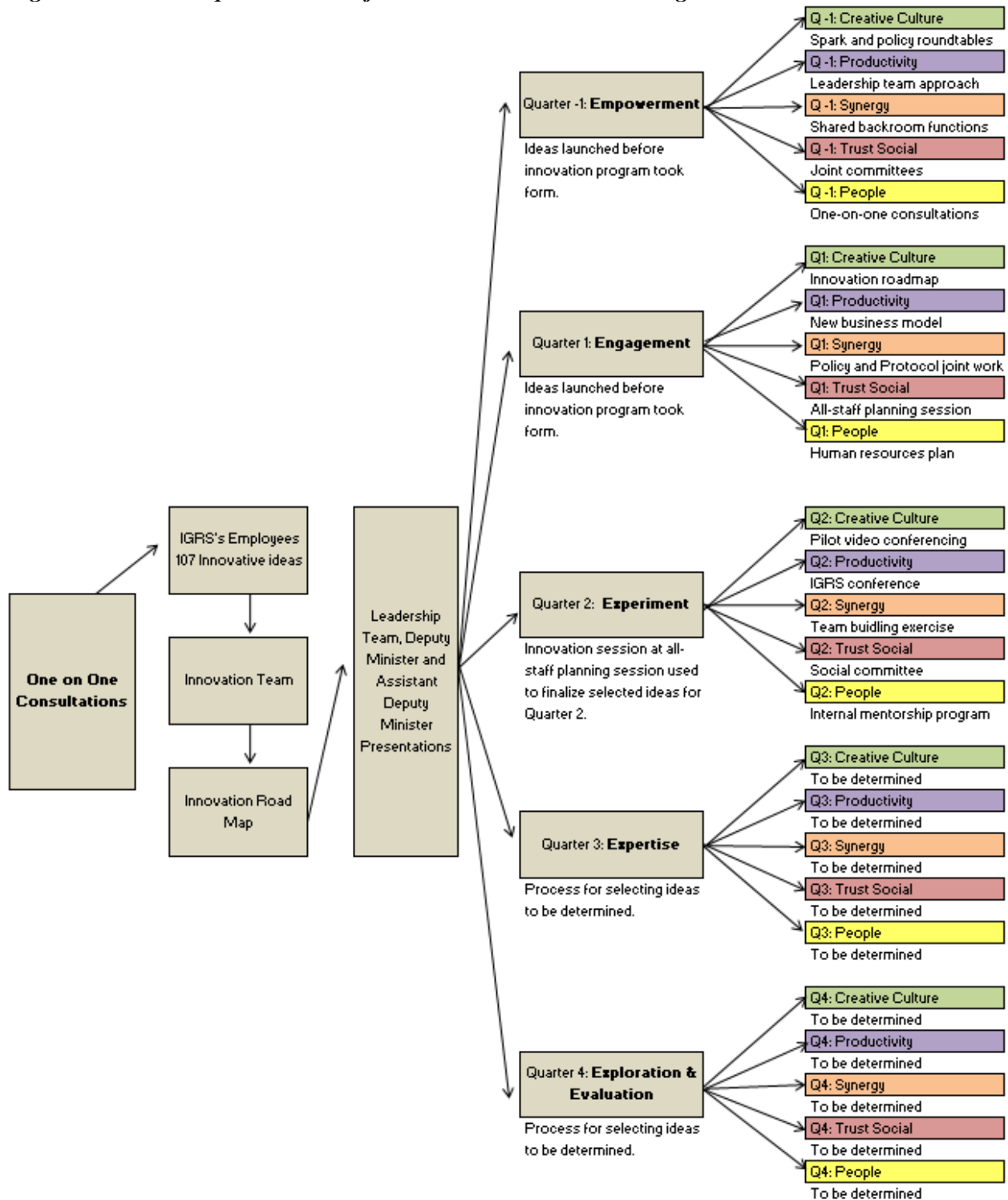
#### ***Performance measurement boundaries***

- The data being collected for IGRS' innovation program is for internal uses. The aim in collecting it is to help make informed decisions about where to focus limited innovation program resources in the future, as well as have a clear account of the types of initiatives that work and those that do not.
- Measuring innovation is difficult:
  - Innovative initiatives are constantly evolving making it difficult to set clear objectives in advance or know exactly what should be measured;
  - Assessing the impact of innovations is not conducive to quantitative methods, like dollars saved or number of clients reached, because it is difficult to get a clear indication of the exact incremental change caused by an innovative idea.
  - Learning is a vital component of innovation, understanding the benefit from learning, both from successful and unsuccessful ideas, in quantitative terms, is not possible.
- Qualitative approaches like focus groups and case studies, however, can provide the answers to these questions. By asking the IGRS employees responsible for leading each initiative to

speak to how their initiatives have been successful and what lessons they have learned along the way their views can be systematically collected and used to make informed decisions.

