



# Library and Archives Canada

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## Formative Evaluation of the Digital Office Initiative

*Internal Audit and Evaluation Directorate*

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## Executive summary

In 2010, Library and Archives Canada (LAC) established the Digital Office Initiative (DOI). It is one of a dozen modernization initiatives within the institution. The objectives of the initiative are as follows:

- ▶ replace a mixture of applications, shared drives, assorted websites, several search strategies, and silo legacy systems with an integrated environment supported by practical business architecture
- ▶ move away from traditional rigid, restrictive systems to a series of modular solutions that replace controls with professional accountability supported by well-developed policy frameworks
- ▶ support the emergence of a new practice of collaborative decision making
- ▶ replace a large part of what is now the intranet with an interactive portal where staff will be able to upload content and interact directly without intermediaries

### **Logic of the initiative**

The DOI was developed as an evolutionary approach. The vision is one of iteration and transformation, which is inherent in most innovation processes. In addition, this initiative has followed a highly decentralized, user-driven implementation model. Technical infrastructure and support, as well as support from senior management, are the foundation of this model, and everything beyond that is led—deliberately—by users/user groups, depending on their level of motivation to adopt new tools and/or business processes, and the pace at which they are prepared to do so.

As a result of this approach, various groups at LAC find themselves at different stages in the adaptation process leading toward a digital office (DO). Management made a conscious choice to invest in infrastructure first and subsequently work toward the change in culture that is also required to progress toward “thinking in digital terms,” mainly by providing support to users/groups who are interested in adapting their processes. While the first stage is complete, the second stage is still under way.

## **Findings**

The following findings are based on a document review, key informant interviews with DOI management and LAC senior management, and working sessions to gather feedback from various branches of LAC regarding the varying degrees to which the DOI is influencing their work.

### **Relevance**

The range of opinions regarding the scope and the expected results of the DOI are a sign that those who have driven the implementation of the DOI have yet to fully communicate the incremental strategy that was intentionally adopted. However, overall, participants in this evaluation indicate a strong alignment of the DOI with LAC's strategic outcomes and its overall institutional modernization process.

The DOI has yielded new tools and new processes in some areas that may be reproduced elsewhere. However, not all areas of the institution have made the transition to the DOI and are therefore still relying on traditional business processes. Internal stakeholders have identified issues in the areas of access-rights management and recordkeeping practices (i.e., moving away from electronic mail as a recordkeeping tool) that need to be addressed and standardized across LAC.

### **Performance**

The overall cost associated with an initiative of this scale is approximately \$2.5 million—an investment that can yield possible long-term savings in operational costs. With the introduction of new technology and the development of several customized business applications on the SharePoint platform, the DOI has led to some improvements in collaboration, information sharing, decision making, and approval processes, all of which were lengthy and paper-based in the past. Also, external collaboration with other departments now takes place through portals and collaborative workspaces. These benefits contribute toward driving change. Other key drivers of change as part of the DOI appear to be the deployment of new technology, senior management support of the change, and the early signs of benefits in terms of efficiency, communication, and collaboration in parts of LAC where change has taken place. However, challenges remain in terms of changing mindsets, addressing stewardship issues, the uneven use of SharePoint and related tools, information management standards, technical issues with some of the tools, and the changing expectations and behaviours associated with the shift to the DO.

Overall, significant progress has been made toward enabling LAC to ingest only born-digital records by 2017, but some challenges remain. The institution has to educate other departments and agencies, which are at varying levels of maturity with regard to information management (IM) in a digital environment. Other challenges are associated with the modernization of the legacy systems, the public web presence, and the approach to processing documentary heritage, but these are not part of the DOI per se.

## Conclusions

Overall, we are able to conclude that the infrastructure is in place, some user groups are on board, and the mindset has begun to change. However, three key challenges remain: broadening the use of the new IT tools, developing more business applications, and pursuing the required change in mindset.

### Enabling technology

- ▶ As far as the Chief Information Officer (CIO) and the Chief Information Officer Branch (CIOB) are concerned, the infrastructure components of the DOI and IM governance plan are in place.
- ▶ There has been considerable transformation over the last three years in terms of increased mobility and reduced telecommunication costs; improved communication and collaboration; reduced equipment, support, maintenance, and energy costs; and reduced paper consumption.
- ▶ However, the uneven use of the new platform and related tools is limiting their impact on LAC in terms of efficiency gains. Some work units have not made the transition—or at least not fully. Insufficient or uneven awareness and training pertaining to the new platform, the related tools, or the use of new business applications may be partly to blame for this challenge.

### Business processes

- ▶ With the introduction of new technology and the development of several customized business applications, the DOI has led to some improvements in collaboration, information sharing, decision making, and approval processes, all of which were lengthy and paper-based in the past.
- ▶ Other processes have been transformed from a conventional supply chain model to more flexible and distributed processes using the new tools on the Business Process Platform (BPP).
- ▶ However, more business applications could be developed, and more complex business intelligence systems have not been tackled yet, specifically for the finance and human resources functions.

### Culture change

- ▶ The implementation of the DOI is user-driven, including the efforts to change the mindset toward a digital way of thinking. Therefore, not everyone has made equal progress. Many individuals are still focusing on translating existing business processes and traditionally paper-based processes into the digital environment, when, in fact, these processes may need to be approached completely differently.
- ▶ New IT tools have contributed to the desired change in mindset, but that is not sufficient.

- ▶ Overall, the theory of change that underpins the initiative may have run its course, in that the iterative and user-driven process that was selected to implement the DO at LAC may have produced as much change as it can.

## **Recommendations**

### **Communicate more effectively and foster engagement**

It is recommended that the institution communicate the logic of the DOI more effectively in order to improve understanding of the DOI, reduce resistance to change in parts of the institution, and build on the momentum that has already been achieved. Specifically, it is recommended that the institution:

- ▶ develop an overview of the DOI and its logic, including how it is intended to support LAC's overall modernization efforts;
- ▶ distribute information about the DOI to all staff in an appropriate format in order to increase the level of interest and engagement internally;
- ▶ set targets and track progress in terms of broadening the use of the tools;
- ▶ ensure that additional training opportunities are available for various types and levels of users of the various tools; and
- ▶ ensure that appropriate resources (documentation and support) regarding these tools continue to be available and communicated clearly to all staff.

### **Consider alternative approaches**

The iterative and user-driven implementation model may have reached a plateau and is not likely to take the institution further toward the ultimate outcome of "thinking in digital terms." The institution should thus revisit its initial strategy and consider alternative approaches that would allow it to continue to make progress in implementing the DOI, which is closely linked to the institution's overall modernization efforts.

## **Management response**

CIOB management agrees with the findings and recommendations of this report. Overall, the findings of the evaluation are positive and the recommendations are constructive, thus contributing to the improvement of the DOI. Since the conclusion of the evaluation and the preparation of this report, management has taken steps to address the issues identified and is working on enhancing the performance of the DOI. Consequently, an action plan has been prepared in response to the recommendations made in this evaluation report and will be implemented over the course of the 2013-14 fiscal year (refer to p. 24 of the report).

## List of acronyms

ABU	Administrative Business Unit
BPP	Business Process Platform
CFO	Chief Financial Officer
CIO	Chief Information Officer
CIOB	Chief Information Officer Branch
DO	Digital Office
DOI	Digital Office Initiative
GoC	Government of Canada
IIS	Internet Information Services
IM	Information Management
IT	Information Technology
LAC	Library and Archives Canada
MOU	Memorandum of Understanding
PKI	Public Key Infrastructure
QMS	Query Management System
RKD	Recordkeeping Directive
SSC	Shared Services Canada
TBS	Treasury Board of Canada Secretariat

## 1. Introduction

In 2010, Library and Archives Canada (LAC) established the Digital Office Initiative (DOI). In 2012, the institution undertook a formative evaluation of the DOI, and this document constitutes the Evaluation Report.

This report is organized as follows:

- Section 1.1 describes the methodology for the formative evaluation of the DOI.
- Section 2 describes the DOI and its expected results.
- Section 3 describes the findings in relation to each evaluation issue/theme in the framework.
- Section 4 provides the conclusions and recommendations.

### 1.1 Evaluation methodology

This section of the report provides a detailed description of the evaluation methodology, including the evaluation framework and the approach to data collection, as well as any limitations that apply.

#### 1.1.1 Context

In 2010, LAC established the DOI. In accordance with the Treasury Board of Canada Secretariat (TBS) Policy on Evaluation (2009) and as per the criteria used in the LAC Departmental Evaluation Plan, the initiative was scheduled for evaluation during the 2012–13 fiscal year.

The formative evaluation of LAC's DOI assesses the relevance and the performance (design, implementation, and results to date) of this initiative. The evaluation will be used by the DOI management team to inform decisions about improvements and/or changes to the design and implementation mechanisms and processes of the initiative, as needed (LAC, 2012b).

In addition, this initiative was selected for evaluation, as per the criteria used by the risk-based Departmental Evaluation Plan for 2012–13. Since the DOI is part of LAC's key strategic priorities and plays an important role in the operationalization of LAC's modernization efforts, it is important for the institution to ensure that the initiative achieves the expected results (LAC, 2012b).

