

October 2016



GETTING IT RIGHT:  
ACHIEVING VALUE FROM GOVERNMENT  
INFORMATION TECHNOLOGY INVESTMENTS

[www.bcauditor.com](http://www.bcauditor.com)

# CONTENTS

<i>Auditor General's comments</i>	<b>3</b>
<i>Report highlights</i>	<b>5</b>
<i>Summary of recommendations</i>	<b>6</b>
<i>Response from the Ministry of Technology, Innovation and Citizens' Services and Ministry of Finance</i>	<b>7</b>
<i>Introduction</i>	<b>9</b>
<i>Why does information technology investment matter?</i>	<b>10</b>
<i>How is government monitoring public investment in information technology?</i>	<b>14</b>
<i>Why do so many IT-enabled projects miss the mark?</i>	<b>23</b>
<i>Appendix A: 20 questions for successful oversight</i>	<b>31</b>
<i>Appendix B: Good practice guidance and reports</i>	<b>33</b>

623 Fort Street  
Victoria, British Columbia  
Canada V8W 1G1  
P: 250.419.6100  
F: 250.387.1230  
www.bcauditor.com

The Honourable Linda Reid  
Speaker of the Legislative Assembly  
Province of British Columbia  
Parliament Buildings  
Victoria, British Columbia  
V8V 1X4

Dear Madame Speaker:

I have the honour to transmit to the Speaker of the Legislative Assembly of British Columbia the report, *Getting IT Right: Achieving value from government information technology investments*.



Carol Bellringer, FCPA, FCA  
Auditor General  
Victoria, B.C.  
October 2016

# AUDITOR GENERAL'S COMMENTS

**GOVERNMENT INVESTS IN** information technology to deliver better, more cost-effective services. IT-enabled projects are about changing government's systems to improve internal administration and delivery of public services.

IT-enabled projects aren't just about technology – they involve substantial changes to an organization's culture, business processes and customers. These projects are really IT-enabled *business change*. A successful project improves services and allows for more effective use of taxpayer money. And, their success or failure is about more than just being on time and on budget, it's also about *achieving expected value*.

IT-enabled business change is complex and expensive, and getting it right can be difficult for any organization. One international study shows that about 19% of IT-enabled projects fail, 52% run into problems and only 29% succeed. In particular, larger projects have the highest risk of failure.

This trend isn't limited to government – it applies to both the public and private sectors. And it's concerning, because technology is increasingly embedded in everything we do. From healthcare to education to financial infrastructure – everything has an IT component. Successful implementation of IT-enabled projects is essential to government modernizing its IT infrastructure and processes.

For this report, we decided to take a step back and look broadly at the oversight of IT-enabled projects across the B.C. public sector. Our goal is to help those charged with oversight of IT-enabled projects achieve greater success.



**CAROL BELLRINGER, FCPA, FCA**  
*Auditor General*

## AUDITOR GENERAL'S COMMENTS

Our report has three parts:

1. why IT investment matters
2. how the B.C. government currently oversees IT-enabled projects (includes good practices and areas for improvement)
3. why IT-enabled projects struggle to succeed (includes 20 questions for project success)

This report isn't the result of an audit. We reviewed research studies and publicly available information on IT-enabled projects undertaken in B.C. and in other jurisdictions to identify common reasons for failure and success. We combined that research with our knowledge from audits of IT-enabled projects and information we requested from ministries and broader public sector organizations, to develop an understanding of current IT investment oversight practices. We discussed our findings and analyses with ministry staff and subject matter experts.

Overall, we found a need for a better central view of IT investment across government. We make three recommendations to improve oversight of and accountability for government IT-enabled projects.

I'd like to thank the ministry staff involved in this project for their contributions and cooperation.

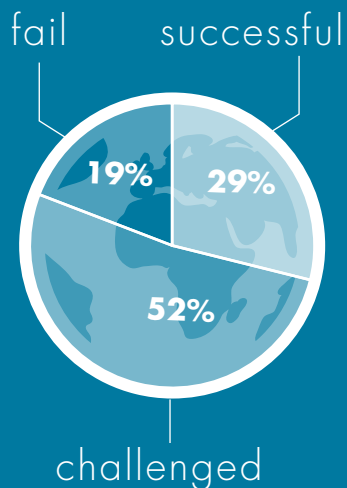


Carol Bellringer, FCPA, FCA  
Auditor General  
Victoria, B.C.  
October 2016

# REPORT HIGHLIGHTS

Every aspect of  
**GOVERNMENT DEPENDS  
ON INFORMATION  
TECHNOLOGY**

## INFORMATION TECHNOLOGY PROJECTS GLOBALLY:



**SUCCESS =**

- ✓ on time
- ✓ on budget
- ✓ AND value

**GOVERNMENT INFORMATION  
TECHNOLOGY INVESTMENT:**

20% ministries  
80% rest of government

Government spent

**\$668M**

**ON INFORMATION  
TECHNOLOGY CAPITAL**  
in 2014/15

**MORE OVERSIGHT**

of government's  
IT investment

**NEEDED**

INFORMATION  
TECHNOLOGY  
PROJECT SUCCESS  
DEPENDS ON



**PLANNING**

**CONSULTATION**

**AND GOVERNANCE**

Part 1: **WHY**  
IT investments  
matter

Part 2: **HOW**  
government oversees  
IT investment

Part 3: **WHAT**  
to focus on  
for success

# SUMMARY OF RECOMMENDATIONS

## WE RECOMMEND THAT:

- 1** central oversight of ministry IT-enabled projects include monitoring of total project cost (both capital and project-related operating costs) for the term of each project.
- 2** ministries obtain IT investment information from their broader public sector entities to support central monitoring of IT investment across the government reporting entity.
- 3** the Ministry of Finance periodically review whether public reporting of ministry and broader public sector IT investment meets legislator, government and public expectations for accountability and transparency.

# RESPONSE FROM THE MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES AND MINISTRY OF FINANCE

**THE MINISTRY OF** Technology, Innovation and Citizens' Services (MTICS) and the Ministry of Finance (Finance) appreciate the efforts of the Office of the Auditor General (OAG) for the report "Getting IT Right: Achieving value from government IT investments". IT systems are central to the efficient delivery of services to citizens and organizations throughout the province and to support effective government operations.

The Ministries accept the Auditor General's recommendations pertaining to the assessment of the oversight of IT-enabled projects and welcome the acknowledgement of the good practices that are part of government's current oversight framework such as:

- ◆ Central coordination of the selection and oversight of ministry IT projects;
- ◆ Breaking down big projects into smaller, self-contained phases;
- ◆ Building IT-enabled project capacity and expertise in ministries;
- ◆ Establishing a pre-qualified list of vendors that can be used by ministry project teams to fill identified gaps; and
- ◆ The development of a governance and assurance framework.

We appreciate that the report recognizes the differences between the governance framework for ministries and broader public sector entities (SUCH sector agencies and Crown Corporations)

and agree that reporting should meet accountability and transparency requirements within the relevant framework.