- By communicating the learning focus to respondents in advance the potential for bias can be mitigated. Respondents will be encouraged to recognize that learning from unsuccessful ideas is just as important as learning from successful ideas, and be reminded that taking well-calculated risks is an important part of the innovation process, even if those risks fail to lead to greater efficiency or effectiveness. So, while the potential for reporting bias does exist, it is hoped that by emphasizing the learning aspect of this measurement exercise that respondents will feel comfortable to share all aspects of their initiative's performance.
- Last, this measurement exercise does not rely exclusively on qualitative measures. Where possible quantitative methods are deployed, particularly for the output measures. For example, one method is to tally the number of innovations launched, hours devoted to innovation, and resources invested in efforts to institute a culture of innovation.

Figure 1: Visual Representation of IGRS' 2009 Innovation Program



## Program Logic

The ultimate objective (or long-term outcome) of IGRS' innovation activities is to ensure that IGRS is an innovative organization where innovative ideas regularly add value to its business. To achieve this objective IGRS has invested significant time and energy in designing a supporting program and developing the right level of knowledge necessary to move forward on the BC government's call for more innovation in the BC public sector. The arrows and boxes show the complex interplay between the components at work in innovation program and may seem daunting at first, but they should not detract from the general flow: moving from the inputs on the left to the outcomes on the right. The aim is that through investments in time and knowledge IGRS can develop the right types and levels of outputs necessary to achieve its short-, medium- and long-term innovation outcomes.

The inputs represent what IGRS invests to make this program happen. They are *time* and *knowledge*. *Time* refers to the number of hours members of the innovation team commit to developing and supporting the innovation program, as well as the number of hours individuals commit to launching their innovative ideas. *Knowledge* is the level of understanding about innovation within IGRS, which also has a time element to it, as care has been taken to nurture a deep understanding of why innovation is important and what it looks like in the public sector.

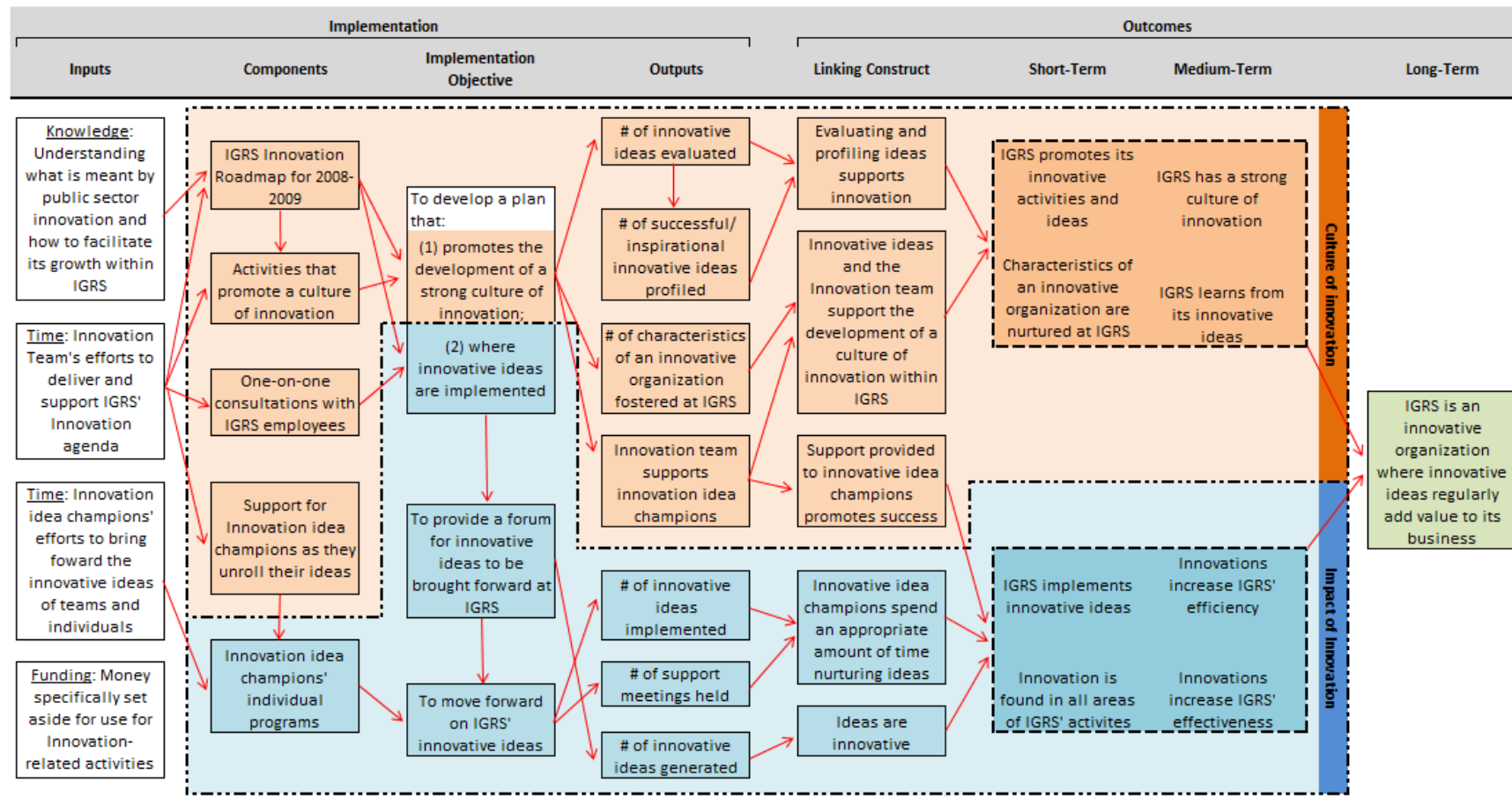
These inputs create the components of the program, which are: the one-on-one consultations, done on an on-going basis conducted by the IGRS' Innovation Champions as a way of understanding what innovation means to IGRS employees; the development of the IGRS Innovation Roadmap for 2008-2009, which aims to build on the consultations and develop a comprehensive plan for driving innovation at IGRS; and the individual innovative activities of each team and team-lead responsible for launching innovative ideas under the Roadmap plan.

