Executive Summary

Consolidated Report on the Evolving Role of the Chief Data Officer in the Government of Canada

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EXECUTIVE SUMMARY

This study of the Chief Data Officer (CDO) role was conducted between September of 2021 and February of 2022 with a primary focus on four Departments and Agencies in the Government of Canada (GC). These are Health Canada (HC), the Public Health Agency of Canada (PHAC), Agriculture and Agri-Food Canada (AAFC), and Transport Canada (TC). The report describes how the CDO role is evolving in the Government of Canada and provides recommendations on how it can be strengthened to achieve the goals of departmental data strategies moving forward.

For clarity, the acronym CDO will always refer to the Chief Data Officer in this report. When any other role with the same acronym is referenced, such as the Chief Digital Officer, it will not be abbreviated.

The findings of the study are based on data collected through three surveys, 20 interviews and 7 workshops conducted with key stakeholders in departments, and supplementary consultations and research. The three surveys were distributed to the following groups:

- GC departmental CDO organizations (9 responses total)
- Internal stakeholders in the four participating departments (78 responses total)
- External stakeholders in two of the four participating departments (9 responses total)

In many cases, multiple staff from the office of a senior official who received the survey would have contributed to a consolidated response (particularly in the case of the CDO offices) thus the total number of surveys received are comprised of input from a larger number of individual contributors. The relatively small sample size of the surveys means that they cannot on their own be considered a representative sample. However, combined with inputs from the twenty interviews and seven workshops that were held across the four government departments and agencies, we were able to identify areas of interest to the CDOs and their stakeholders. This analysis was combined with inputs from other departments, expertise from the Institute on Governance (IOG), and research from around the world to establish a set of key findings and recommendations for CDOs in the Government of Canada. We hope that others exploring this emerging role will find our observations and recommendations helpful.

The introductory and context section of the report describes some of the guidance and expectations that have been established for CDOs in the Government of Canada. The four departments that we studied, and all the departments that responded to the CDO survey, appreciate the value of data, are implementing their data strategies, and have appointed a CDO. However, we observed that the CDO role, governance, structure, and even the incumbents of the positions are still quite variable and shifting. During the six months we spent on the study there were structural changes, incumbent changes,

changes in governance models, and changes to investment levels amongst the CDOs we were engaged with.