#### 1.1.2 Scope

The purpose of the formative evaluation is to provide a review of the DOI after three years, including the approach adopted, the results so far, and to what extent the current approach will need to be improved to ensure that the desired impact and effectiveness are achieved.

The evaluation covers the implementation of the DOI at LAC only and does not assess DOI implementation in other federal departments that are part of the overall GoC initiative. However, given that there are important linkages between the LAC initiative and the federal initiative, some aspects of those linkages will be examined where appropriate.

A review of key documents about the initiative supported the development of the evaluation matrix and data collection instruments. This planning step also included a preliminary consultation with



the individuals leading the implementation of the DOI (the CIO and Director General of Innovation, and the Director of Business Solutions) in order to supplement the documentation that was available and ensure a thorough understanding of the initiative. The full evaluation matrix is included in Appendix A. It focuses on the following 11 evaluation questions:

### **Relevance**

1. To what extent are the objectives of the DOI aligned with the strategic outcomes of LAC?
2. To what extent does the DOI address the evolving needs of its stakeholders (internal and external)?

### **Performance (effectiveness, efficiency and economy)**

#### ***Design***

3. Is the design of the DOI appropriate to support the overall change (in philosophy, business rules, and processes) that is envisioned?
4. Are the activities and expected results clearly defined?
5. Is there a performance measurement strategy or other mechanism in place to assess the progress toward expected results of the DOI? If so, what does it focus on?

#### ***Implementation***

6. Are the roles and responsibilities of the various parties involved in the implementation of the DOI clearly defined?
7. Has the DOI been implemented as planned? Have any components not been fully implemented?
8. What challenges or barriers, if any, have emerged during the implementation of the DOI to date?
9. How are DOI resources being allocated and used?

#### ***Results***

10. What are the results to date with regard to the milestones established by LAC?
  - a) Creation of an Enterprise Project Office to effectively manage the numerous ongoing projects
  - b) Introduction of the concept of portfolio management to support LAC's ongoing work that is not project-related
  - c) Development of specialized business solutions to support the business activities of LAC
  - d) Support for projects in relation to modernization/IT upgrading, business intelligence, modernization of web presence, and searchability
11. To what extent is the DOI contributing to the ability of LAC to deal only with digital material as of 2017?

The evaluation included a planning/design, data collection, and reporting phase. A description of the proposed methodology for the data collection phase is included below.

### **1.1.3 Methodology**

This section of the report provides a detailed description of the approach for the data collection phase, which consisted of three data collection methods: a document review, working sessions, and key informant interviews.

### **1.1.3.1 Document review**

The first stage in data collection consisted of a review of all relevant documentation produced at LAC and elsewhere in the GoC about the DOI, as well as about the SharePoint platform and its various uses to support the initiative. Other documents were introduced by key informants during interviews, for a total of 18 documents.

The documentation included the findings from three case studies conducted by the Evaluation Directorate in 2011. Those studies focused on three business units: the unit supporting the Director General Committee for Business Integration and Strategies as well as the Assistant Deputy Minister Trilateral meetings, the unit supporting the Management Board and their meetings, and the unit responsible for the e-briefing process up to the Deputy Minister's office. The purpose of the studies was to illustrate the types of changes, if any, introduced by the DOI and indicate whether those changes constituted tangible improvements over existing processes (LAC, 2011b).

### **1.1.3.2 Working sessions**

Three working sessions took place with key individuals: the first session was held with two individuals involved in the implementation of the DOI (it supported the planning phase of the evaluation), and two group sessions were subsequently held with various front-line staff (four in each session) to review the functionality and operational aspects of the DOI.

These sessions were useful in supplementing the information available in the documentation. The evaluation team also:

- gathered feedback from various branches of the institution regarding the varying degrees to which the DOI is influencing their work; and
- was able to experience the SharePoint environment first-hand and navigate through some of the tangible components of the DOI that were in place.

The specific topics of the working sessions are detailed in a separate guide (Appendix E).

### **1.1.3.3 Key informant interviews**

Eight key informant interviews were conducted as part of this evaluation, with a total of nine individuals. Key informants included DOI management and LAC senior management. The interviews allowed for a detailed discussion of the initiative and how it has progressed thus far.

### **1.1.4 Limitations**

The evolutionary approach of an innovation initiative such as the DOI poses a challenge in itself, as it does not lend itself to traditional evaluation approaches. Such approaches are designed for predefined interventions with specific timelines to achieve various outcomes (short, medium or long term), and from which action plans can be developed.

The use of an evolutionary approach results in a constantly changing scope and speed of implementation since it is not planned beforehand. In the case of the DOI, key informants indicated that the approach was intended to be decentralized and user-driven. The scope and implementation approach have evolved since 2010 as priorities and resources have permitted, and

as the needs and level of engagement of the various business units have evolved. This makes it difficult to determine whether the implementation of the initiative is proceeding as planned.

A second issue has been limited documentation, some examples of which include there being only a partial draft of the project charter for the DOI. Information pertaining to expected results was largely gleaned from a previous research project (LAC, 2011a). Often, the documentation that does exist is related to the overall GoC initiative. It has also been difficult, using the available documents, to distinguish between activities that contribute toward LAC's overall modernization efforts versus the DOI.

The potentially negative impact of these limitations on this evaluation has been mitigated by consultations early in the planning phase with the CIO and Director General of Innovation, and with the Director of Business Solutions, in order to supplement the documentation and ensure a thorough understanding of the initiative, what it was intended to achieve, and how it related to other activities within LAC.

## 2. Profile of the Initiative

The LAC DOI is co-led by the offices of the Chief Information Officer (CIO) and Director General of Innovation, and the Senior Director General Corporate Services and Chief Financial Officer (CFO) (LAC, 2013a). Much of the day-to-day activities are managed by the CIO and the Chief Information Officer Branch (CIOB).

### 2.1 Context

Since Canada's continuing memory is increasingly born-digital, LAC must adapt rapidly to that environment. Since 2009, the institution has embarked on a broad institutional modernization process for "a strategic renewal of its policies, operations and services [in order] to take full advantage of the opportunities of the digital age" (LAC, 2012a). This modernization process has led to rapid change, and not all of the components are in place: for example, the renewal of the policy suite is not complete. The DOI, which was launched in 2010, is one of a dozen modernization initiatives within the institution (LAC, 2012a). It is very much integrated into, and integral to, the overall modernization process.

### 2.2 Purpose and activities

The purpose of the DOI is to create an efficient and effective working environment for LAC knowledge workers using sound information management practices that support the Recordkeeping Directive (RKD) of the Government of Canada (GoC). In order to achieve this, management envisioned the replacement of a mixture of applications, shared drives, various websites, several search strategies, and silo legacy systems with an integrated environment supported by practical business architecture (LAC, 2012b). Furthermore, management envisioned that "[t]he focus will move away from traditional rigid systems that are restrictive and lack agility to a series of modular solutions that replace controls with professional accountability supported by well-developed policy frameworks" (LAC, n.d.a).

The DOI is active on three levels:

1. The *front office* is composed of the internal and external websites.
2. The *middle office* constitutes a web space where staff members carry out regular, day-to-day activities (business solutions/modules, internal search, business intelligence tools).
3. The *back office* contains the traditional administrative systems such as Human Resources and Finance, along with the legacy holdings management systems and the entire IT infrastructure of the institution (LAC, 2012b).

There are numerous interdependencies with other modernization initiatives, making it difficult to distinguish between activities that are part of the DOI and activities that contribute toward LAC's overall modernization efforts. Specifically, the modernization of the institution's public web presence is a separate effort, as is the modernization of the legacy holdings management systems. While they are part of the three levels where the DOI is active (above), they are not part of the DOI.

The DOI first focused on the implementation of modern office tools. LAC adopted Microsoft's SharePoint application platform, which comprises a multipurpose set of web technologies backed

by a common technical infrastructure. SharePoint has an interface that is similar to and closely integrated with the MS Office suite. The web tools it employs are designed to be used by people with a non-technical background. The platform can be used to provide intranet portals, document and file management, collaboration, social networks, extranets, websites, enterprise search, and business intelligence. It also has functionalities for business and process integration and for workflow automation. Furthermore, the SharePoint platform integrates directly into Internet Information Services (IIS), enabling bulk management, scaling, and provision of services that are often required by large organizations or cloud hosting providers (LAC, 2012b). Other SharePoint-specific components include DO management tools and web parts to extend SharePoint functionality.

Other infrastructure components are not considered part of the DOI; only SharePoint is (LAC 2013c). These other infrastructure components (which are not directly part of the SharePoint platform) include:

- mobile workstations
  - hybrid tablet personal computers (Microsoft)
  - notebook computers (Microsoft)
- static workstations
  - new desktop computers (Microsoft)
- software
  - office productivity tools
  - other non-SharePoint-related software
- smart phones
  - BlackBerrys
  - cellular phones
  - other personal communication devices
- Shared Services Canada (SSC) infrastructure components
  - Wi-Fi components and software
  - VPN components and software (client and server) (LAC, 2012b; 2013c)

Activities related to the technical infrastructure components to date include the centralization of software procurement and management to rationalize versions and product types; systematic office tool deployment; access to an internal wireless connection network; development of reusable application modules on the SharePoint platform; the implementation of a committee registry (collaborative workspaces for committees and working groups); and corporate and local project offices (or workspaces). The development of a web content management solution is also under way (LAC, n.d.a; 2013c).