It is intended that these components will lead to a number of outputs that are necessary to achieving the stated outcomes of the program. These outputs include the number of innovative ideas generated as well as the number of ideas implemented; number of innovative events attended; number of innovative ideas profiled; and number of characteristics of an innovative organization fostered at IGRS.

The outcomes are what the IGRS innovation team intends to have result from its inputs and activities. The dual focus of IGRS' innovation activities are to develop a culture of innovation at IGRS as well as implement innovative ideas that positively impact the organization. It is intended that the implementation of innovative ideas and support from the innovation team for fostering the characteristics of an innovative organization at IGRS will lead to development of a culture of innovation. It is also intended that, by supporting the implementation of innovative ideas, IGRS can increase its efficiency and effectiveness in how it does its business.



### IGRS Innovation Program Logic Model



**Note 1:** A distinction has been drawn out between the aspects of IGRS' program that deal with the promotion/culture of innovation and those that deal with the products/impact of innovation.

**Note 2:** The Characteristics of an innovative organization include support from the top, rewards and awards, resources, diversity, learning from the outside, innovation involving everyone, experiment and evaluation and the use of teams (Borins, 2001, Mulgan & Albury, 2003, Albury, 2005, Hartley, 2005, CCMD, 2002, Joyce, 2007 and Moore, 2005).



## Performance Measures

The selected measures span all the elements of the innovation program, focusing on inputs, outputs and outcomes.<sup>11</sup> The data will be collected using two methods:

- **Focus groups** will be conducted with each of the teams responsible for implementing innovative ideas in each of the quarters. The focus groups are to be informal and hosted by a member of the innovation team. The implementing teams will be asked to remark on the extent to which they satisfied their objectives, what impact their initiative has had on either efficiency or effectiveness, and the lessons they learned over the course of implementation. The main focus is therefore on the outcomes of the innovative initiatives. Focus groups are a qualitative method because they ask respondents for their individual perspectives and recommendations. This method has been selected because it is difficult to judge the impact of an innovation in quantitative terms with limited resources and within a tight reporting timeframe, and because focus groups allow for maximizing the learning aspect of performance measurement.
- **Tallying**, a quantitative method, will be used to measure certain outputs. IGRS will keep an ongoing tally of the number of innovative ideas implemented, and the efforts taken to facilitate a culture of innovation within the organization.

The data will be organized and split into two sections. First, under the heading “Impact of Innovative Initiatives,” the measures dealing with the individual innovative ideas are presented. The data from the focus group sessions will be summarized into a table by idea and quarter. This information aims to provide a clear indication of how innovation has increased IGRS’ effectiveness and efficiency, and how IGRS can be even more successful in subsequent years. One innovative idea from each quarter will be profiled as a case study; ideas will be selected by the innovation team for profiling if they offered a significant learning component for future innovations. Second, under the heading “Culture of Innovation” specific measures will be developed to help gauge how successful the IGRS innovation team has been in nurturing the development of a culture of innovation.