All of the CDOs studied had identified developing a data strategy and data policies, and supporting data literacy in common as part of their mandate. Beyond this we found that the role varied significantly from department to department. The charts below highlight some of the variation in priorities and expectations of the CDO role amongst the CDOs and the stakeholders surveyed.
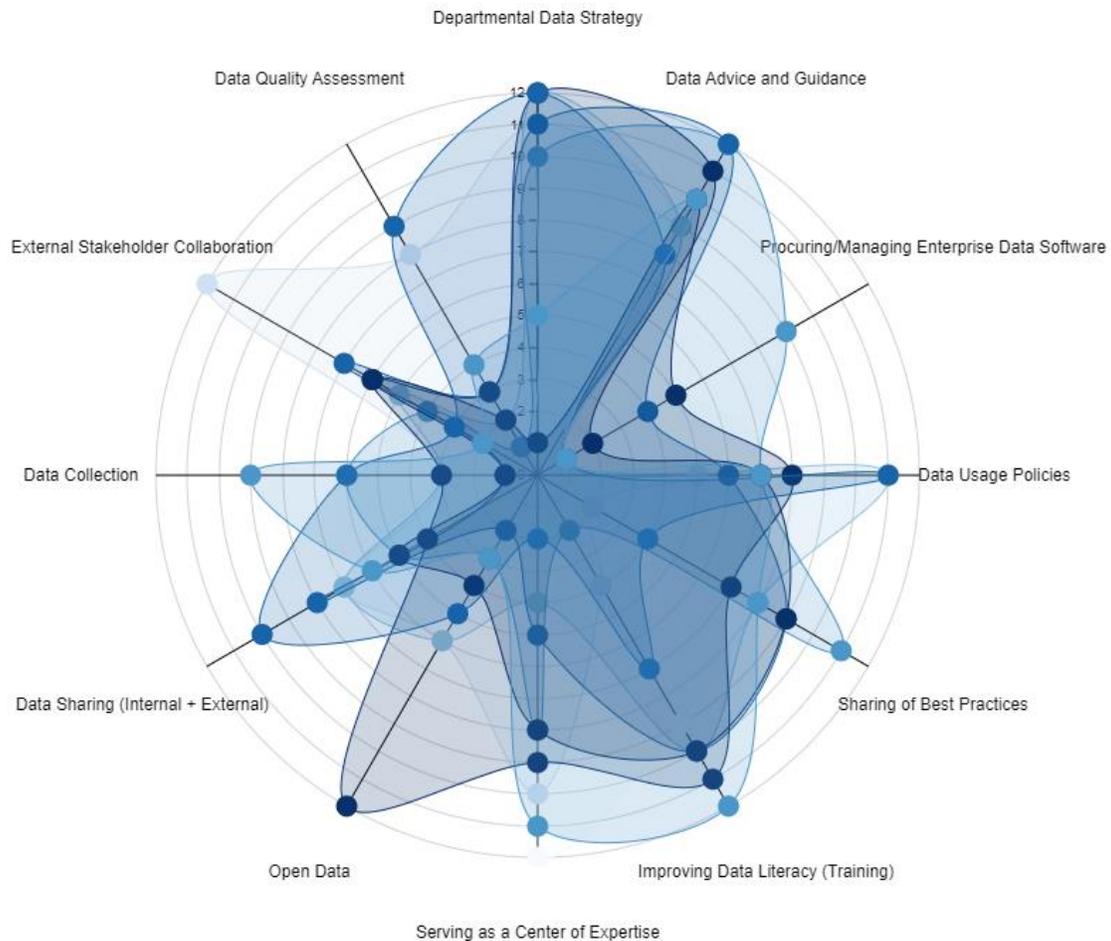
Ranking of CDO Priorities

1 = Highest Priority, 12 = Lowest Priority

Highest four priorities for each column are highlighted in green, lowest four in yellow.

	Internal Stakeholders	CDO Offices	External Stakeholders
Developing a departmental data strategy	3	1	2
Providing advice and guidance to business units on data related issues	4	2	9
Procuring and/or managing enterprise data management and analytics software	5	11	6
Developing policies for data usage across the organization	1	4	4
Facilitating the sharing of best practices	7	6	7
Improving data literacy through training and other educational opportunities	2	3	8
Serving as a Center of Expertise for data related trends and technologies	6	5	12
Open data	12	9	11
Data sharing (both internally and outside the department)	11	7	3
Collaboration with external stakeholders (i.e. other levels of government, academia)	9	8	1
Data collection and acquisition	8	10	5
Data quality assessment	10	12	10

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Radar Graph of CDO Office Responses to the Ranking of CDO Priorities

Our observations and findings from the study support having the Chief Data Officer closely aligned with the departmental Chief Digital Officer or Chief Information Officer function through structure and/or governance. The one recurring caution that we heard in this regard was not to let the lure of technology distract the organization and its leadership from the fundamentals of good data management and ensuring that data is used in evidence-based decision making. Central Agency guidance and support for sharing of best practices will go a long way to harmonizing these roles and maximizing the contribution of the CDOs over time. There are also good reasons to maintain flexibility in how these organizational models are implemented in specific departmental contexts

There was a preference expressed by many of those interviewed for having data governance embedded in the existing departmental governance bodies with the minimum necessary incremental CDO specific governance. Building data competencies throughout the organization will help to ensure that data considerations are included in new initiatives and that policy, program, and funding decisions are evidence-based. This can also be strengthened by ensuring that CDOs have a seat at their department's senior management table, which was the case for six of the nine CDOs that were surveyed as part of this study.