### 2.3 Theory of change

The DOI was developed as an evolutionary approach. The vision is one of iteration and transformation (i.e., a process, rather than a time-limited initiative with well-defined activities and stages). This is inherent in most innovation processes. In addition, this initiative has followed a highly decentralized, user-driven implementation model. Technical infrastructure and support, as well as support from senior management, are the foundation of this model, and everything beyond that is led—deliberately—by users/user groups, depending on their level of motivation to adopt new tools and/or business processes, and the pace at which they are prepared to do so.

As a result of the model that was adopted and the dependence on existing resources, various groups at LAC—including various participants in this evaluation—find themselves at different stages in the adaptation process leading toward a DO. Management made a conscious choice to invest in infrastructure first and subsequently work toward the change in culture that is also required to progress toward “thinking in digital terms,” mainly by providing support to users/groups who are interested in adapting their processes. As indicated later on in this report, while the first stage is complete, the second stage is still under way.

Based on available documentation, the objectives of the initiative include the following:

- replace a mixture of applications, shared drives, assorted websites, several search strategies, and silo legacy systems with an integrated environment supported by practical business architecture
- move away from traditional rigid systems that are restrictive to a series of modular solutions that replace controls with professional accountability, supported by well-developed policy frameworks
- support the emergence of a new practice of collaborative decision making
- replace a large part of what is now the Intranet with an interactive portal where staff will be able to upload contents and interact directly without intermediaries (LAC, n.d.a)

Four milestones were established by LAC in order to track the progress of DOI implementation:

- 1) *Creation of an Enterprise Project Office to effectively manage the numerous ongoing projects:* It is intended to support integrated planning and ensure that information of business value related to these projects is well maintained, including retention policies.
- 2) *Introduction of the concept of portfolio management to support ongoing work that is not project-related:* Initial modules to be built around the management of corporate database and information systems, and, following that, several other areas could benefit from the same model, including the management of the relationships with stakeholders.
- 3) *Development of specialized business solutions to support the business activities:* The first major business solution to be developed is the Private Acquisition Solution, to better manage the planning, decision making, and execution of private acquisition projects.
- 4) *Supporting projects in relation to modernization:* This includes projects related to technology modernization, business intelligence, web modernization, and search modernization (LAC, n.d.a; 2012b).

Also, based on a previous study of the DO in 2011, the intermediate (medium-term) expected results of the initiative are as follows:

- The DO supports LAC’s modernization efforts.
- LAC has the IT architecture required to receive government records only in digital format as of 2017.
- LAC meets the objectives set out in the RKD:
  - Information resources of business value are used as strategic assets to facilitate decision making and the efficient delivery of government programs and services.
  - Effective recordkeeping practices are in place to ensure transparency and accountability of government programs and services. (TBS, 2009)

The ultimate (long-term) result of the DOI is the establishment of an environment for LAC personnel that is based on increased collaboration, increased and ongoing information sharing, and effective information management. This directly supports the implementation of the government-wide RKD, and can ultimately help improve the services provided by LAC to its external clients (LAC, 2011a). The DOI also contributes to the outcomes of the overall modernization process, namely, the transition toward “thinking in digital terms.”

#### 2.4 Financial resources

Financial resources for the implementation of the DOI were the product of a reallocation of existing CIOB resources; hence, its implementation has depended on the extent of reallocation in any given year. Responsibility for some components of DOI implementation was subsequently transferred to SSC (responsibility for the wireless network, server hardware, cloud and virtualization software known as VMware, and data centres) (LAC, 2013c).<sup>1</sup>

An internal financial report produced in March 2013 compiled the initial direct costs of the SharePoint infrastructure for the DOI (\$543,694 over the first three fiscal years) and the related costs of the supporting infrastructure (\$1.96 million). The overall cost associated with an initiative of this scale is thus approximately \$2.5 million. The March report also documented economies in operational costs to date, but those economies have not yet been quantified. More detail is provided in section 3.2.2.

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<sup>1</sup> The Government of Canada created [Shared Services Canada](#) on August 4, 2011, “to deliver [centralized] email, data centre, and telecommunication services to 43 federal departments and agencies.”

### 3. Evaluation Findings

The findings presented in this section are organized according to the main evaluation issues/themes related to program relevance (section 3.1) and performance (section 3.2), including issues related to the design, implementation, and results of the initiative.

#### 3.1 Relevance

##### 3.1.1 Alignment of DOI objectives with LAC strategic outcomes

**Participants in this evaluation indicate a strong alignment of the DOI with LAC’s strategic outcomes and institutional modernization process.**

According to the 2011-12 Departmental Performance Report, LAC “supports the recordkeeping capacity of the federal public administration through the Government Affairs area for ‘a transparent, accountable and responsive federal government’” and secondly, “supports the development of Canada’s continuing memory toward the Government of Canada outcome of a ‘vibrant Canadian culture and heritage’ in the Social Affairs spending area” (LAC, 2012a). The strategic outcomes of the institution flow from these two GoC outcome areas:

- 1) Current government information is managed to support government accountability.
- 2) Canada's continuing memory is documented and made accessible to current and future generations.

In addition, since 2009, LAC has embarked on a broad institutional modernization process, with a view to ensuring that it is able “to analyze and respond to the fundamental challenges reshaping documentary heritage, such as the explosive growth of documentary heritage created with digital technologies [and] the rapidly-changing access expectations of Canadians...” (LAC, 2012c).

Modernization is based on five key principles:

- LAC is collaborating with other institutions that share complementary mandates.
- LAC is redefining the selection process to ensure that its holdings evolve in line with its priorities and its expected long-term resourcing.
- LAC is improving access to the content of its holdings, particularly through digital technologies.
- LAC is preserving both digital and analogue documentary heritage.
- LAC is building its capacity to manage and carry out its mandate. (LAC, 2012c)

The DOI is now one of a dozen modernization initiatives launched within LAC since 2009 (LAC, 2012a). As indicated previously, the institution chose to proceed incrementally with the DOI, and identify solutions and implement components based on the needs of its internal clients and on the available resources. Some respondents refer to the vision of the Librarian and Archivist and believe that he set the tone in terms of the ultimate result to be achieved (i.e., to create an efficient and effective working environment for knowledge workers using sound IM practices that support the RKD). There is no indication in the documentation that the expected results came directly from the head of the institution; instead, they were articulated by the CIO, based on his interpretation of



where the DOI could make a contribution within the overall modernization process of the institution.

For many key informants, the scope and nature of the initiative are not clear, nor how it relates to the other modernization efforts. There are some apparent misconceptions regarding the expected results of the initiative. Some of the front-line personnel believe that the ultimate result is for the institution to be completely paperless in all communications, transactions, and recordkeeping, while others believe it is to increase the mobility of employees and decrease the physical office space required. While some participants in this evaluation view the deployment of the SharePoint platform and other technology as the extent of the DOI (i.e., business as usual, but with new digital tools), others indicate a belief that most business processes have been or will be overhauled as well, as part of this initiative. Some participants indicate that the initiative also includes the modernization of LAC's web presence. It may not be clear to them that the public web presence is not part of the initiative.

Senior managers with closer ties to the implementation of the DOI view the activities as clearly divided between the three tiers of the initiative—front, middle, and back office. They distinguish between the technology, the IM process, and the business process components of the initiative. In their view, the initiative will ultimately result in the transformation of IM behaviours and business processes across the institution.

The range of opinions regarding the scope and the expected results of the DOI are a sign that those who have driven the implementation of the DOI have yet to fully communicate the incremental strategy that was intentionally adopted. Both front-line personnel and management would benefit from getting an overview of the entire initiative, or some description of the components and their expected results. An annual action plan also appears to be needed.

Overall, participants in this evaluation indicate a strong alignment between the objectives or the expected results and the institution's strategic outcomes. Some recognize that the institution could achieve its strategic outcomes without the DOI, but that it can do so more efficiently because of the initiative. For those who perceive the DOI as a new way to communicate and collaborate internally and externally, and to circulate and share information, all through a central shared platform, the alignment with both strategic outcomes is clear. For those who perceive the DOI as a new set of tools, mostly new infrastructure and technology, the alignment is also clear, given that the environment in which the institution operates and the content that it manages is increasingly digital.

Since Canada's continuing memory is increasingly born-digital, and the volume of government information and other documentary heritage is increasing quickly—exponentially, according to some key informants—LAC must adapt rapidly, and participants indicate that the DOI is an important component of the institutional modernization process, which in turn enables the necessary adaptation (tools, processes, and/or policies). The DOI is also perceived as supporting government accountability because of its strong information management (IM) environment and governance plan—information is centralized and linked, for example, between procurement, finance, and auditing processes, and between electronic mail and other types of records. This environment is expected to support evidence-based decision making. The workflows and approval processes that have been automated are also perceived as supporting accountability. Participants in

this evaluation also indicate that the modernization of tools and, specifically, the central platform (SharePoint) enables LAC to better document its own business processes, and also encourages individual professional accountability.