Some of the innovative ideas implemented by the individual teams are important for developing a culture of innovation. Where that is the case, aspects of these initiatives may be measured first among the impact measures, and again under the culture measures. This is important because it ensures there is an account of how an innovation implementing team impacted the development of a culture of innovation, which might provide lessons for how to nurture some of the other characteristics of an innovative organization. Together, the impact and culture measures aim to provide a complete picture about the state of innovation in IGRS in 2009 and provide clear lessons on how to move forward with its innovation agenda in 2010.

Last, each of the measures presented below are accompanied by a justification for why they are important, how they will be collected, and how biases were minimized. This information is

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<sup>11</sup> Performance measurement frameworks should use a mix of qualitative and quantitative methods; quantitative methods can provide an objective account of the work that has been completed, and qualitative methods can be used to delve deeper into specific cases, and really understand what their impact has been.

presented in order to make a case for the validity of each of the selected measures. Not every measure available has been included in this framework; omissions have been made to keep the data collection process manageable. For example, this framework does not attempt to include the type of innovation being implemented (product, process or management). Measuring the type of innovation is useful because it can tell an organization where its innovation capacity is strongest and where work is required. IGRS can forego this measure because as a small organization it is capable of recognizing how successfully its innovation agenda is spread throughout the organization. This measure may be more important for larger organizations where size might present a challenge to ensuring that innovation is occurring across business units. Also, measures detailing the time it takes to implement innovative ideas has not been included. This measure is important as it helps assess how much energy an organization devotes to implementing innovation. However, given the fact that IGRS has developed a systematic plan for implementing ideas on a quarterly basis, including this measure would be redundant.

### ***Impact of Innovative Initiatives***

These measures largely relate to the outcomes identified as important to the IGRS innovation program. There are general impact measures and specific impact measures. The general impact measures examine how extensively innovation has taken hold in IGRS, and look at the number of ideas implemented and the different sections of the organization touched by innovation. These measures will be simply counted. The specific impact measures look at the impact of each individual innovation launched, to see how they have changed IGRS' efficiency and effectiveness and what lessons can be learned for future initiatives. Data for these measures will become available through focus groups and case studies.

#### **General impact measures:**

1. How many innovative ideas were generated by IGRS employees in 2009?
2. How many innovative ideas were implemented by IGRS in 2009?
3. Number of employees involved with bringing the innovation program forward (innovation team and each team formed around individual innovations)?
4. Average number of hours spent implementing innovative ideas per IGRS employee [within the compounds of IGRS' innovation program]?

*Collectively these measures provide a clear indication of how involved and active IGRS employees have been with the innovation agenda and an account of the number of resources devoted to the program. These are important measures because actively engaged employees and piloting innovative ideas is vital to having a successful innovation program. The first three measures can simply be counted by the innovation team. The fourth measure will be informed by the focus group sessions; employees will be asked to estimate how many hours they spent a week implementing their initiatives (an average score across all groups will be calculated). These measures will be updated on a quarterly basis. By having a clear definition of what constitutes innovation in advance there is little room for bias in the measures that deal with tallying totals; only those ideas that meet the shared definition will be included. However, there is potential for biased answers to emerge from the question that asks team members to report the number of hours they spent launching their initiative. It is hoped that biased data can be avoided, first by emphasizing that collected data will primarily be used for learning about the program, and second, by the fact that team members report results together in a focus group setting. This*

*reduces the potential for bias by: limiting the perceived incentives associated with misreporting (avoiding blame); reminding respondents that accurate information provides better learning opportunities; and – through the focus groups format – provides an opportunity for all responses to be cross-referenced with others to ensure accuracy. It is important to note that the issues of group think and organizational bias are present and do have the potential to influence results.*

**Specific impact measures:**

*These questions will be posed to all the innovation implementing teams each quarter in focus group sessions, and revisited with each team lead for all the 2009 quarters in January 2010.*

1. How has your initiative contributed to helping IGRS meet its objectives [Can you comment on dollars saved, or changes in efficiency and effectiveness]?
2. What lessons can be taken from your team's experience that might be useful in informing ongoing efforts to implement your initiative? or implementing other future initiatives?
3. How has your initiative helped nurture a culture of innovation? (Based on description provided)
4. How do you envision your initiative continuing beyond the quarter in which it was launched? Do you feel it has been fully implemented? What work stills needs to be done?
5. Question for revisiting session with team leads: Do you have anything new to add to the above questions, how do you see your initiative going forward in 2010?