To support the central monitoring of IT projects across government, 2017/18 mandate letters will request broader public sector entities to identify significant IT projects to the responsible Minister. The Ministry of Finance will continue to work towards the integration of IT investment information into reporting documents.

Over the past several years MTICS has worked with ministries to improve the management of ministry IT-enabled projects and ensure that the anticipated benefits are realized. At the same time, updated guidance has been sent to ministries by Finance to clarify expectations and ensure consistency in reporting for IT-enabled projects.

Government introduced a new framework for IT-enabled project governance and oversight in

# RESPONSE FROM THE MINISTRY OF TECHNOLOGY, INNOVATION AND CITIZENS' SERVICES AND MINISTRY OF FINANCE

December 2012 for ministries that has resulted in changes to the selection, management and oversight of ministry IT-enabled projects. Working with the Office of the Chief Information Officer (OCIO), ministries have built additional capacity to improve the management of the projects, learning lessons from previous projects and incorporating better-practice procedures. Staff training and new project methods, including the use of lean project procedures, have further contributed to ministry IT project success and improved service delivery and ministry operations.

Additional work currently underway, including additional capacity building in ministries for IT projects, strengthening the governance and oversight framework, and implementation of a new application condition and investment tool are expected to continue to enhance the management of ministry IT-enabled projects. At the same time, the Strategic Partnerships Office continues to advise ministries on procurement, governance and management practices for alternate service delivery arrangements to achieve maximum value from these complex, high-value contracts.

Recommendation by OAG	Ministry Response
<p><b>RECOMMENDATION 1:</b> <i>Central oversight of ministry IT-enabled projects include monitoring of total project cost (both capital and project-related operating costs) for the term of each project.</i></p>	<p>The 2016/17 planning process is now underway, and the business case templates include the total project costs (capital and related operating) for IT-enabled projects.</p> <p>The OCIO has also developed a new reporting framework that includes both capital and operating costs for each project. We are incorporating feedback from ministries and other organizations on the definition and reporting procedures for project-related operating costs to ensure consistent and accurate reporting.</p>
<p><b>RECOMMENDATION #2:</b> <i>Ministries obtain IT investment information from their broader public sector entities to support central monitoring of IT investment across the government reporting entity.</i></p>	<p>The 2017/18 mandate letters will request entities to identify significant IT projects to the responsible Minister. Finance will continue to work towards the integration of IT investment information into reporting documents.</p>
<p><b>RECOMMENDATION #3:</b> <i>The Ministry of Finance periodically review whether public reporting of ministry and broader public sector IT investment meets legislator, government and public expectations for accountability and transparency.</i></p>	<p>Finance has issued a guidance document to all ministries for reporting major capital projects, to clarify expectations and ensure consistency in the information received and reported. This guidance is regularly reviewed and updated to ensure that major project reporting meets legislative requirements and transparency expectations.</p> <p>In addition, the Ministry of Finance regularly reviews and adjusts public reporting requirements in quarterly reports, budget documents, service plans and annual service plan reports within the accountability and transparency framework.</p>



# INTRODUCTION

**GETTING INFORMATION TECHNOLOGY RIGHT** is important. IT-enabled projects are critical to effective delivery of services and they require significant investment. However, getting IT right can be incredibly difficult. International studies repeatedly find failed IT-enabled projects in both public and private sectors. As technology is increasingly embedded in everything government does, challenges in project implementation translate directly into impacts on the delivery of public services.

This report isn't the result of an audit. It is the result of our effort to better understand why some IT-enabled projects fail and others succeed, and to provide advice on how government can improve its oversight of large IT-enabled projects in the public sector.

To identify common reasons for failure and success, we reviewed research studies, our audit reports, other reviews of government IT-enabled projects, and good practice publications. We also conducted interviews with government staff and obtained input from subject matter experts. The reasons for success and failure are varied and many, but they tend to fall into one of four categories: people, planning, consultation and governance.

We also obtained information from the Ministry of Finance, the Ministry of Technology, Innovation and Citizens' Services, and other government agencies to

determine how much ministries and broader public sector organizations invest in IT, and the oversight of this investment. Central oversight of ministry IT investment differs from central oversight of IT investment by broader public sector organizations because of different models of governance.

Our report has three parts: the first describes why IT investment matters; the second presents how government oversees IT-enabled projects; and, the third explores why IT-enabled projects struggle to succeed and includes 20 questions to support successful oversight.

Overall, we found a need for a better central view of IT investment across government and we make three recommendations to improve oversight of, and accountability for, IT-enabled projects.

# WHY DOES INFORMATION TECHNOLOGY INVESTMENT MATTER?

## A SIGNIFICANT INVESTMENT

**INFORMATION TECHNOLOGY (IT)** is essential for the efficient and effective delivery of public services. Almost every aspect of the B.C. government's business depends on IT — from delivering healthcare and social services to generating electricity and processing billions of dollars in transactions. As technology becomes increasingly embedded in everything government does, the effective management of IT investment will be necessary to the effective delivery of services.

Without ongoing investment, the performance of IT systems may be compromised. The economic downturn that began in 2008 led to reduced spending on IT for several years. Reduced investment is one of many factors that can affect the reliability and effectiveness of IT systems.

In 2013, government conducted an internal survey to understand the condition of ministry IT systems. The survey identified that, of the estimated 1,600 ministry IT systems, over 40% had declined to a condition where they no longer adequately supported service delivery, or were needlessly expensive to maintain or at risk of failure or data loss. Currently, B.C.'s Office of the Chief Information Officer (OCIO) is updating its database of ministry IT systems, and their condition, to inform and prioritize investment decisions.

Government spending on IT includes both *capital* and *operating* spending.

- ♦ *Capital* spending is for the development of new government IT systems and major enhancements to existing systems.

### THE GOVERNMENT REPORTING ENTITY IS MADE UP OF:

- ♦ **core government**, which refers to the ministries and legislative offices that make up the core operations of government
- ♦ **broader public sector**, which is made up of organizations outside of core government, which includes Crown corporations and SUCH entities (school districts, universities, colleges and health authorities)
- ♦ *Operating* spending includes the ongoing maintenance and support of existing systems, as well as certain costs associated with the development of new systems and major enhancements to existing systems, such as licensing fees and staff training. IT operating spending also includes significant payments to private sector vendors to provide IT-enabled government services under long-term contracts, called alternative service delivery agreements.