### 3.1.2 Addressing the needs of internal and external stakeholders

**The DOI has yielded new tools and new processes in some areas that may be reproduced elsewhere. Other modernization efforts will be required to address, among other things, the needs of those who use/maintain the legacy systems.**

The DOI has led to some improvements in collaboration, information sharing, decision-making, and approval processes, all of which were lengthy and paper-based in the past. This has had a positive effect for some senior managers, their support staff, and some corporate services (e.g., correspondence management) who were among the early participants in the DOI. Other processes in the areas of reprography and accounts payable have been transformed from a conventional supply chain model to more flexible and distributed processes, with improved tracking of requests and other types of information (see illustrations in Appendix B). Key informants indicate that the need for a similar transformation of processes for translation and editing requests has not been fully addressed yet, and neither has the need for encrypted digital signatures.

The DOI has yielded new tools (see section 3.2.2) but not necessarily new processes in some areas, such as in information management (e.g., confidentiality and security restrictions) and, specifically, in recordkeeping practices (e.g., transition away from electronic mail as a recordkeeping tool), which internal stakeholders have identified as an issue that needs to be addressed and standardized across the institution. Also, where there are new processes, awareness and training are key, but may not be sufficient to ensure successful adoption.

Based on the documentation and on the feedback from participants in this evaluation, the needs of those who use and maintain legacy systems—the Amicus and Mikan cataloguing systems—have not been addressed. It was not clear to participants in this evaluation that the modernization of the legacy systems was not part of the DOI, but rather, part of the institution’s other, related modernization efforts. Creating a link between these systems and the SharePoint platform used by the rest of the institution requires the development of a digital asset management system compatible with SharePoint. This has not been addressed and they remain completely separate systems to this day.

## 3.2 Performance

### 3.2.1 Appropriateness of design to support desired change

**Some of the key drivers of change as part of the DOI appear to be the deployment of new technology; senior management support of the change; and the early signs of benefits in terms of efficiency, communication, and collaboration in some parts of the institution where change has taken place.**

The vision of the CIO is one of an iterative transformation process. The process has intentionally followed a highly decentralized, user-driven implementation model and, as a result, the scope of the DOI was not predefined.

Participants in this evaluation were able to describe some of the key drivers behind the change that has taken effect over the course of the first three years of the initiative. The deployment of new technology was the first and/or most visible sign of change and the foremost driver of change. While this confirms a key assumption in the theory of change behind the DOI, the deployment occurred quickly and, according to some, with very little pre-notification and without being preceded by new policies. Participants in the working sessions and interviews are divided as to whether the latter was a positive or a negative thing. Senior management support for the DOI is also perceived as a key driver of change—again, confirming a key assumption in the theory of change behind this initiative. Participants indicate that senior management’s adoption of new technology, the use of the SharePoint platform, the new workspaces (e.g., for the Management Board), and the new workflows (e.g., correspondence and briefing approval processes) have sent a strong positive signal to employees and, to some extent, to other departments and agencies. Early signs of benefits in terms of efficiency in communication and collaboration—such as simultaneous development of documents, and meeting organization and follow-up—in parts of the institution that have changed their work environment and culture, business rules, and/or processes is also a positive force that is driving change.

Finally, while those responsible for the management of DOI use a number of indicators to describe the progress made in implementing the technology components, there is no documentation pertaining to a comprehensive performance measurement strategy and no systematic reporting on progress. Over the course of this evaluation, the review of presentation material, and discussions with the directorate leading the DOI, those in charge of DOI management indicated that they use, on an ad hoc basis, a number of indicators to describe the progress in the implementation of the technology components of the DOI (see section 3.2.2 for details regarding the progress with regard to technology components). However, there is no documentation (a list of indicators and their purpose, a monitoring and reporting cycle, etc.).

### **3.2.2 Implementation**

#### *Definition of roles and responsibilities*

**While the key roles in terms of the IM architecture, technical design, and support are quite clear, some of the business roles are not.**

Responsibility for the design and implementation of the IM architecture and practices, and for IT design and IT support is clearly centralized under the CIO. However, there is some confusion between the CIO’s responsibilities to support the modernization efforts of the institution, and what is squarely within the CIO’s purview as the lead for the DOI. Senior managers indicate that the Management Board expects to be consulted on modernization efforts, but not on every component of the DOI. Where the DOI ends and the rest of the modernization efforts begin is not clear to all senior managers. The creation of a separate DOI steering committee, with terms of reference, would help clarify this and also help delineate the DOI.

The role of CIOB is clear in terms of providing the infrastructure for the DOI:

- primarily through the deployment of new technology, and arranging for formal training, providing reference material, user guides, etc.; and
- by coordinating and supporting the design of business applications from a technical standpoint.

CIOB is ultimately responsible for ensuring appropriate governance of the SharePoint platform and related applications and tools. Responsibilities in this regard are well documented. The other branches of the institution are primarily users of the new tools and processes. However, they also have a role in proactively identifying their priorities, in identifying their needs, and in designing business applications to address those needs, from the user standpoint. For example, responsibilities for digitizing, prioritizing acquisition, and ingesting digital content are clearly defined within operational branches of LAC, and the branches are to take the lead in identifying their needs and contributing to the development of applications to address those needs. Technical designers in CIOB remain responsible for undertaking the development of more complex business intelligence systems, as necessary.

Digital preservation is an area in which responsibilities are not yet clearly defined. While responsibility for analogue preservation is very clear and rests with the Stewardship Directorate, responsibility for digital preservation is a different construct and involves a different set of competencies than the traditional archival function in an analogue environment, relying more on the computer science domain. The current personnel classification system does not support the definition of the required competencies and the identification of the kind of information professionals needed to support digital preservation. They need to be part archivist, part digital information specialist. The difficulty in defining the required competencies and identifying the people who possess them is part of the challenge of ensuring proper resources are available for the transition to digital preservation.

There is a network of information coordinators throughout the branches who help disseminate information and share expertise about the DO and, specifically, about the SharePoint platform and/or the applications specific to their branches, and provide feedback to the lead in CIOB on the progress of implementation, the challenges, and the needs that are identified along the way. This formal network of coordinators appears to have emerged and grown from an initial, informal set of SharePoint “super users,” mostly concentrated in corporate service areas and senior management offices. Early in the implementation of SharePoint and other modern office tools, these super users experimented on their own, promoting the use of the new platform and tools by sharing best practices and lessons learned, and informally training other users, sometimes in groups, sometimes individually. They served as early advocates and leaders of change.

There is also a structure of workspace administrators on the SharePoint platform. By default, executive assistants to senior managers (director general or above) are assigned the role of workspace administrators on the SharePoint platform for their office. Support staff in the various business units are assigned this role on a case-by-case basis. However, the identification of the workspace administrators and of their specific responsibilities has not been clearly communicated to all staff, which has resulted in some confusion in developing workspaces, in accessing various workspaces, and in accountability for managing workspaces and related material. Until recently,

not all administrators were aware of their responsibilities in assigning access and editing permissions, for example.

There is also a challenge in modernizing LAC's web presence, especially with regard to web content management. Given that the unit responsible for web content management is structurally located within the Communications Branch, that the technical expertise and responsibility for modernization rests with CIOB, and that the content and needs in terms of functionality are determined by the various program areas, collaboration and timely implementation of changes can be challenging. It is important to note that participants in this evaluation include the modernization of the institution's web presence as part of the DOI, and it may not be clear to them that the public web presence is not part of the initiative.

### *Implementation vs. plan*

**The infrastructure components of the DOI and IM governance plan are in place, and there are indications that specific business applications are being developed throughout the various branches of LAC. However, there are reports of the uneven use of the modern office tools.**

There are indications that some progress has been made, but opinions vary. Some participants in this evaluation feel that the DOI is almost fully implemented, while others do not. The former view the DOI as mostly consisting of infrastructure components, and although they recognize that LAC has to complete the modernization of its business processes, they view that as separate from the DOI. Others view the DOI as both infrastructure and business process modernization; hence, they indicate that the DO is only partly implemented at this point. Some argue that since the digital environment is continually evolving, the initiative and what LAC senior management expects from it will continue to evolve as well.

As far as the CIO and CIOB are concerned, the infrastructure components of the DOI and IM governance plan are in place; hence, the foundation of the DO is in place, along with a knowledge community (supported by the Resource Centre, a network of information coordinators, and a blog), and some dashboard reporting capabilities for management. Business applications have been developed for corporate functions, such as correspondence management, briefing, and internal audits. However, the adaptation of several business processes and the development of specific business applications throughout the various branches are still under way or have not been tackled yet because of limited resources and competing priorities. One area that has not yet been tackled is the more complex business intelligence systems (e.g., for financial performance analysis and reporting). The development of business modules for the corporate finance and human resources functions were not the focus until late 2012, when it became apparent that the GoC-wide initiatives to centralize services in those two areas were not proceeding according to the established timeline, and that the institution should modernize its processes independently. In addition, the transition to formal digital signatures for financial reports and other documents of legal tender is being addressed at the time of this evaluation, with technical assistance from CIOB. The solution being developed is based on the GoC's Public Key Infrastructure (PKI).

Senior management reports that modern office tools are widely used at LAC. Among front-line personnel, there are reports of the uneven implementation of these modern tools, and of entire work units not having made the transition—or at least not fully—to the SharePoint platform and

the Administrative Business Unit (ABU) IM structure, and away from traditional filing structures (e.g., storing information on “Z drives”). They indicate that certain work units will not make the full transition unless it becomes mandatory and is strictly monitored, and that the level of acceptance and progress in the transition largely depends at this time on the personnel and team leader of any given work unit, that is, on their willingness and/or their understanding of the DO or the new BPP.