*Collectively, these are the measures that reveal the extent to which the innovation program has added value to IGRS. These measures provide data on how the innovative ideas launched have changed IGRS' efficiency and effectiveness and what lessons have been learned that can inform future initiatives. Increasing efficiency and effectiveness are the main drivers behind the BC government and IGRS' push for innovation. The above measures aim to address the level of success achieved in meeting these objectives. There is a significant emphasis placed on learning from the initiatives that have taken place and looking for lessons that can inform future initiatives. There is the potential for bias responses to be provided for each of these measures because the data is collected using qualitative methods, which means responses are based on the perceptions of respondents. As mentioned previously, incorporating quantitative methods, which are often viewed as being more objective, is not desirable for measuring the impact (or outcomes) of innovation, given the limited insights such data can provide. It is hoped that biased data can be avoided first by emphasizing that collected data will primarily be used for learning about the program, and second, by the fact that team members report results together in a focus group setting. This reduces the potential for bias by: limiting the perceived incentives associated with misreporting (avoiding blame); reminding respondents that accurate information provides better learning opportunities; and – through the focus groups format – provides an opportunity for all responses to be cross-referenced with others to ensure accuracy. It is important to note that the issues of group think and organizational bias are present and do have the potential to influence results. Where appropriate responds will be encouraged to estimate dollars saved; however, learning will remain the primary focus of this framework and accounting for all the variables that impact the financial implications of each measure is an exercise that is far beyond the capabilities of IGRS' innovation team.*

## IMPACT OF INNOVATION:

*Template to be updated each quarter:*

General impact Measures				Last updated:
# of innovative ideas generated (per year):				
# of innovative ideas implemented:	Q1:	Q2:	Q3:	Q4:
# of employees involved with innovation agenda:	Q1:	Q2:	Q3:	Q4:
Average # of hours spent per week spent on implementing innovative ideas per employee:	Q1:	Q2:	Q3:	Q4:

*Template to be repeated for each quarter and revisited for final report in January 2010:*

Quarter 2: EXPERIMENT   April 1 to June 30, 2009				Last updated:
Purpose: <i>Creating a culture where testing innovative ideas is celebrated</i>				
Activities	Outputs	Outcomes	Going forward	Lessons Learned
<b><i>Creative Culture</i></b>				
Meet the call for reducing travel reductions with an initiative to pilot video conferencing.	<i>[Contribution to nurturing a culture of innovation]</i>	<i>[Contribution to meeting objectives, and increasing efficiency(cost/time reductions) and effectiveness]<sup>12</sup></i>	<i>[The work that still needs to be done to fully implement initiative]</i>	<i>[Lessons from team's experience for future innovations]</i>
<b><i>Productivity</i></b>				
Host an IGRS conference to increase collaboration with ministries				
<b><i>Synergy</i></b>				
Undertake team-building exercises to strengthen team-work skills				
<b><i>Trust/Social</i></b>				
Start a social committee to nurture an increasingly supportive atmosphere				
<b><i>People</i></b>				
Internal IGRS job-shadowing program to increase understanding of work units				

<sup>12</sup> Internal BC government innovation reporting requirements from the Office of the Premier do ask BC public sector agencies to comment on the extent to which an innovation has caused cost reductions. Given the previous discussion on the challenges of quantifying the incremental benefit associated with an innovation, this framework does not emphasize dollars saved. However, as part of the focus group sessions participants should be invited to identify areas where costs have been saved so that information about the financial benefits of each innovation can be readily accessed when this information is required.

*Template for recognizing innovative initiatives:*

### ***Case Study: Hosting an IGRS Conference***

**Initiative:**

*[Explain the initiative, why it was selected as a case study and why it is important for IGRS and public sector innovation.]*

**Achievements:**

*[Outline what this group achieved and how they achieved it.]*

**Lessons from the group:**

*[What can be learned by other groups from this initiative?]*

**Going forward:**

*[What this group plans to do in the future to keep this initiative alive]*

Insert picture of implementing team here.

### ***Culture of innovation***

These measures largely relate to the outputs identified as important to IGRS in developing a culture of innovation. It is hoped that by nurturing the characteristics identified as being important for innovation, including support from the top, diversity, and learning from the outside, that IGRS will become a place where there is a strong culture of innovation, and innovative ideas regularly add value to the work IGRS completes. Generally, data will be collected and stored in the table on the next page by tallying totals for each measure, either on a monthly or quarterly basis. The table should be given its final update at the end of year to reflect all the activities that took place in 2009. A couple of measures, like time spent being innovative, are informed by information gleaned from the focus group sessions with each innovation team, and will be populated that way.