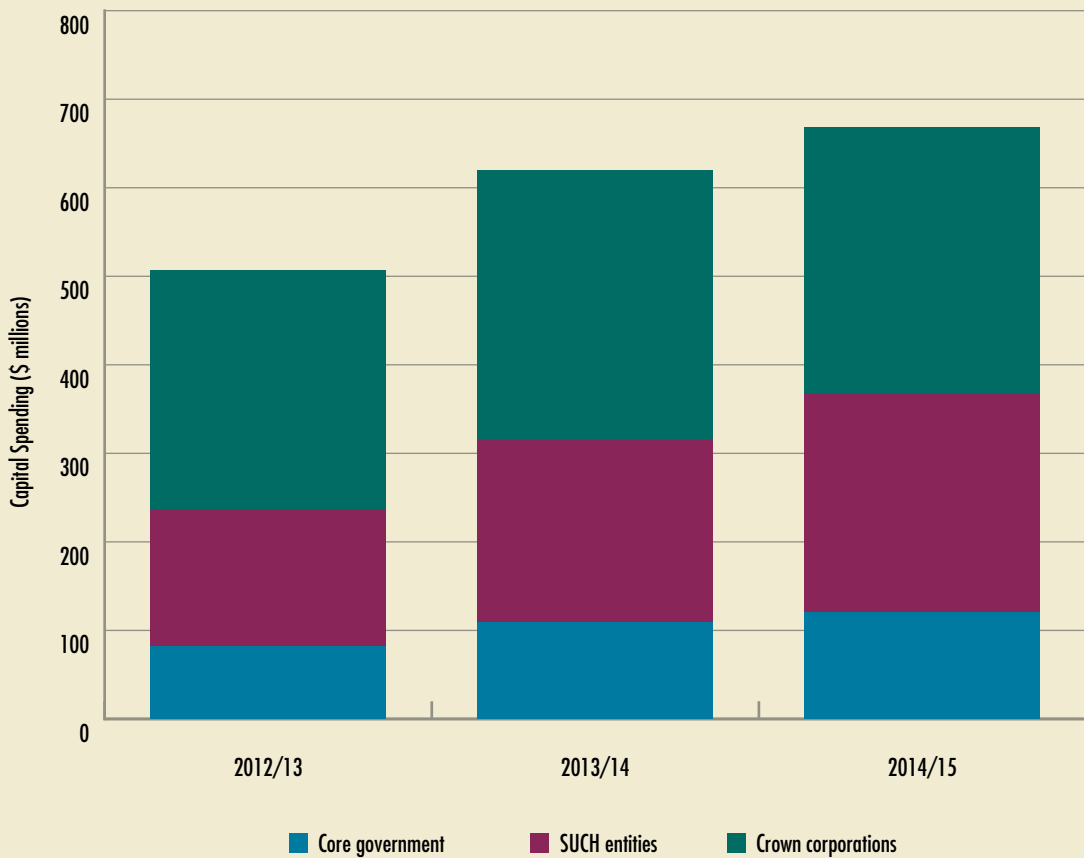
# WHY DOES INFORMATION TECHNOLOGY INVESTMENT MATTER?

## IT capital spending

In 2014/15, government spent \$668 million on IT capital. The majority of this spending occurs in the broader public sector: of the \$668 million, core government spent \$121 million, SUCH entities

spent \$246 million, and Crown corporations spent \$301 million (See Exhibit 1). Each public sector organization discloses its total capital investment in annual financial statements. We requested information specific to IT capital spending from certain broader public sector entities for our analysis.

**Exhibit 1:** 2012/13 to 2014/15 IT capital spending across the government reporting entity (\$ millions)



Source: compiled by the Office of the Auditor General of British Columbia, from the 2012/13 to 2014/15 Public Accounts and information from certain Crown corporations

# WHY DOES INFORMATION TECHNOLOGY INVESTMENT MATTER?

## IT operating spending

IT operating spending is not separately disclosed by most organizations: it is reported as part of the cost of operations. Practices for defining and tracking IT operating costs are varied and not well established. For example, the staff and contractor costs for a program may be fully or partially associated with development, operation or maintenance of an IT system.

Government's corporate accounting system records IT operating spending for core government only. In 2014/15, this was \$392 million, which is over three times the \$121 million of IT capital spending. Broader public sector IT operating spending was not available as it is not centrally tracked.

## IT-ENABLED PROJECTS ARE HIGH RISK

Achieving success from IT-enabled projects is challenging. International studies indicate that both the public and private sectors experience low success rates and that project failures are a very real part of IT development.

For example, a 2015 Standish Group study of about 5,000 IT-enabled projects found that just 29% of projects were successful, 52% had challenges and 19% failed. In particular, that study found that large projects—those that also tend to cost the most—are more prone to failure.

In another recent article, McKinsey & Company found that, on average, large IT-enabled projects provided 56% less value than originally expected, and 17% went so badly they threatened the very existence of the organization involved.

Like other jurisdictions in these studies, B.C. has had its share of challenges in getting desired value from some IT-enabled projects. We have conducted a number of audits on IT-enabled projects and identified concerns with projects not achieving value. This includes going over budget, over time, or not delivering expected outcomes or benefits, and sometimes a combination of all of those. Enhancing government's success on these projects can improve public services and the effective use of taxpayer money in B.C.

IT-enabled projects often involve substantial change, not just in technology, but in the very way that organizations function. These projects are complex and high risk because they typically:

- ◆ represent major changes to business processes and practices
- ◆ impact diverse stakeholder groups and business units
- ◆ require integration with existing systems and processes
- ◆ have multiple phases and take several years to implement against a backdrop of rapidly changing technology that can make IT investments quickly obsolete

## WHY DOES INFORMATION TECHNOLOGY INVESTMENT MATTER?

IT-enabled project success depends on much more than just being *on time* or *on budget*. Success also depends *on value*. Value achievement depends on the:

- ◆ alignment of the project with the organization's specific needs, priorities and strategies
- ◆ contribution to the organization's desired outcomes
- ◆ cost
- ◆ level of risk

Sustaining the value of an IT-enabled project involves significant ongoing investment, and as a result, the eventual operating costs can far exceed the original capital investment.

# HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN INFORMATION TECHNOLOGY?

**THE SECOND PART** of our report is an overview of government's current central oversight practices related to IT-enabled projects, including both good practices and areas for improvement. This section explores how government is positioned to manage four key practice areas: **people, planning, consultation** and **governance**.

## OVERVIEW

Government is responsible for achieving the best value it can from its IT investments. An effective oversight process is essential to achieve this goal. Oversight helps to ensure that:

- ◆ government organizations are selecting and planning IT investments that align with both government's and the organization's priorities and strategies
- ◆ IT-enabled project risks are well-managed
- ◆ project progress, including benefits achievement, is regularly monitored
- ◆ projects with early signs of trouble are reviewed on a timely basis and cancelled or substantially altered, if required, to maximize value

Treasury Board, Treasury Board Staff, the Deputy Ministers' committee responsible for IT, and the Office of the Chief Information Officer (OCIO) all have roles in reviewing, approving and monitoring

public investment in IT (for more information, see [box on page 15](#)).

With respect to broader public sector organizations, the Crown Agency Resource Office also has a role in promoting alignment of broader public sector activities with government priorities and initiatives. The scope of authority for central oversight of IT-enabled projects is defined in legislation and policy (for more information, see [box on page 16](#)).

The model of central oversight over IT investment depends on the model of governance for a particular organization. Ministries operate under a common legal and policy framework with defined oversight roles for Treasury Board, Treasury Board Staff, the Deputy Ministers' committee responsible for IT, and the OCIO. Each broader public sector entity operates under its own legal and policy framework, and is governed by a board of directors who are accountable to a minister.

# HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

## RESPONSIBILITY FOR CENTRAL OVERSIGHT OF IT-ENABLED PROJECTS IN B.C.

**Treasury Board:** A Cabinet committee responsible for spending across government and managing government's fiscal plan. Treasury Board reviews and approves select projects from across the government reporting entity.

**Deputy Ministers' committee responsible for IT:** Establishes technology priorities for ministries and endorses ministry IT capital plans for Treasury Board approval.

**Office of the Chief Information Officer (OCIO):** Develops the annual IT capital plan for ministries, and recommends ministry projects and reports on progress to the Deputy Ministers' committee responsible for IT.

**Treasury Board Staff:** Works jointly with the OCIO to review ministry IT capital projects for fiscal plan impacts.

The level of central oversight of IT investment by broader public sector entities is limited, because of the role of boards and the mandate of each organization. Nonetheless, broader public sector entities, through their responsible minister, have an obligation to meet government's performance expectations. And, government has the authority to determine how best to centrally track and monitor IT-enabled projects across the government reporting entity.

Government's current central oversight of ministry IT investment includes some accepted good practices. Examples include the central coordination of ministry IT capital projects and the recent practice of breaking big projects into smaller, self-contained phases. However, there is an opportunity to strengthen oversight practices and develop a better central view of IT investment across the government reporting entity.

# HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

## AUTHORITY FOR CENTRAL OVERSIGHT OF IT-ENABLED PROJECTS IN B.C.

- ◆ **Financial Administration Act:** provides authority for central oversight of investment in IT. The Act provides Treasury Board with broad powers over government's general management practices, including management of expenditures and assets. The Act authorizes Treasury Board to review and approve projects across the government reporting entity, and make regulations and issue guidance, policies and direction.
- ◆ **Budget Transparency and Accountability Act:** requires public sector organizations to publicly disclose information on capital projects over \$50 million. See our [section on public reporting of IT investment](#) for more information.
- ◆ **Core Policy and Procedures Manual:** provides requirements for a range of IT-enabled project components, including capital management and procurement. It also establishes the OCIO as the central authority for IT, including setting ministry policy and overseeing ministry IT capital projects. The manual specifically applies to ministries, but broader public sector entities are expected to follow the spirit and intent of these policies and procedures.
- ◆ **Capital Asset Management Framework:** A policy framework that sets out the standards and guidelines for planning and managing capital assets for ministries and the broader public sector. It applies generally to capital projects and is not specific to IT-enabled projects.

## CURRENT FRAMEWORK IN PRACTICE

### Ministries (approximately 20% of government spending on IT)

Ministries, by design, are subject to greater central control and scrutiny over their operations than broader public sector entities. This includes IT-enabled projects.

In 2012, government recognized the need to improve its oversight of ministry IT capital projects and established the current model of central review,

approval and oversight. Under this framework, all *major* IT capital projects (where the capital investment on a single project exceeds \$20 million in total or \$10 million in one year), are reviewed and monitored at different stages by Treasury Board Staff, the OCIO, the Deputy Ministers' committee responsible for IT, and Treasury Board.

Capital projects that do not meet the *major* IT capital threshold are planned and run by individual ministries, but are approved annually by the Deputy Ministers' committee responsible for IT, with funds held and distributed centrally by the OCIO. The OCIO monitors these smaller projects and reports on progress to the committee.



## HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

Although we did not examine the effectiveness of the current model, we noted some accepted good practices in its design. In particular:

- ◆ Consolidation of the selection and oversight of IT capital projects across all ministries enables government to manage IT investment corporately. This can allow for alignment of ministry initiatives with government objectives, prioritization of resources, and a global view of risks and progress.
- ◆ The recent practice of breaking down big projects into smaller, self-contained phases means that government can assess progress at each phase before further funding is approved. The Natural Resource Permitting Project, a large IT-enabled project currently underway, has been broken into phases, where each phase must be approved by Treasury Board.
- ◆ OCIO and Treasury Board Staff recognized the need to build IT-enabled project capacity and expertise in B.C.'s ministries. They have been working with the Public Service Agency to develop key project roles to attract IT professionals and reduce government's reliance on contractors.
- ◆ OCIO has established a pre-approved list of qualified vendors. The list is available to ministry project teams who need to contract private vendors to meet identified gaps.
- ◆ The OCIO is in the process of developing a governance and assurance framework to guide the oversight of ministry projects throughout their lifecycle with the aim to detect challenges and take corrective action early.

It is important to note that the governance processes described in this section apply only to ministry IT *capital* projects. They do not apply to IT-enabled projects funded from ministry operating budgets. IT services are often provided as part of a larger service contract negotiated with an external service provider. These arrangements, known as alternative service delivery agreements, typically come from operating budgets.

Treasury Board, however, can, and typically has, chosen to review and provide direction on ministry IT-enabled projects paid for with operating money under alternative service delivery arrangements. For example, even though the MyEducation BC project, an alternative service delivery arrangement for the provision of a student information service, did not require capital funds, Treasury Board chose to review the project before it was implemented. Further, to support individual ministries in negotiating and managing these contracts, the Strategic Partnerships Office within the OCIO tracks performance and advises on procurement practices.

### **Broader public sector (approximately 80% of government spending on IT)**

Broader public sector entities are separate, legal entities. As explained above, they are structured to operate with greater independence than ministries and are governed by a board of directors, accountable to a minister.

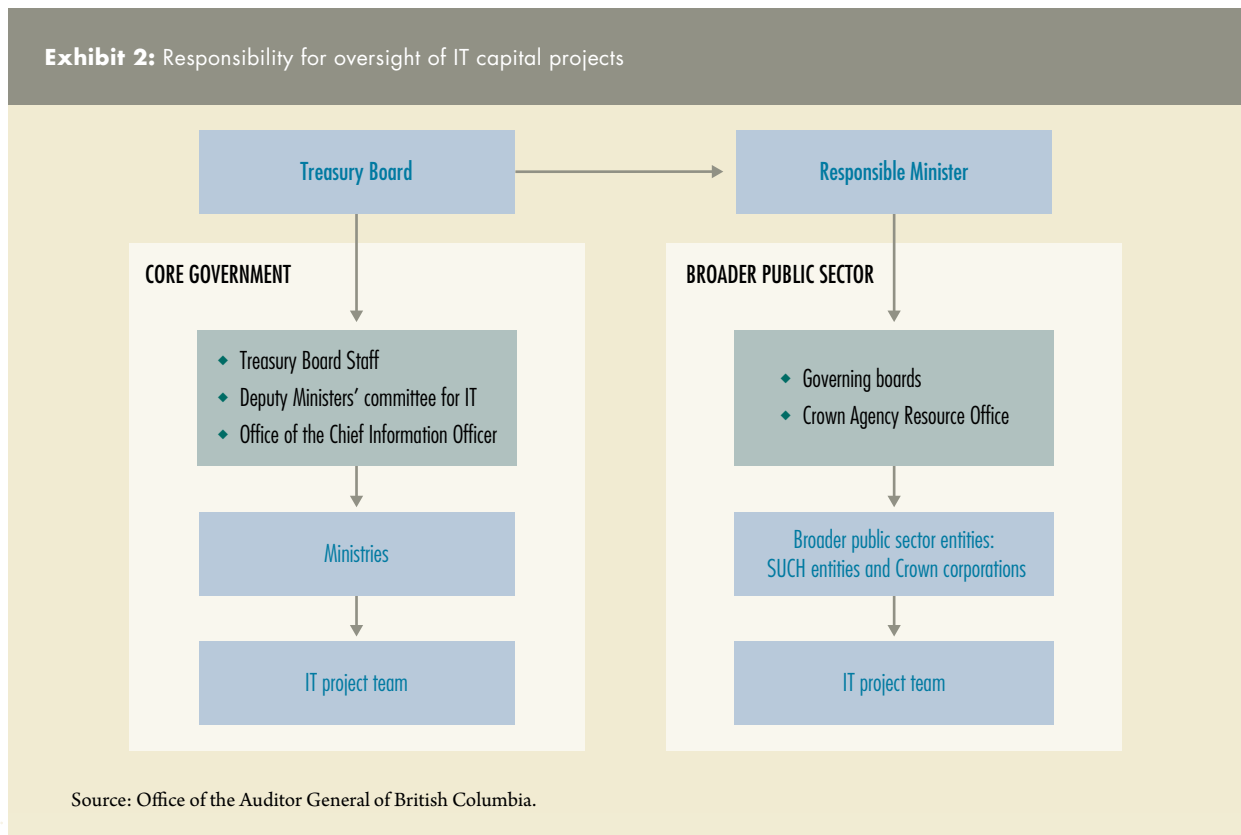
## HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