### *Challenges and barriers*

**Challenges identified to date include changing mindsets, addressing stewardship issues, the uneven use of SharePoint and related tools, IM standards established after the introduction of SharePoint, technical issues with some of the tools, and the changing behaviours associated with the shift to the DO.**

#### **Change in mindset**

Only some managers and employees have understood the change of mindset that is required to transition to a DO and have effectively made that change. Many individuals are still focusing on translating existing business processes and traditionally paper-based processes into the digital environment, when, in fact, these processes may need to be approached completely differently (i.e., from a linear, assembly-line type to more distributed processes). The successful transition of the institution to a fully digital environment depends on everyone’s making that transition. Providing new IT tools can contribute to the desired change in mindset, but that is not sufficient. To facilitate change, additional training on new tools and processes is required, as is additional promotion of the DO and promotion of the development of business applications to address all of the different activities of the institution.

#### **Stewardship issues**

The transition to digital content also poses a challenge in terms of stewardship. Stewardship over content was very clear in an analogue-only environment (collection, authentication, retention, etc.); however, stewardship is more difficult to determine in a digital environment. Also, in terms of ingesting content, LAC is now directing publishing houses and government departments to provide only digital publications. However, the system for accepting digital material for legal copyright deposit has not yet been developed. Until these challenges are resolved, the DOI cannot be fully implemented and the modernization efforts of the institution will not be complete.

#### **Uneven use of new tools**

Another challenge is the uneven use of the new platform and related tools. As indicated previously, there are reports of entire work units not having made the transition, or at least not fully. Insufficient or uneven training pertaining to the new platform and related tools, as well as to the use of new business applications, was reported and may partly explain the previous challenge around the uneven use of these tools. Faced with significant changes, certain individuals or work units will not make the full transition unless it becomes absolutely necessary.

### **Standards established after SharePoint was introduced**

According to participants in this evaluation, the implementation of the SharePoint platform evolved from pilot project to full implementation without notice, and without a full IM plan. Initially, the super users and other early participants were given complete freedom in terms of creating, structuring, and using their workspaces in SharePoint. There were no standards or requirements (look, functionality, recordkeeping requirements, etc.) to follow. These were established later on, as part of a full IM governance plan, by the internal IM function within the Innovation and IT Directorate. This caused early participants to have to adjust their workspaces and applications, causing a significant amount of additional work in some cases. Ideally, the standards and requirements would have been established prior to introducing SharePoint and the new concept of workspaces and workspace administrators.

### **Technical issues with new tools**

The modern office tools do not always work together to increase efficiency. Examples of this were provided by participants in this evaluation. For example, SharePoint is not compatible with the BlackBerry enterprise system. Senior managers usually require quick access to documents and because they cannot access them on SharePoint using their BlackBerry devices, a separate electronic version of a document needs to be generated on a traditional shared drive and sent to them as an email attachment. As a result, there is duplication on the shared drive and SharePoint.

Also, SharePoint is not immune to technical problems. Participants in this evaluation report instances of SharePoint applications ceasing to function for a prolonged period of time. Such issues impact the entire organization, and impact its external client services in an even more immediate and more visible way.

### **Changes in behaviours**

With a change to more modern and efficient office tools and a change of work culture in the form of increased efficiency, communication, and collaboration, comes a change in expectations and behaviours. Although participants in this evaluation noted the added flexibility and accessibility that have been realized with the introduction of DOI tools, they have expressed concern over the increased likelihood of work encroaching on personal life. They are also concerned about the possibility that expectations will be raised to unrealistic or unsustainable levels in terms of response time to senior management requests and to client requests, as well as efficiencies accompanied by increases in the volume of work.

### ***Resource allocation and use***

**The overall cost associated with an initiative of this scale is approximately \$2.5 million—an investment that can possibly yield long-term savings in operational costs. There is no estimate of economies to date or of future savings.**

The overall cost associated with an initiative of this scale is approximately \$2.5 million. The cost per fiscal year and type is presented below in Table 2.

**Table 1: Direct and other related costs for DOI infrastructure, by fiscal year**

<b>Fiscal year</b>	<b>Direct costs</b>	<b>Related costs</b>	<b>Total costs</b>
2010–11	\$48,648	\$818,382	\$867,030
2011–12	\$314,360	\$894,475	\$1,208,835
2012–13	\$180,686	\$251,993	\$432,679
Total per category	\$543,694	\$1,964,850	\$2,508,544

Source: LAC, 2013c.

While infrastructure components were initially the responsibility of CIOB at LAC, responsibility for some of these components was transferred to SSC later on (responsibility for the wireless network, server hardware, cloud and virtualization software known as VMware, and data centres), thereby reducing, over time, the costs associated with the DOI and those born by CIOB (LAC, 2013c). The available documentation provides an indication of the scale of the deployment of new technology during the first three years of the initiative in the following areas.

#### Increased mobility:

- Based on user profiles, over 800 hybrid tablet personal computers and laptop computers were deployed, with unified security features and remote access (VPN).
- Also, as part of the basic software products installed on their workstations, all employees now have access to Instant Messaging and Presence Information (laptops or desktops).

#### Improved communication and collaboration:

- Six hundred telephone landlines have been eliminated in conjunction with the deployment of 835 smart phones and cellular phones, which covers an estimated 70% of the LAC workforce (LAC, 2013c).
- Video conferencing functionality (point to multipoint) is available to all laptop users either through a desktop application or via a webcam for.
- All boardrooms at LAC are equipped with large-screen televisions.
- Over 50 employees have been trained on and are using Skype for desktop video conferencing as an additional method of offering reference services to Canadians.
- Employees generate and access information and collaborate internally using a single platform (the Business Process Platform, or BPP) that comprises ABUs, Project Offices, committee or working group workspaces, or specific applications to address their particular needs. According to key informants:
  - the proportion of staff that is still using conventional shared drives to store information is unknown; and
  - the number of applications that have been developed is estimated at 30 out of a potential total of 90.
- The DOI has also enabled external collaboration with other departments through portals (i.e., the Recordkeeping Portal and LAC Direct), and Memoranda of Understanding (MOUs) with other departments and agencies have led to web-based workspaces, increased information sharing, and so on, replacing electronic mail and extranets.



Reduced paper consumption:

- Fax, scan, and print functionalities were consolidated under multi-functional devices. Scan to email or scan to PDF are now easily and broadly available.
- The number of printers was reduced by 180 over a period of 8 months; double-sided printing and black and white printing by default were also implemented.

Furthermore, CIOB reports the following:

- Telecommunication costs alone have been reduced by approximately 50% over that period.
- Paper consumption has been reduced to between a third and a quarter of past consumption.
- In addition, following the desktop replacement with laptops and the implementation of the new policy to enforce one workstation per employee, LAC identified 200 surplus desktops and donated them to another government department for repurposing. This yielded savings for another part of the GoC.

The internal financial report produced in March 2013 also provides a relative order of importance of savings in operational costs to date for LAC. Evidence from interviews and group sessions also supports the possibility of additional savings in the future. The economies to date and possible future savings are based on the modernization and simplification of the IT computing environment, namely, multipurpose (reusable) modular applications on the SharePoint platform; Microsoft Consolidated Licensing Management; decreased costs associated with IT support; elimination of Ethernet cable installation costs as a result of the Wi-Fi environment; rationalization of the number of workstations and printers; reduced equipment, support, maintenance, and energy costs; reduced paper consumption; Novell server retirement; and so on. The economies to date and the potential future savings have not been quantified in dollars at this point.

### **3.2.3 Results relative to milestones**

#### **Enterprise Project Office, local project offices, and portfolio management**

The integrated SharePoint platform provides a means to support both corporate and local project offices. These digital “offices” are virtual workspaces, where it is simple to access information, collaborate (collaboratively create material, track tasks and approvals, organize meetings, store meeting agendas and records of decisions, etc.), and monitor overall project progress. The SharePoint platform has encouraged greater discipline in planning, has improved transparency and has simplified reporting to senior management (LAC, n.d.b). For example, whereas senior managers previously had to formally request information about projects that are under the purview of their colleagues and wait for a response, they now have access to several workspaces and can access the information directly.

The corporate or enterprise project office is the umbrella for the local project offices and includes a directory of all ongoing projects for which a workspace was created on SharePoint. Some projects may not be included in this because no one created a workspace for them. Projects can be clearly delineated initiatives of specific branches of LAC, more portfolio-specific, or institution-wide. Guidelines exist for requesting the creation of a corporate versus a local project office; for developing a project charter; and for identifying needs in terms of internal and external

collaboration, consultation, interdependencies, access restrictions, and so on. ABUs are shared spaces on the platform that are used to organize information and applications, and that replace the traditional file storage on shared drives (“Z drives”) and traditional intranet spaces for projects. They are aligned with portfolios, branches, and work units. For example, local project offices were created for project management among LAC regional services centres (Montreal, Toronto, and one for the other regional service centres combined).