*These measures provide an account of IGRS' efforts to nurture a culture of innovation. The selected measures' relevance to innovation culture and the objectives of this program are outlined in a table on the next page along with the corresponding measures. The data is to be collected and tallied by the innovation team; there is the potential for some bias. The team could misrepresent the actual data; however, this would be unlikely. The team will understand that the data is being collected to help them learn how to strengthen their innovation program and misinformation is likely to be detected by report users; as they are internal to IGRS and likely will have had intimate involvement with the program. These provide strong disincentives to misreport data.*



## CULTURE OF INNOVATION

Development of a culture of innovation at IGRS (September 2008 to December 2009)				Last Updated:
<b>1. Support from the top</b>				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# of innovation events attended by organization leadership (DM, ADM, and leadership team)	<i>[Ex: the count for this measure should include specific numbers, and examples of events attended.]</i>	Demonstrates leaders' support for the innovation agenda and highlights innovation team's efforts to engage leadership. Support from the top signals to employees that innovation is an organization priority.	Tally maintained monthly by innovation team	<i>[Ex: comments for this measure might include a reference to a noteworthy event attended by leadership.]</i>
# of innovative ideas championed by leadership			Tally maintained monthly by innovation team	
<b>2. Rewards and Awards</b>				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# of ideas profiled		Provides recognition of meaningful innovation activities, which both demonstrates support from the top as well as provides an incentive for people to be more innovative.	Innovation team selects ideas on a quarterly basis based on information from focus group sessions	
# of innovative people of the month profiled			Tally maintained monthly by innovation team	
<b>3. Resources</b>				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
Average # of hours per week spent by innovation team supporting innovation agenda		Among the culture indicators these are the only input measures. Providing time for innovation is vital to establishing a culture of innovation and distributing relevant information can help people think more about innovative ideas. These measures are important because they reflect the resources that go into being innovative at IGRS.	Tally maintained quarterly by innovation team	
Average # of hours per week spent by teams responsible for launching each innovative idea			Respondents asked to estimate hours during focus group sessions	
# of documents discussing innovation shared at IGRS			Tally maintained monthly by innovation team	

4. Diversity				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# temporary assignment positions at IGRS		There may be other more relevant indicators, however, collecting personal information about age, experience, and education may be too intrusive. Together these measures provide a partial indication of the different backgrounds at work in IGRS. Different backgrounds are important because it means a number of different perspectives are being applied to IGRS work, which can lead to a diverse set of options being considered.	Tally maintained quarterly by innovation team	
# of IGRS staff on temporary assignment positions in other ministries or from other sectors and jurisdictions			Tally maintained quarterly by innovation team	
# of co-op student/interns at IGRS			Tally maintained quarterly by innovation team	
5. Learning from the outside				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# of new initiatives successfully launched through the innovation program that aim to increase collaboration with external organizations	[E.g., external speakers, events, sources, and learning opportunities provided to staff]	IGRS works on a number of cross-government initiatives and is already heavily integrated. This measure will specifically deal with new attempts to work with external partners. Learning from the outside is important for innovation because it helps to bring new perspectives to IGRS work, which can lead to a diverse set of options being considered.	Tally maintained quarterly by innovation team	
# of active collaborations with post-secondary education institutions			Tally maintained quarterly by innovation team	
6. Innovation involves everyone				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# and % of IGRS employees involved with bringing the innovation program forward		Innovative ideas should be generated and implemented by employees throughout the organization. This demonstrates that innovation is a core organizational value and that a number of perspectives are applied to being innovative. These measures indicate the level of entrenchment of innovation within IGRS.	Tally maintained quarterly by innovation team	<i>[take account of the numbers emanating from each workgroup at IGRS]</i>
# of innovative ideas generated per employee in one-on-one sessions			Tally maintained annually by innovation team	

7. Experiment and evaluation				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# of innovative ideas Implemented through IGRS' innovation program		For innovation to be successful employees must feel encouraged to pilot new ideas, and ideas should be evaluated so lessons can be learned from both successes and unsuccessful ideas. These measures provide an indication of the number of ideas launched as well as the number of efforts undertaken to learn from past efforts.	Tally maintained quarterly by innovation team	
# of innovative ideas evaluated			Tally maintained quarterly by innovation team	
# of innovative ideas profiled as a case study			Tally maintained quarterly by innovation team	
8. Use of Teams				
<i>Indicator</i>	<i>Count</i>	<i>Indicator(s) relevance</i>	<i>Collection method</i>	<i>Comments</i>
# of unique teams formed to implement innovative ideas		Cross-unit teams are important to innovation because it ensures that a number of perspectives are applied to complex problems and that diverse perspectives are applied to processes to ensure they are as effective as possible. These measures provide an indication of the extent to which teams are used at IGRS, as well as the amount of diversity present in each team.	Tally maintained quarterly by innovation team	
# of implementing teams comprising of members from multiple IGRS work units.			Tally maintained quarterly by innovation team	
# of joint-projects formed across business units at IGRS (separate from innovation program).			Tally maintained quarterly by innovation team	