Government, through its ministers, provides annual direction to broader public sector entities with mandate letters addressed to board chairs that express policy objectives and priorities. Mandate letters can also be a tool to set performance and reporting expectations for major projects, including large IT-enabled projects, should government wish to enhance its oversight of a particular initiative. Ministries, to varying degrees, provide oversight of the activities of the entities they are responsible for. In turn, entities publish annual service plans and service plan reports detailing their mandate, objectives and performance. The Crown Agency Resource Office provides input to the annual mandate letter, and oversees the annual service plan and service plan report processes.

Broader public sector IT-enabled projects, regardless of size, are not always subject to central oversight. There are two important reasons for this. First, the OCIO's mandate does not extend to the broader public sector. Second, Treasury Board review of these projects is not required by legislation or policy. Treasury Board's authority, as defined in the *Financial Administration Act*, allows for oversight of broader public sector spending. In practice, oversight has been delegated to the board and the responsible minister. The extent of oversight by Treasury Board and Treasury Board Staff reflects their consideration and assessment of project risk.

Exhibit 2 illustrates the responsibility for oversight of IT capital projects across government.

**Exhibit 2:** Responsibility for oversight of IT capital projects



# HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

## PUBLIC REPORTING OF IT INVESTMENT

### Capital spending

Projects exceeding \$50 million in approved capital spending have reporting requirements under the *Budget Transparency and Accountability Act*. These requirements apply to ministries and Crown corporations only (not to SUCH entities), although government has chosen in practice to have SUCH entities follow the same requirements. The Act requires the responsible minister to publish a plan that details the project objectives, costs, benefits and risks, and for this information to be disclosed in the entity's service plan. It also requires ongoing public reporting of the current and anticipated capital costs. However, it does not require public reporting of the *total* project costs (which would include project-related operating costs).

Increasingly, large government IT capital projects are broken into smaller implementation phases as a matter of good practice. As a result, however, there is potential for these projects to be publicly disclosed later than they would have been, had they not been split. For example, if an IT-enabled project that is expected to eventually cost \$120 million in capital (if fully implemented) is broken into three phases, each costing \$40 million in capital, government would not disclose the project until after phase 1 is well underway and phase 2 is approved.

### Operating spending

There is no requirement in the *Budget Transparency and Accountability Act* to publicly disclose IT operating spending. Therefore, alternative service delivery agreements (where some or all aspects of the development, maintenance or operation of an IT-enabled project is contracted to a private sector vendor) are not reported as part of the Act's disclosure requirements. For these agreements, government discloses annual payments to vendors as well as contract commitments for future years. Within core government, ministries currently have \$4.6 billion committed to 12 multi-year, alternative service delivery agreements for IT-related services.

[Exhibit 3](#) provides the IT-enabled projects recently completed or underway that have been publicly reported by the Ministry of Finance under the requirements of the *Budget Transparency and Accountability Act*. As noted above, the projects reported do not include alternative service delivery agreements. Further, for those projects that are reported, they do not include the associated operating costs. For example, the Clinical and Systems Transformation project listed in [Exhibit 3](#) shows \$480 million in anticipated capital costs. However, according to that project's public capital plan from 2013, it was expected to incur operating costs of \$362 million on top of the \$480 million in capital costs, for a total cost of \$842 million.

# HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

**Exhibit 3:** Recent IT-enabled projects in B.C. with \$50 million or more in capital

Agency	Project	Purpose	Anticipated capital cost (\$ millions)	Actual or expected year of completion
BC Lottery Corporation	Gaming Management System	To replace an existing casino gaming management system used for operating slot machines and monitoring table games.	93	2015
<ul style="list-style-type: none"> <li>◆ Vancouver Coastal Health Authority</li> <li>◆ Provincial Health Services Authority</li> <li>◆ Providence Health Care</li> </ul>	Clinical and Systems Transformation	To standardize practices and establish a common clinical information system across the three health organizations.	480	2023
Ministries of: <ul style="list-style-type: none"> <li>◆ Social Development and Social Innovation</li> <li>◆ Children and Family Development</li> <li>◆ Technology, Innovation and Citizens' Services</li> </ul>	Integrated Case Management	To replace systems that deliver social programs, such as the Employment and Income Assistance program, the Child Care Subsidy program and the Child Protection Services program.	182	2014
ICBC	Business Transformation Program	To update business processes and aging technology infrastructure. The project includes the modernization of claims and insurance processes and systems, building and managing customer relationships and making rates more reflective of driver risk.	318	2016
Ministry of Health	e-Health	To implement the province-wide electronic health record system, to establish an electronic health record for every person in B.C.	261	2014

## HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

**Exhibit 3:** Recent IT-enabled projects in B.C. with \$50 million or more in capital *(continued)*

Agency	Project	Purpose	Anticipated capital cost (\$ millions)	Actual or expected year of completion
BC Hydro	Smart metering and infrastructure program	Replacement of existing customer meters with smart meters and upgrading the technology and telecommunications infrastructure to allow BC Hydro to manage the electricity system in a reliable, safe and cost-effective manner.	780	2015
Ministries of: <ul style="list-style-type: none"> <li>◆ Agriculture</li> <li>◆ Environment</li> <li>◆ Forests, Lands and Natural Resource Operations</li> <li>◆ Aboriginal Relations and Reconciliation</li> <li>◆ Energy and Mines</li> <li>◆ Natural Gas Development</li> </ul>	Natural Resource Permitting Project (Phase 1)	To streamline and simplify natural resource related permitting services. Phase 1 focuses on processes for authorizations (licences, tenures, permits, etc.) to conduct resource activity on the land base.	57 (Phase 1)	2018 (Phase 1)
Vancouver Island Health Authority	iHealth	To implement a region-wide electronic health records system that will house a single health record for patients, residents and clients of Vancouver Island Health Authority.	100	2017

Source: Office of the Auditor General of British Columbia. With the exception of the iHealth project, we compiled information in this exhibit from reports published by the Ministry of Finance. This information is unaudited.