As the natural pendant to the project offices, the concept of portfolio management was expected to support ongoing work that is not project-related. Most of the participants in this evaluation were not familiar with this concept. An example is the Communications Project Office. At the time of the evaluation, a workspace had been created, a calendar of communications activities was being developed for the entire Directorate, an internal virtual LAC newsletter was being developed, and the relevant information was in the process of being migrated to the ABU for the entire Communications portfolio.

### **Development of specialized business solutions**

As noted in section 3.1.2, several improvements were made in collaboration, information sharing, decision-making, and approval processes by developing business applications on the SharePoint platform, replacing lengthy and paper-based processes (e.g., internal web-based comment and approval processes for briefing notes, correspondence, and other documents). Other processes in the areas of reprography, accounts payable, reporting for the Management and Accountability Framework (MAF) process, and responses to Questions from Parliament (QP) were transformed from a conventional supply chain model to more flexible and distributed processes. The implementation of a committee registry (collaborative workspaces for committees, working groups, teams, etc.) also improved collaboration, and the added functionality to manage records of decisions and follow-up after meetings has increased efficiency. Also, as noted in section 3.2.1, external collaboration with other departments now takes place through portals and collaborative workspaces. Two illustrations in Appendix B provide a more detailed description of two business applications that were developed on the BPP, and explain the key benefits.

### **Modernization/upgrading of IT, business intelligence, web presence, searchability**

As indicated in section 3.2.1, the institution has made progress by increasing the portability of office tools and the mobility of its employees; by improving communication and collaboration; and by reducing paper consumption, as well as equipment, support, maintenance, and energy costs. The development of the more complex business intelligence systems (e.g., for financial performance analysis and reporting) has not been tackled yet because of limited resources and competing priorities.

LAC’s web presence was initially developed on a platform that does not interact with SharePoint. It is in the process of being redeveloped (no timeline was provided). One key challenge is to develop appropriate external client interfaces via the web, but the ones that have been tested at this point are not considered sufficiently user-friendly. The institution has also decided to develop and implement a system to scan for, assess, and acquire relevant documentary heritage already in digital form, since the volume is growing very rapidly. The institution currently experiments with

social media filters to perform such a scan, and tests have begun on an application that would support the process.

*Digital-only material by 2017*

**Significant progress has been made toward enabling LAC to ingest born-digital records, but some challenges remain.**

Participants in this evaluation report that significant progress has been made in developing and implementing elements of systems that enable LAC to ingest digital records, but some challenges remain. The institution has to educate other departments and agencies, which are at varying levels of maturity with regard to IM in a digital environment. As a step in that direction, LAC conducted a pilot project with three relatively small agencies in 2010–11 (Digital Office of the Future Pilot Project, n.d.). LAC has since implemented a Recordkeeping Portal to work externally toward the 2017 objective with other department and agencies, and is already acquiring some digital material. Efforts are still required to simplify the entire process. Other challenges are associated with the modernization of the legacy systems, the public web presence, and the approach to processing documentary heritage, but these are not part of the DOI per se.

## 4. Conclusions

The conclusions from this evaluation are organized according to the three main aspects of the DOI: enabling technology, business processes, and culture change.

Overall, we are able to conclude that the infrastructure is in place, some user groups are on board, and the mindset has begun to change. However, three key challenges remain: broadening the use of the new IT tools, developing more business applications, and pursuing the required change in mindset.

### 4.1 Enabling technology

As far as the CIO and CIOB are concerned, the infrastructure components of the DOI and IM governance plan are in place.

We can conclude that the overall, upfront cost of an initiative of the scale of the DOI is approximately \$2.5 million. Information is not available for an analysis of upfront costs versus cost avoidance/reductions and efficiencies in various areas. We do know that there has been considerable transformation over the last three years as a result of the implementation of the technology components of the DOI: increased mobility and reduced telecommunication costs; improved communication and collaboration; reduced equipment, support, maintenance, and energy costs; and reduced paper consumption. The actual economies to date and potential future savings have not been quantified in terms of dollar value.

However, the uneven use of the new platform and related tools is limiting their impact on the institution in terms of efficiency gains. Some work units have not made the transition—or at least not fully—to the SharePoint platform and to the ABU information management structure, and away from traditional filing structures. Insufficient or uneven awareness and training pertaining to the new platform, the related tools, or the use of new business applications may be partly to blame for this challenge.

### 4.2 Business processes

With the introduction of new technology and the development of several customized business applications on the SharePoint platform, the DOI has led to some improvements in collaboration, information sharing, decision making, and approval processes, all of which were lengthy and paper-based in the past. This has had a positive effect for some senior managers, their support staff, and some corporate services who were among the early participants in the DOI. Other processes have been transformed from a conventional supply chain model to more flexible and distributed processes using the new tools on the BPP. However, more business applications could be developed, and more complex business intelligence systems have not been tackled yet, specifically for the finance and human resources functions.

### 4.3 Culture change

Overall, the theory of change that underpins the initiative may have run its course, in that the iterative and user-driven process that was selected to implement the DO at LAC may have produced as much change as it can.

The implementation of the DOI is user-driven, including the efforts to change the mindset toward a digital way of thinking. Therefore, not everyone has made the same amount of progress. Some individuals and units have understood the change of mindset that is required to transition to a DO and have made that change. However, many individuals are still focusing on translating existing business processes and traditionally paper-based processes into the digital environment, when, in fact, these processes may need to be approached completely differently (i.e., from a linear, assembly-line type to more distributed processes). The successful transition of the institution to a fully digital environment depends on everyone's making that transition. Providing new IT tools can contribute to the desired change in mindset, but that is not sufficient. To facilitate this, additional training on new tools and processes is required, as is additional promotion of the DO and promotion of the development of business applications to address all of the different activities of the institution.

## 5. Recommendations

### 5.1 Communicate more effectively and foster engagement

It is recommended that the institution communicate the logic of the DOI more effectively in order to improve understanding of the DOI, reduce the resistance to change that may play a role in parts of the institution where change has not yet taken place, and build on existing momentum. Specifically, it is recommended that the institution develop an overview of the DOI and, more importantly, the program logic, including:

- the delineation of what is included and what is not (e.g., is the DOI providing new tools, or does it also include rethinking business processes) and, especially, the delineation between the DOI and other modernization efforts; and
- an explanation of how the DOI is intended to support LAC's overall modernization efforts and the acquisition and ingestion of digital-only records by 2017.

The institution should distribute information about the DOI to all staff in an appropriate format (e.g., the internal newsletter) with examples of accomplishments to date, and arrange for demonstrations of new business applications in order to increase the level of interest and engagement internally.

In addition, since the uneven use of the new platform and related tools is limiting their impact on the institution in terms of efficiency gains, it is recommended that the institution further the return on its investment by:

- setting targets and tracking progress in terms of broadening their use;
- ensuring that additional training opportunities are available for various types and levels of users of the various tools; and
- ensuring that appropriate resources (documentation and support) continue to be available and clearly communicated to all staff.

The institution should also ensure that resource utilization specific to the DOI is appropriately documented so that sufficient data is available to demonstrate the savings that are realized over time.

### 5.2 Consider alternative approaches

The DOI has been implemented as intended up until now. The infrastructure is in place, some user groups are on board, and the mindset has changed somewhat in some parts of the institution, but the iterative and user-driven implementation model may have reached a plateau and is not likely to take the institution further toward the ultimate outcome of "thinking in digital terms." The institution should revisit its initial strategy and consider alternative approaches that would allow it to continue to make progress in implementing the DOI, which is closely linked to the institution's overall modernization efforts. A more proactive approach and a detailed action plan would be beneficial. To assist with that, focus groups with staff in various branches and units could help

management generate ideas about how to make further progress on the issues of culture change and business process redesign.

## 6. Management Response and Action Plan

<b>Recommendation</b>	<b>Management response</b>	<b>Planned actions</b>	<b>Expected completion date</b>	<b>Responsibility</b>
<b>Recommendations as described in the report.</b>	<b>State whether or not you accept the recommendation.</b>	<b>Briefly and clearly state what action will be taken to remedy the situation.</b>	<b>Enter an approximate date (e.g., one quarter).</b>	<b>State the level of the authority responsible for implementing action.</b>
<p><b>Recommendation 1</b></p> <p>It is recommended that the institution develop an overview of the DOI and its logic, including how it is intended to support LAC's overall modernization efforts.</p>	<p>Accepted</p> <p>Management recognizes the need to develop an overview of the DOI and why it is important to LAC's modernization.</p>	<p>Management has:</p> <ul style="list-style-type: none"> <li>• Created a well-developed PowerPoint presentation that clearly explains the DOI, its logic, and its contribution to modernization and to information management.</li> </ul> <p>Management will:</p> <ul style="list-style-type: none"> <li>• Develop a white paper that explains the logic behind the DOI, what was done to implement it, why it is important, myths that may be obstacles to its use, and what the advantages are to adopting it to support work processes.</li> </ul>	<p>Completed</p> <p>September 2013</p>	<p>Chief Information Officer, Innovation and Chief Information Officer Branch</p>
<p><b>Recommendation 2</b></p> <p>It is recommended that the institution distribute information about the DOI to all staff in an appropriate format in order to increase the level of interest and engagement internally.</p>	<p>Accepted</p> <p>Management recognizes the need to make information about the DOI available in several formats and through several channels to demystify the DOI and to foster staff engagement.</p>	<p>Management will:</p> <ul style="list-style-type: none"> <li>• Create a "how to" section on the SharePoint portal and add information about the DOI and how to use it in order to lower barriers to adoption.</li> <li>• Improve the usability of the DOI portal.</li> <li>• Promote LAC DOI success stories, including attestations and endorsements by peers who have experienced first-hand the efficiencies gained through adopting DOI tools and techniques.</li> <li>• Recommend a sunset date for use of the Z:</li> </ul>	<p>Completed</p> <p>Completed</p> <p>December 2013</p>	<p>Chief Information Officer, Innovation and Chief Information Officer Branch</p>