## Discussion

*[Comment on the themes that emerge from the collected data. From the data, outline the program's achievements, areas where improvement is necessary, and common or important lessons learned. Provide initial analysis about how improvements can be made to the program in the future. Last, discuss any limitations with this measurement approach, and where improvements can be made.]*

## Implementation Plan

Reports are due one week after the end of each quarter. The first report will be for Quarter 2, and will include only a brief summary of Quarter 1. This is because the innovation roadmap did not formally begin until March 2009. Following the end of Quarter 4 each quarter's report should be aggregated into one final annual report. Activities for evaluators:

1. Within two weeks following the end of each quarter host focus group sessions with each of the innovation teams; guiding questions provided under the *Impact of Innovation* section. Responses should be summarized into the table also provided in the *Impact of Innovation* section.
2. Review responses with the rest of the innovation team and select an idea each quarter to profile as a case study. Case studies should offer significant innovation-related learning to IGRS.
3. Tally the number of outputs achieved in the table provided under the *Culture of Innovation* section on a monthly, quarterly and annual basis.
4. By the middle of January 2010 a final report should be developed that aggregates all the information provided in the quarterly reports into one concise annual report. The team leads for each of the innovations launched should be interviewed and any progress achieved since the quarter in which their innovation was launched should be incorporated into the final report. To ensure that duplication is avoided and all the information is included it is important to regularly update the tables as new data becomes available.
5. The final report should be shared among IGRS staff after it has been reviewed and approved by the innovation team-lead, Assistant Deputy Minister and Deputy Minister. Comments and feedback from IGRS leadership and staff on the final draft should be incorporated into the report as appropriate.
6. In 2010 begin the process again providing quarterly reports and one final annual report. If changes have been made to the innovation program, ensure that the corresponding changes have also been made in the performance measurement framework.

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## 5. RECOMMENDATIONS

This report makes three recommendations based on the literature review. The three recommendations are that:

- 1. IGRS take into account the following five principles to guide the development of a performance measurement framework for its innovation program:**
  - a. Develop a shared understanding of what innovation means;**
  - b. Include objectives of the innovation program as performance measures;**
  - c. Understand the limitations of measuring innovation;**
  - d. Employ both quantitative and qualitative methods to maximize learning; and**
  - e. Communicate results and celebrate successes.**

These five principles are elaborated from page 59 on. They are important because they set a course for establishing the most effective performance measurement framework for public sector innovation programs. Reviewing these principles ensures that the critical issues associated with measuring innovation have been considered and implementing them helps to keep the scope and purpose of the measuring exercise manageable.

- 2. IGRS adopt the performance measures for public sector innovation programs outlined in Table 3 on page 63 of this report and the performance measurement plan beginning on page 71 of this report.**

The performance measures in Table 3 were selected based on a detailed review of the literature dealing with private and public sector innovation. They are balanced to ensure that measures represent both the impact of innovation as well as the promotion of innovation. Last, measures have been selected to ensure that both qualitative and quantitative methods can be employed.

The plan for IGRS has been developed to completely incorporate the five principles outlined above as well as the suggested measures on page 63. By employing this plan IGRS will be able to actively assess the performance of their innovation program and make improvements that can help to ensure its program continues to add value to the work it completes.

- 3. IGRS consider dissemination of this material to other agencies in the BC public sector for adaption and adoption as appropriate.**

Sharing knowledge related to public sector innovation will help ensure that IGRS is an active participant in the BC public sector's push for more innovation. By promoting a tool that has the ultimate aim of improving BC government agencies' innovation programs, IGRS would be working to help strengthen the state of innovation across the government.

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## CONCLUSION

Public sectors around the world are launching campaigns to bring more innovation to the work they do. The BC government has recognized this need and is calling on its employees to start investigating new ideas, both radical and incremental, that aim to increase efficiency and effectiveness. The government has recognized that its operating context requires a new culture, one that actively pursues innovation. Demands for services that reach citizens even better, along with pressures to reduce costs, form the core justifications for why innovation is so important at the current time. Add to this the impending workforce capacity reductions, associated with baby boomer retirement numbers outpacing new hires, as well as need to find new solutions for longstanding and emerging problems, and the need for innovation is amplified. Innovation is the strategy that prepares the BC public sector for the future; innovation is about finding new ways to carry out government business.