# HOW IS GOVERNMENT MONITORING PUBLIC INVESTMENT IN IT?

## OUR OBSERVATIONS ON THE CURRENT FRAMEWORK

Overall, we found a need for a better central view of IT investment across the government reporting entity. We make three recommendations to improve oversight of and accountability for IT investment. Below are the observations we made that led us to develop our recommendations:

- ◆ Capital spending on ministry IT capital projects is monitored centrally by the OCIO and Treasury Board Staff. Ministries have not been required to report project-related operating spending during the term of IT capital projects, but they are responsible for managing these costs. Recently, the OCIO has been working with ministries to implement a reporting process that focuses on total project costs, including project-related operating costs such as licensing fees and staff training.
- ◆ Government's current central oversight of broader public sector IT-enabled projects is limited, as oversight responsibility for these projects remains with each organization's board and the minister responsible.
- ◆ The OCIO's mandate to establish policies and standards for IT applies only to ministries. It does not extend to the broader public sector where the majority of IT investment occurs.
- ◆ There is no central reporting and monitoring of the investment in and performance of IT-enabled projects across the broader public

sector, except as required to meet the *Budget Transparency and Accountability Act* for projects approved to spend more than \$50 million in capital.

It is up to government to determine the level and nature of central oversight over IT-enabled projects in ministries and the broader public sector. Government's approach with the broader public sector must find the balance between the authority of broader public sector boards to fulfil their mandates and the responsibility of government to mitigate the significant risks posed by IT-enabled projects.

**RECOMMENDATION 1:** *We recommend that central oversight of ministry IT-enabled projects include monitoring of total project cost (both capital and project-related operating costs) for the term of each project.*

**RECOMMENDATION 2:** *We recommend that ministries obtain IT investment information from their broader public sector entities to support central monitoring of IT investment across the government reporting entity.*

**RECOMMENDATION 3:** *We recommend that the Ministry of Finance periodically review whether public reporting of ministry and broader public sector IT investment meets legislator, government and public expectations for accountability and transparency.*

# WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

**IN THE FIRST** two parts of our report, we describe why IT investment matters and present an overview of government's current central oversight practices for IT-enabled projects. This last section summarizes our work to understand why IT-enabled projects often struggle to achieve value and provides 20 questions to support successful oversight. To do this, we reviewed a broad range of publicly available information, including our own audit reports, audits and reports from other jurisdictions, consultant reviews of IT-enabled projects in B.C., and internationally accepted good practice guidance for IT.

We found that challenges to successfully implementing IT-enabled projects are not unique to B.C. or to the public sector. We identified many common themes from both the lessons explored here in B.C. and in the broader literature. These are the key issues that any organization needs to get right to succeed. These issues interrelate and can be categorized in many ways. For this report, we grouped them into four broad categories: **people, planning, consultation** and **governance**.

We describe good practices and provide examples of challenges from recent B.C. government IT-enabled projects for each of the four categories. These challenges reflect the status of those projects at the time they were originally reviewed or audited. In many cases, organizations have since acted on the recommendations for improvement for those projects.

From our research into common causes of failure and critical success factors, and our discussions with ministry staff and subject matter experts, we developed a set of 20 questions to support successful oversight of IT-enabled projects (see [Appendix A](#)). These questions will help those with responsibility for project oversight to identify and evaluate the risks to achieving value in their IT-enabled projects and understand management's planned responses.

The range of challenges facing public sector IT-enabled projects in B.C. is broad and well beyond what we could convey in this report. If you are interested in more comprehensive and technical guidance on this topic, please see the list of suggested resources in [Appendix B](#).

# WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

## PEOPLE

IT-enabled project success depends on having enough of the right people—those with the necessary expertise to apply good practice in:

- ◆ project management
- ◆ systems development
- ◆ change management
- ◆ procurement
- ◆ vendor relations

Finding and retaining the right people can be challenging because of the world-wide demand for these skills and experiences. The problem is especially acute for the public sector, which must compete with often higher salaries in the private sector.

Among the project roles, the executive sponsor is especially important. IT-enabled projects often involve significant changes and can take several years to implement. This makes ongoing support and commitment by an organization's executive sponsor over the entire project lifetime essential. An effective executive sponsor will champion the project through the inevitable difficulties and funding pressures arising over the project's lifetime.

Contractors can supplement gaps in capacity and expertise, but over-reliance on contractors creates its own risks and challenges. Staff must have the skills to adequately oversee and direct the work of contractors to ensure achievement of expected value. Also, the organization needs to retain adequate business

knowledge once the project concludes and the contractor moves on to a different project. Retaining business knowledge helps ensure the project will continue to provide value into the future.

Successful use of contractors goes beyond effective oversight. Government must also establish and maintain a collaborative, constructive relationship with each contractor throughout the project. Constructive relationships are those where roles and responsibilities are clearly defined, communication is effective, and risks and benefits are appropriately assigned.

Examples of IT-enabled projects in the B.C. public sector with identified capacity and expertise (people) concerns:

- ◆ **Integrated Case Management** (Ministry of Social Development and Innovation, Ministry of Children and Family Development and Ministry of Technology, Innovation and Citizens' Services): In 2012, the Ministry of Children and Family Development commissioned a review of the project by Queenswood Consulting Group, who found that the Ministry of Children and Family Development lacked sufficient capacity and experience compared with industry standards for projects of this size and scope.
- ◆ **Clinical and Systems Transformation** (Vancouver Coastal Health Authority, Provincial Health Services Authority and Providence Health Care): In 2014, before the original contract with the vendor was



## WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

cancelled, the three health organizations involved commissioned a review by North York General Hospital. This review found a lack of in-house technical expertise and an over-reliance on consultants for system design and build, creating the risk that once the project went live, the knowledge of design considerations and build techniques would be lost when contracted specialists left.

### PEOPLE: QUESTIONS FOR SUCCESSFUL OVERSIGHT

1. Does the organization have the systems development and project management expertise to match the complexity of the IT-enabled project?
2. Does the organization have a plan to fill gaps in capacity or expertise?
3. Where external consultants are used, does the organization have the capacity to procure, negotiate and manage the arrangement to achieve the expected benefits?
4. If delivery of an IT system and service will be outsourced, does the organization have a plan to retain key staff with the expertise necessary to manage the contract?
5. Is there an executive sponsor for the project, with clear authority and accountability?

## PLANNING

To be successful, IT-enabled projects must be based on realistic expectations and carefully thought out.

Common problems in planning include:

- ◆ incomplete business cases
- ◆ unrealistic/overly ambitious project expectations (about what the project can do and how well it will go)
- ◆ poor alignment between the project and the organization's current and future needs

Business cases should show a rigorous and objective assessment of the project's concept, alternatives, costs and benefits, and alignment with the organization's broader IT vision. As well, organizations should thoroughly consider critical factors: a proposed project's ability to share data, interact with other IT systems and keep information secure.