Recommendation	Management response	Planned actions	Expected completion date	Responsibility
		drive, after which time it will become read-only.	March 2014	
<p><b>Recommendation 3</b></p> <p>It is recommended that the institution set targets and track progress in terms of broadening the use of the tools.</p>	<p>Accepted</p> <p>Management recognizes the need to set targets and track progress of DOI uptake.</p>	<p>Management will:</p> <ul style="list-style-type: none"> <li>• Set targets for converting business areas to the use of DOI tools and techniques.</li> <li>• Set a target for attendance at training sessions on various aspects of the DOI.</li> <li>• Produce a register of staff who have participated in the training sessions.</li> </ul>	<p>Completed. Target for 2013 set in Digital Office Reinvestment project.</p> <p>Completed</p> <p>Completed</p>	<p>Chief Information Officer, Innovation and Chief Information Officer Branch</p>
<p><b>Recommendation 4</b></p> <p>It is recommended that the institution ensure that additional training opportunities are available for various types and levels of users of the various tools.</p>	<p>Accepted</p> <p>Management recognizes the need to continue to provide training to various levels of LAC users. Over sixty training sessions have been provided thus far.</p>	<p>Management will:</p> <ul style="list-style-type: none"> <li>• Systematically offer DOI training to all LAC staff at all-staff and management team meetings, and at open-invitation special sessions.</li> <li>• Specifically engage senior management in trainings sessions so that they can subsequently become “DOI champions.”</li> </ul>	<p>Completed</p> <p>March 2014</p>	<p>Chief Information Officer, Innovation and Chief Information Officer Branch</p>
<p><b>Recommendation 5</b></p> <p>It is recommended that the institution ensure that appropriate resources (documentation and support) regarding these tools continue to be available and communicated clearly to all staff.</p>	<p>Accepted</p> <p>Management recognizes the need to make DOI resources available and to clearly communicate their availability.</p>	<p>Management will:</p> <ul style="list-style-type: none"> <li>• Develop a user adoption campaign to ensure that staff are aware of DOI tools and documentation.</li> </ul>	<p>March 2014 (pending mid-year funding)</p>	<p>Chief Information Officer, Innovation and Chief Information Officer Branch</p>



## Appendix A: Evaluation framework

Evaluation issue	Questions	Criteria	Data source
<b>Relevance</b>	1. To what extent are the objectives of the Digital Office Initiative (DOI) aligned with the strategic outcomes of LAC?	<ul style="list-style-type: none"> <li>- Nature of LAC's strategic outcomes</li> <li>- DOI's expected results</li> <li>- Evolution and strength of program logic</li> </ul>	<ul style="list-style-type: none"> <li>- LAC strategic documentation</li> <li>- DOI documentation</li> <li>- Key informant interviews</li> </ul>
<b>Relevance</b>	2. To what extent does the DOI address the evolving needs of its stakeholders (internal and external)?	<ul style="list-style-type: none"> <li>- Documented needs of various groups within LAC</li> <li>- Documented needs of external stakeholders</li> <li>- Evolution of and factors influencing needs</li> <li>- Strength of program logic</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> <li>- Working sessions</li> </ul>
<b>Performance (effectiveness, efficiency and economy)</b>			
<b>P1 Design</b>	3. Is the design of the DOI appropriate to support the overall change (in philosophy, business rules, and processes) that is envisioned?	<ul style="list-style-type: none"> <li>- Evidence of change that is envisioned</li> <li>- Direction of desired change</li> <li>- Soundness of program theory and logic model</li> <li>- Nature of original assumptions</li> <li>- Alignment of original assumptions and program theory and logic model</li> </ul>	<ul style="list-style-type: none"> <li>- Feasibility study</li> <li>- Conceptual papers</li> <li>- DOI project charter</li> <li>- DOI program logic and logic model</li> <li>- DOI plan</li> <li>- Key informant interviews</li> </ul>
<b>P1 Design</b>	4. Are the activities and expected results clearly defined?	<ul style="list-style-type: none"> <li>- Extent to which activities and expected results reflect program theory and logic model</li> <li>- Level of awareness of activities and expected results within LAC</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> <li>- Working sessions</li> </ul>

<b>P1 Design</b>	5. Is there a performance measurement strategy or other mechanism in place to assess the progress toward expected results of the DOI? If so, what does it focus on?	<ul style="list-style-type: none"> <li>- Evidence of mechanism in place to track progress</li> <li>- Appropriateness of approach and specific measures to monitor progress</li> <li>- Level of awareness of mechanism in place to track progress</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> </ul>
<b>P2 Implementation</b>	6. Are the roles and responsibilities of the various parties involved in the implementation of the DOI clearly defined?	<ul style="list-style-type: none"> <li>- Evidence of established roles and responsibilities</li> <li>- Level of awareness about which parties are involved and their assigned roles and responsibilities</li> <li>- Perceptions of LAC senior management and DOI management regarding the definition of roles and responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> <li>- Working sessions</li> </ul>
<b>P2 Implementation</b>	7. Has the DO been implemented as planned? Have any components not been fully implemented?	<ul style="list-style-type: none"> <li>- Evidence of an implementation strategy</li> <li>- Changes to initial plan and rationale</li> <li>- Significance of departures from original assumptions and design</li> <li>- Adherence to plan</li> <li>- Level of progress in implementation (e.g., the implementation of the IT infrastructure, the rollout of the mobile desktop, the awareness and knowledge of the initiative among employees, the training pertaining to IT, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> </ul>
<b>P2 Implementation</b>	8. What challenges or barriers, if any, have emerged during the implementation of the DOI to date?	<ul style="list-style-type: none"> <li>- Nature of challenges and barriers</li> <li>- Effectiveness of solutions</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> <li>- Working sessions</li> </ul>
<b>P2 Implementation</b>	9. How are DOI resources being allocated and used?	<ul style="list-style-type: none"> <li>- DOI budget</li> </ul>	<ul style="list-style-type: none"> <li>- Financial and administrative data</li> </ul>

<b>P3 Results</b>	<p>10. What are the results to date with regard to the milestones established by LAC?</p> <p>a) Creation of an Enterprise Project Office to effectively manage the numerous ongoing projects</p> <p>b) Introduction of the concept of portfolio management to support LAC's ongoing work that is not project-related</p> <p>c) Development of specialized business solutions to support the business activities of LAC</p> <p>d) Support for projects in relation to modernization/IT upgrading, business intelligence, modernization of web presence, and searchability</p>	<ul style="list-style-type: none"> <li>- Level of progress in design/development and/or implementation</li> <li>- Process efficiencies, reduction of IM/IT administrative burden and associated costs</li> <li>- Reduction of paper use and paper files</li> <li>- Portability: employees have access to information and tools anywhere, anytime</li> <li>- Number of portable electronic devices (laptops, tablets, BlackBerrys, cellphones)</li> <li>- State of business process automation and digitization (e.g., number of SharePoint business applications developed)</li> <li>- Reduction of associated administrative and storage costs</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Administrative data</li> <li>- Key informant interviews</li> <li>- Working sessions</li> </ul>
<b>P3 Results</b>	<p>11. To what extent is the DOI contributing to the ability of LAC to deal only with digital material as of 2017?</p>	<ul style="list-style-type: none"> <li>- Areas where DOI is expected to contribute (see expected results)</li> <li>- Progress to date in implementing related activities</li> </ul>	<ul style="list-style-type: none"> <li>- DOI documentation</li> <li>- Key informant interviews</li> </ul>

## Appendix B: Illustrations of business applications

### *Illustration #1*

#### ***Reprography request tracking application***

Within Reference Services, the Reprography Services team uses a new tracking system. A reprography request tracking application was developed on the SharePoint platform, replacing the former Query Management System (QMS). The status of requests is available at a glance. The Reprography Services team can quickly identify requests that have not been addressed or are pending, and prioritize their work accordingly. The order number, the client, the date the request was submitted and how it was submitted are available at a glance, and the full history of a request is also available as necessary, in the event the order changed.

Clients are encouraged to submit reprography orders online, or electronically from the reference services computers at each of their locations. For those who are hesitant to do so, a paper form is still available, and staff will fill out the online request based on the paper form.

The online order form feeds directly into the request tracking application, with every new order triggering a new request, populating certain fields automatically, and assigning the request automatically. Requests no longer need to be triaged by staff.

When responding to a request, a Reprography Services officer may require approval from various other units, such as the Access to Information and Privacy unit, the Copyright unit, or the Reference unit. Because the request tracking application was built on the SharePoint platform, the responsibility for a certain task on a specific request, such as approval from a Copyright officer, can be assigned within the application, without a request file actually being sent to anyone—which used to be required. This has eliminated steps in and reduced the time for request processing and approval. Options are built into the application, so that the Reprography Services officer chooses from a set menu when they need to request action from another unit.