As the emphasis on public sector innovation increases, measuring innovation will increase in importance for two main reasons. First, managers can use performance information to understand how successful their innovation program has been. This will enable them to learn from mistakes, as well as profile successes to emulate. Innovation requires that risks be taken and that new initiatives be piloted; learning from initiatives can ensure that resources are used as effectively as possible. Second, performance reporting can help monitor a program to ensure it is using government resources appropriately. With the increased emphasis on innovation comes the investment of more government resources; it is important that innovation programs demonstrate the value they are creating for the public. As the client for this report, IGRS requested the development of a performance measurement framework for its innovation program that it could use to judge the success of its program. Specifically, IGRS wanted the framework to identify areas where it can profile success as well as identify those areas where it can make improvements. By sponsoring this report IGRS wanted to add to the discourse on public sector innovation in the BC government by answering the question: how can innovation in the public sector be measured most effectively?

To answer this question a detailed literature review was conducted that looked at public sector innovation in a general manner before going into detail about measuring innovation in both the public and private sectors. Measuring public sector innovation is challenging and the supply of literature on the subject is sparse. However, by combining the literature on innovation and performance measurement with the available literature on measuring innovation in the public and private sectors, a performance measurement framework for IGRS' innovation program has been developed. This framework can track the program's progress in a systematic way and provide the starting point for further investigation into measuring innovation in the public sector. IGRS plans to employ this framework for its 2009 program to ensure that lessons can be built into the 2010 program.

This report outlined five principles that along with IGRS' innovation performance measurement framework serve as a guide for other public sector organizations interested in measuring innovation performance. First, develop a shared understanding of what innovation means. This will ensure that all the innovative ideas are included in the framework. Second, recognize the

objectives of promoting innovation, and ensure they are incorporated into the framework. Innovation is about efficiency and effectiveness, reaching citizens better and responding to the changing world; success towards achieving these objectives should be an integral part of the framework. In addition, public sector organizations often stress the need to increase their capacity for being innovative; this push for a culture of innovation is also a key objective that should be measured.

Third, the limits of measuring innovation should be recognized. Innovation initiatives are constantly evolving and the expected impact of an initiative often changes; developing specific performance measures when the objective is likely to change is not an effective use of time. Also, understanding the benefit from the incremental change caused by an innovative idea, particularly using quantitative methods, like dollars saved, is extremely difficult. Next, it is impossible to quantitatively measure the precise benefit caused by learning from successful and unsuccessful ideas. Fourth, quantitative and qualitative techniques should be jointly used in innovation programs' performance measurement frameworks. This recommendation builds on the third recommendation by suggesting a strategy that addresses the difficulty associated with measuring innovation in quantitative terms. Quantitative approaches can be used to highlight the outputs a program has produced; such as the number of innovative ideas implemented and efforts to develop a culture of innovation, or promote innovation. Qualitative methods, like focus groups and case studies, should be used for more difficult questions where using quantitative methods to collect the data is either impossible or too difficult to make it worthwhile. For example, program administrators and users can be asked about the impact of an innovation or what lessons have been learned from implementing an idea.

The final principle called for innovation performance measurement frameworks to be administered in such a way that results are reported and success communicated as routinely as possible. Innovation programs are relatively new to government, to build support within organizations successful initiatives should be profiled, and to help others build capacity, successful initiatives should be profiled and shared broadly.

The three recommendations made in this report are for IGRS to: take account of the five principles identified as important for developing a performance measurement framework for innovation programs; adopt the performance measures outlined in Table 3 on page 63 and the performance measurement framework starting on page 71; and disseminate this material to other agencies in the BC public sector for adaption and adoption as appropriate.

Public sector innovation and measuring innovation in particular are under-researched topics; there is plenty of room for additional work to be undertaken in these areas. Focusing on measuring innovation, researchers may consider reviewing the components of a culture of innovation that are most indicative of an innovative organization; this way more specific measures could be developed for organizations to employ. Next, researchers may want to explore what impact performance measurement might have on innovation. This paper has not attempted to shy away from the fact that some authors have expressed concern that measurement could stifle innovation (though some have also certainly noted that it could help to increase innovation). A final area where more elaboration would be useful is to review the success of IGRS' pilot of the framework outlined in this report against any other attempts to measure

innovation that are being undertaken. Such a review would go a long way towards developing a set of best practices for measuring innovation.

Public sector innovation is a challenging endeavour; its aim is to encourage employees to break from their routines and critically examine how they carry out the work they do. The aim in doing this is to improve government for the people it serves. Innovation can bring new practices that reach citizens better, save their money, or address emerging challenges more effectively than current approaches. Performance measurement should be an integral part of this initiative; only with performance measurement can the success of these programs be formally determined. From there, lessons can be learned and applied to future innovative initiatives as well as diffused more broadly across the public sector.

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