Emerging and new technologies can be attractive because of their potential for additional benefits, but they also bring greater risk. This doesn't mean that government should avoid complex or innovative solutions; it means that the organization should:

- ◆ base investment decisions on complete and realistic plans
- ◆ identify and mitigate risks to the fullest extent possible
- ◆ be certain that the potential rewards of new technology are worth the risk

## WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

By the end of the planning phase of an IT-enabled project, it should be clear which risks government has decided to accept, mitigate or transfer and, if transferred, to whom they will be transferred.

Research shows that larger and more complex IT-enabled projects have lower success rates than smaller projects. Good practice suggests that, wherever possible, large projects should be broken down into smaller, self-contained pieces that provide value on their own. This way, organizations can mitigate the risk of a major project failure. They can also still attain value from their smaller project investments, even if they decide later not to proceed with the remaining phases of their original larger project concept. Breaking large projects into smaller phases with value on their own can be very difficult and makes effective planning even more essential.

Examples of IT-enabled projects in the B.C. public sector with identified planning concerns:

- ♦ **Panorama** (Ministry of Health): In 2015, we reported that the Ministry of Health did not evaluate alternative options when it became evident that the original, planned approach was unrealistic. We found that major components were not feasible and could not be built into the system as expected. Also, the ministry had signed changes to the contract that transferred risk away from the vendor and onto the ministry, which contributed to problems with system quality.
- ♦ **Integrated Case Management** (Ministry of Social Development and Innovation, Ministry of Children and Family Development and Ministry of Technology, Innovation and Citizens' Services): In 2015, we reported that the scope of this project was not fully completed as planned, with the result that programs must still rely on aging legacy systems.
- ♦ **Health Benefits Operations** (Ministry of Health): In 2013, we reported that the ambiguity in some key contract terms meant that it was impossible to determine whether the ministry had fully achieved the expected transfer of financial risk to the service provider. Also, of the three legacy systems the ministry expected to replace, just one was replaced (according to the original plan). The second was replaced six years late and the third had still not been replaced at the time of our audit.
- ♦ **Clinical and Systems Transformation** (Vancouver Coastal Health Authority, Provincial Health Services Authority, and Providence Health Care): In 2014, before the original contract with the vendor was cancelled, the three health organizations involved commissioned a review by McKinsey & Company. This review noted a lack of clarity in project scope, poorly defined objectives and key performance indicators, and a lack of focus on ensuring the project delivers on value.

# WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

- ◆ **Business Transformation Program (ICBC):** In 2012, a Ministry of Finance report found that key processes were in place to support program execution and monitoring. However, the report also found a lack of comprehensive planning: initial cost estimates were unrealistic and the anticipated timing of benefits was too optimistic. The report also noted that the program was not clearly broken down into phases.
- ◆ **eHealth (Ministry of Health):** In 2009, a Ministry of Finance report found that business case documentation and the evaluation process for selecting projects needed improvement.

## PLANNING: QUESTIONS FOR SUCCESSFUL OVERSIGHT

6. Does the business case include a rigorous analysis of the project's assumptions, options, benefits and costs; and, does it align with the organization's needs and priorities?
7. Has the organization identified and planned for the extent of change the project will have on structures and roles, business processes, and required skills and expertise?
8. Does project planning clearly identify and manage critical risks, including an identification of which risks government has decided to accept, mitigate or transfer?
9. Does the investment rely on proven or new technology? If new technology is required, does the organization have a plan to mitigate the risks of using unproven technology?
10. Can projects be broken into smaller, self-contained phases with value on their own?

## CONSULTATION

Meaningful consultation and engagement about IT-enabled projects is critical. Consultation should include system users, external customers, consultants (where appropriate), vendors and other government bodies sharing data with the proposed system. For large projects in particular, there can be a broad array of stakeholders with diverse, and potentially competing, business needs.

It is therefore important to identify the needs of key stakeholders and proactively communicate with them throughout the project. Users should be involved at all stages of the project — from defining business needs, to shaping, testing and approving proposed solutions. An organization's executive members should also be brought into the conversation early and regularly. Failure to adequately consult with stakeholders can result in a system that doesn't meet the needs of the organization or its stakeholders.

## DEFINITION OF A USER

A user is a person who accesses a computer system to get information or to perform business functions. Depending on the system, users can be internal to government (e.g., ministry staff, school administrators or public health clinicians). Users can also be external to government (e.g., contracted service providers or members of the public).

## WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

Examples of IT-enabled projects in the B.C. public sector with identified consultation and engagement concerns:

- ◆ **Panorama** (Ministry of Health): In 2015, we reported that the Ministry of Health's leadership style deterred feedback and input from the health authorities. We also found that the vendor was contracted to perform key system testing that would normally be done by users. The resulting lack of user and stakeholder input affected system quality.
- ◆ **Integrated Case Management** (Ministry of Social Development and Innovation, Ministry of Children and Family Development and Ministry of Technology, Innovation and Citizens' Services): In 2012, the Ministry of Children and Family Development commissioned a review of the project by Queenswood Consulting Group, who found that the project lacked appropriate user input into system design, which contributed to a system that was perceived by users as being not fit for purpose.
- ◆ **Clinical and Systems Transformation** (Vancouver Coastal Health Authority, Provincial Health Services Authority, and Providence Health Care): In 2014, before the original contract with the vendor was

cancelled, the three health organizations involved commissioned a review by North York General Hospital. This review found a lack of involvement with clinicians in the development process, which meant the system was unlikely to meet user needs.

- ◆ **MyEducation BC** (Ministry of Education): Media reports highlighted concerns raised by school boards about functionality problems experienced by users with the new system.

### CONSULTATION: QUESTIONS FOR SUCCESSFUL OVERSIGHT

11. Is the project team maintaining effective engagement with key stakeholders to understand their needs, and to ensure their understanding of and commitment to the project?
12. Are the interests of all key stakeholders aligned? If not, has the project team identified where they differ and developed a strategy to resolve conflicts?
13. Have users and senior management been adequately involved in the design and testing of the system, and signed off their acceptance?

# WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

## GOVERNANCE

Governance refers to the structures and processes that support an organization in achieving its objectives.

In relation to IT-enabled projects, governance includes:

- ◆ setting strategic direction and project objectives
- ◆ evaluating and prioritizing the investment options needed to achieve those objectives
- ◆ establishing clear roles and responsibilities for the executive sponsor, the project team and those charged with oversight
- ◆ monitoring project performance against identified objectives
- ◆ ensuring oversight is appropriate for the project's cost and risk, in order to hold management accountable for project results

Those charged with project oversight must be independent of the project team, and can include the project board, the organization's board of directors, or a central body tasked to review, approve and support government's IT-enabled projects. Whoever has oversight responsibility should be provided with complete, accurate and timely information about the project and its challenges, and should have powers to cancel or substantially alter projects if required. Further, the oversight function can only be effective if project teams are willing and able to completely and truthfully report project performance and challenges.