At any point in time, Reprography Services supervisors can track how many new orders have been registered, how many are pending, and how many are completed, and they can calculate how long it has taken to complete them. This has facilitated reporting against established service levels.

Reprography Services has practically eliminated the use of paper from the request tracking process, and has streamlined the process.

*Illustration #2****Corporate Secretariat: Organization of management meetings***

The previous practice for organizing Management Board meetings and managing the related material was to use Microsoft Outlook for scheduling and emails, the intranet for posting agendas and records of decisions, and the traditional file structure on shared drives for organizing the relevant material. This involved many steps, especially if any of the material continued to evolve prior to a meeting. Also, at times, the organizer had to request that CIOB grant Management Board members access to specific portions of a shared drive or to specific files, depending on the material relevant to a given meeting.

Current practice is much simpler, and consists of emailing participants a link to the Management Board workspace on SharePoint, from which they can follow other links to access agendas, relevant material and, later on, the records of decisions. Permission to access the material is set by the workspace administrator.

The decisions are recorded in a workflow application, and specific actions are assigned to specific individuals, with a timeline and reminder schedule. A new action triggers an email to the individual in question, as do automatic reminders. Responses or comments are also recorded in the application, and material can be developed collaboratively in the Board's workspace. The relevant approvals are also assigned, and automatic requests are generated from the same workflow application. Follow-up to Management Board meetings is now considered much more efficient.

A similar workspace and workflow application exists for every committee and working group (eight in total in the Committee Registry at the time of the evaluation). The Committee Registry of LAC—also on SharePoint—includes a list of the collaborative workspaces for committees and working groups.

## Appendix C: List of documents

- Digital Office of the Future Pilot Project: Phase I Final Report. (n.d.). Government document.
- Library and Archives Canada. (n.d.a). *Digital Office Initiative @ LAC* (preliminary draft).
- Library and Archives Canada. (n.d.b). *IM-IT Community Recognition Awards 2013: Nomination of LAC's Integrated Digital Workplace Initiative for the Innovation Award*.
- Library and Archives Canada. (2011a). *Étude des résultats du bureau numérique de Bibliothèque et Archives Canada*.
- Library and Archives Canada. (2011b). *Digital Office Results Assessment: case studies* (draft as of October 4, 2011).
- Library and Archives Canada. (2011c). *Digital Office at LAC: Proposed Evaluation Approach and Review of Progress to Date* (dated December 2011).
- Library and Archives Canada. (2012a). *2011–2012 Departmental Performance Report*.
- Library and Archives Canada. (2012b). *Formative Evaluation of the Digital Office Initiative at LAC: Terms of Reference* (draft as of December 12, 2012).
- Library and Archives Canada. (2012c). *2012–2013 Report on Plans and Priorities*.
- Library and Archives Canada. (2013a). *Project Charter: LAC Digital Office*.
- Library and Archives Canada. (2013b). *Digital Office: January 2013*.
- Library and Archives Canada. (2013c). *Summary of the costs and benefits of the Digital Office Initiative at LAC from April 1, 2010 to March 1, 2013*.
- Treasury Board of Canada Secretariat. (2009). *Directive on Recordkeeping*. <http://www.tbs-sct.gc.ca/pol/doc-eng.aspx?section=text&id=16552> (accessed on December 20, 2012).
- Treasury Board of Canada Secretariat. (2012). *Digital Office Initiative: Next Phase Activities*.

## Appendix D: Interview Guide

### **Library and Archives Canada Formative Evaluation of the Digital Office Initiative Key Stakeholder Interview Guide**

The Library and Archives Canada (LAC) Digital Office Initiative (DOI) was launched in 2010. The purpose of the LAC Digital Office (DO) is to create an efficient and effective working environment for LAC knowledge workers using sound information management practices. The LAC DO is composed of three levels:

1. The “front office” is composed of the LAC internal and external websites.
2. The “middle office” constitutes a web space where staff members carry out regular, day-to-day activities.
3. The “back office” contains the traditional administrative systems such as Human Resources and Finance, along with the legacy holdings management systems.

In order to accomplish this, LAC has adopted the SharePoint application platform—a multipurpose set of web technologies supported by a common technical infrastructure.

The Evaluation Function of LAC is in the process of conducting a formative evaluation of the DOI, and has retained PRA Inc., an independent research firm, to assist with this evaluation. An important element of the evaluation is to interview individuals who have been involved with the development and implementation of the initiative so far, as well as users of the digital office.

This interview should take no longer than 45 minutes. With your permission, we will audio record it for the purposes of note taking. All digital recordings will be erased at the end of the study. Everything you say in the interview is confidential; we will not quote you in our report or associate your name with any comments. In addition, we realize that you may not be in a position to address some of the questions. If you cannot answer a question, please let us know. Additionally, your participation in this interview is voluntary, and you may withdraw from the study at any time.

## Introduction

1. Please briefly describe your involvement with the Digital Office Initiative (DOI), and indicate how long you have been involved in this initiative.

## Rationale and relevance

2. To what extent are the expected results of the DOI aligned with the strategic outcomes of LAC (below)?
  - a. Current government information is managed to support government accountability.
  - b. Canada's continuing memory is documented and made accessible to current and future generations.<sup>2</sup>

Please explain.

*[Prompt – Expected results of the DOI are as follows:*

- *The DO supports LAC's modernization efforts.*
- *LAC has the IT architecture required to receive government records only in digital format as of 2017.*
- *LAC meets the objectives set out in the Treasury Board Recordkeeping Directive.]*

3. To what extent does the DOI address the evolving needs of various user groups internal to LAC? Please specify what needs exist and which, if any, have been addressed, and how.

*[Prompt: To what extent has the SharePoint platform contributed to address needs internal to LAC? Have the needs of those who use/maintain legacy systems been addressed?]*

## Performance

4. Are the activities of the DOI clearly defined? What are the main activities to date? Are there other activities that LAC should undertake to support the achievement of the expected results of the DOI?
5. Are the roles and responsibilities of the various parties involved in the implementation of the DOI clearly defined? Who are the key parties involved to date, and what is their area of responsibility?
6. Has the implementation of the DOI contributed to a change in philosophy within LAC with regard to the production, exchange, and storage of information? If so, how?
7. What are the main changes to business rules and/or processes to date? Do they constitute tangible improvements over previous processes? *[Prompt: What were the issues before? How were they addressed or alleviated by the introduction of new processes and/or digital tools?]*
8. What challenges or barriers, if any, have emerged during the implementation of the DOI to date? If there have been challenges or barriers...
  - a. To what extent were they anticipated?
  - b. To what extent were they internal to LAC vs. external?
  - c. Have they been addressed? If so, how?

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<sup>2</sup> Library and Archives Canada. (2012). *2012–2013 Report on Plans and Priorities*.



9. Have any components of the DOI not been implemented as planned, or not fully implemented? If so, which ones, and why?

*[Prompt: For example, the implementation of the IT infrastructure, the rollout of the mobile desktop, the activities to raise awareness and understanding of the DOI among employees, the training pertaining to IT, etc.]*

10. Is there a performance measurement strategy or other mechanism in place to assess the progress toward expected results of the DOI? If so, what does the assessment focus on? What are the indicators? Is there a baseline?
11. What are the results to date with regard to the milestones established by LAC?
- a. Creation of an Enterprise Project Office to effectively manage the numerous ongoing projects
  - b. Introduction of the concept of portfolio management to support LAC's ongoing work that is not project-related
  - c. Development of specialized business solutions to support the business activities of LAC
  - d. Support for projects in relation to modernization/IT upgrading, business intelligence, modernization of web presence and searchability

Please explain the results to date.

12. To what extent has the DOI contributed to the ability of LAC to deal only with digital material as of 2017? Please explain.

### **Conclusion**

13. Do you have any other comments regarding the implementation and results of the DOI to date?

**Thank you for your participation.**

## Appendix E: Guide for working sessions

### Introduction

1. Are you aware of the DOI, its expected results and its main activities?

### Rationale and relevance

2. Please briefly describe how SharePoint is used in your unit.

### Performance

3. To what extent does the DOI address the evolving needs of your unit? What about the SharePoint platform specifically?
4. Are the roles and responsibilities of the various parties involved in the implementation of the DOI clearly defined?
5. Are you doing things differently as result of SharePoint? What are the main changes to existing business rules or processes in your unit to date? Do they constitute tangible improvements over previous processes? What were the issues before? How were they addressed or alleviated by the introduction of new processes and/or digital tools?
6. What has been your experience with SharePoint and other digital tools so far? Are they helpful for your work?
7. Are you aware of the results to date with regard to the milestones established by LAC?
  - creation of an Enterprise Project Office to effectively manage the numerous ongoing projects
  - introduction of the concept of portfolio management to support LAC's ongoing work that is not project-related
  - development of specialized business solutions to support the business activities of LAC
  - support for projects in relation to modernization/IT upgrading, business intelligence, modernization of web presence and searchability
8. What applications have been developed specifically in response to the needs of your business unit or branch? Please quickly walk us through the application.

### Conclusion

9. Do you have any other comments regarding the implementation and results of the DOI to date?

**Thank you for your participation.**