Those charged with oversight should have the necessary skills and experience to effectively oversee the project and, ideally, membership of the oversight body should stay consistent over the life of the project.

In 2012, government recognized the importance of centralized project governance when Treasury Board approved the current governance framework for ministry IT capital projects.

Examples of IT-enabled projects in the B.C. public sector with identified governance concerns:

- ◆ **Panorama** (Ministry of Health): In 2015, we reported that we heard concerns about the completeness and accuracy of information provided to oversight bodies and senior management. Also, ministry decision-makers did not appear to have a good understanding of the project and system issues.
- ◆ **Health Benefits Operations, Maximus Contract** (Ministry of Health): In 2013, we reported that the Ministry of Health did not fully monitor the expected benefits of the project.
- ◆ **Integrated Case Management** (Ministry of Social Development and Innovation, Ministry of Children and Family Development and Ministry of Technology, Innovation and Citizens' Services): In 2012, the Ministry of Children and Family Development commissioned a review of the project by Queenswood Consulting Group, and they found several issues related to governance.

## WHY DO SO MANY IT-ENABLED PROJECTS MISS THE MARK?

This included lack of a shared vision and desired end state, unclear lines of accountability, inappropriate or imbalanced governance and reporting structures, inconsistent leadership and ineffective decision-making.

- ◆ **Clinical and Systems Transformation** (Vancouver Coastal Health Authority, Provincial Health Services Authority, and Providence Health Care): In 2015, the Minister of Health acknowledged that significant changes to the project were needed. The original contract with the vendor was cancelled and the three health organizations reset the project with a new vendor. The willingness and ability of an organization to recognize challenges in an IT-enabled project early and restart the project is consistent with good governance.

### GOVERNANCE: QUESTIONS FOR SUCCESSFUL OVERSIGHT

14. Do those tasked with oversight have a clear understanding of their organization's and government's overall IT vision, priorities, strategies and funding constraints?
15. Do those tasked with oversight have a clearly defined role and do they have the capacity and independence to monitor the achievement of benefits from IT-enabled projects?
16. Has the organization taken a corporate-wide approach to prioritize individual IT investments relative to its objectives, priorities and constraints?
17. Are those tasked with oversight provided with reliable information on a timely basis so they can exercise their oversight responsibilities?
18. Is it clear who is responsible and accountable for the success of the project?
19. What is the organization's track record in managing other investments of the same size and complexity?
20. Are those tasked with oversight prepared to step in and cancel or substantially alter projects if the need arises?

# APPENDIX A:

## 20 QUESTIONS FOR SUCCESSFUL OVERSIGHT

### PEOPLE

1. Does the organization have the systems development and project management expertise to match the complexity of the IT-enabled project?
2. Does the organization have a plan to fill gaps in capacity or expertise?
3. Where external consultants are used, does the organization have the capacity to procure, negotiate and manage the arrangement to achieve the expected benefits?
4. If delivery of an IT system and service will be outsourced, does the organization have a plan to retain key staff with the expertise necessary to manage the contract?
5. Is there an executive sponsor for the project, with clear authority and accountability?

### PLANNING

6. Does the business case include a rigorous analysis of the project's assumptions, options, benefits and costs; and, does it align with the organization's needs and priorities?
7. Has the organization identified and planned for the extent of change the project will have on structures and roles, business processes, and required skills and expertise?
8. Does project planning clearly identify and manage critical risks, including an identification of which risks government has decided to accept, mitigate or transfer?
9. Does the investment rely on proven or new technology? If new technology is required, does the organization have a plan to mitigate the risks of using unproven technology?
10. Can projects be broken into smaller, self-contained phases with value on their own?

# APPENDIX A: 20 QUESTIONS FOR SUCCESSFUL OVERSIGHT

## CONSULTATION

11. Is the project team maintaining effective engagement with key stakeholders to understand their needs, and to ensure their understanding of and commitment to the project?
12. Are the interests of all key stakeholders aligned? If not, has the project team identified where they differ and developed a strategy to resolve conflicts?
13. Have users and senior management been adequately involved in the design and testing of the system, and signed off their acceptance?

## GOVERNANCE

14. Do those tasked with oversight have a clear understanding of their organization's and government's overall IT vision, priorities, strategies and funding constraints?
15. Do those tasked with oversight have a clearly defined role and do they have the capacity and independence to monitor the achievement of benefits from IT-enabled projects?
16. Has the organization taken a corporate-wide approach to prioritize individual IT investments relative to its objectives, priorities and constraints?
17. Are those tasked with oversight provided with reliable information on a timely basis so they can exercise their oversight responsibilities?
18. Is it clear who is responsible and accountable for the success of the project?
19. What is the organization's track record in managing other investments of the same size and complexity?
20. Are those tasked with oversight prepared to step in and cancel or substantially alter projects if the need arises?



# APPENDIX B:

## GOOD PRACTICE GUIDANCE AND REPORTS

### GOOD PRACTICE GUIDANCE

- ◆ [Val IT Framework for Business Technology Management](#)
- ◆ [COBIT 5](#)
- ◆ Treasury Board of Canada Secretariat
  - ◆ [A Guide to Project Gating for IT-enabled Projects](#)
  - ◆ [Independent Reviewer's Handbook](#)
  - ◆ [Review Topics for Enquiry](#)

### REPORTS

- ◆ [Large IT Projects](#), Auditor General of Canada
- ◆ [What prevents large IT projects from being successful](#), Shared Services Canada
- ◆ [Government IT Projects](#), UK Parliament
- ◆ [Delivering successful IT-enabled business change](#), UK National Audit Office
- ◆ [Report of Ontario's Special Task Force on the Management of Large-Scale Information & Information Technology Projects](#), Government of Ontario

### OCIO TEMPLATES AND PROJECT MANAGEMENT TOOLS

- ◆ [IM/IT Capital Investment Branch webpage](#)



OFFICE OF THE  
**Auditor General**  
of British Columbia

### Location

623 Fort Street  
Victoria, British Columbia  
Canada V8W 1G1

### Office Hours

Monday to Friday  
8:30 am – 4:30 pm

**Telephone:** 250-419-6100

Toll free through Enquiry BC at: 1-800-663-7867

In Vancouver dial: 604-660-2421

**Fax:** 250-387-1230

**Email:** [bcauditor@bcauditor.com](mailto:bcauditor@bcauditor.com)

**Website:** [www.bcauditor.com](http://www.bcauditor.com)

This report and others are available at our website, which also contains further information about the Office.

### Reproducing

Information presented here is the intellectual property of the Auditor General of British Columbia and is copyright protected in right of the Crown. We invite readers to reproduce any material, asking only that they credit our Office with authorship when any information, results or recommendations are used.



## AUDIT TEAM

Sheila Dodds  
*Assistant Auditor General*

Paul Nyquist  
*Director, Financial Audit*

Kevin Keates  
*Manager, Performance Audit*

Gabriel Botel  
*Performance Auditor*



OFFICE OF THE  
**Auditor General**  
of British Columbia