Funding levels and funding models for the CDOs varied widely across departments. In some cases, the role was just being formalized and resourced while we were conducting the study. The right level of funding will depend on the nature of the organization and the expectations placed on the CDO. A core team with the capacity to implement the departmental data strategy and build a community of practice for data practitioners provides a good starting point. All the data strategies examined included the important hygiene factors of good data management. The business case for further funding can be made based on return on investment and the data impact on the department's mandate to improve societal outcomes.

Consistently demonstrating the value of good data and how it can be presented in support of government programs includes experimentation to explore the art of the possible. This included data aggregation. All stakeholders we heard from are looking to the CDO to help with aggregating data across systems, across programs, and across jurisdictions to help achieve their mandates. We also heard a caution to focus effort on aggregating data where there is a clear benefit.

Embedding data teams on assignments in program areas while maintaining a community of practice is being adopted by several organizations. There are several benefits to this model. The multi-disciplinary teams will allow the data analysts to better understand the department and individual business lines. Program analysts will get a better sense of how data can be used to support achieving the goals of their program. A community of practice can build on each other's experience while helping to meet real data needs.

The CDO role in the Government of Canada is still in its early stages. We are encouraging a conscious evolution through occasional reviews, engaging with a horizontal community of practice, and a shared understanding that while the specifics of the role will vary across departments it must deliver value. This is particularly important in the context of the most recent federal budget. The announcement of a strategic review that will aim to create savings of $6 billion over five years provides both a risk and opportunity for CDOs. It reinforces the imperative that their priorities align with making the operations of their departments more efficient and effective so that they are rightfully perceived as areas for strategic investment.

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Finally, a desire to vastly improve the sharing of timely data across jurisdictions was consistently expressed throughout the study. Policy frameworks, data sharing strategies, and funding incentives have been used in the past to achieve this with varying degrees of success. Several stakeholders and workshop participants thought that an increased focus on ensuring essential data is available nationally should be considered, including pursuing policy and legislative changes where required.

We have made ten recommendations in this report that build on our key findings. The recommendations are grouped into three categories that we have called: **Engage**, **Enable,** and **Evolve**. Selecting the most relevant recommendations for a specific organizational context will improve the effectiveness of the CDO function and support broader digital transformation goals.

The **Engage** recommendations include a focus on clarifying and communicating the CDO role, vision and governance. Sharing best practices, which is about listening to others and sharing some of the hard lessons learned, will help to further inform this role. To further develop the support for the CDO engagement we recommend putting in place forums to encourage the sharing of data across jurisdictional boundaries to the extent possible. As highlighted by the pandemic, the complexity of data sharing arrangements in Canada's federated model of government certainly hampers aggregation of the data needed to address some national and international issues.

The **Engage** recommendations are as follows:

- Clarify and communicate the CDO role, vision, and related governance.

- Measure, demonstrate, and capture the value of data and analytics, including aggregated data.

- Improve data sharing between departments and jurisdictions to unlock value for citizens.

The **Enable** recommendations are focused on ensuring that CDOs have the resources needed to achieve their mandates. These recommendations are about establishing good data management practices, securing the necessary investments, and building data competencies. While we found significant support for the CDO role, most appeared to be under-resourced. Showing and quantifying the return on the data investment will allow the CDO function to evolve and, in the best case, lead to significant data driven benefits including better informed program, policy and financial decisions for the government and improved societal outcomes for citizens.

The **Enable** recommendations are as follows:

- Perform the core functions of good data management.

- Define and resource a long-term and predictable investment plan for data related infrastructure and tools**.**

- Address the funding model for the CDO and for data-driven projects.

- Build data competencies and establish programs to develop them through recruitment and training.

The **Evolve** recommendations are focused on the evolution of the CDO function over time. This includes continuously adapting the CDO role and its profile in government. To quote one interviewee, "Data is a very valuable asset. The CDO should have the same profile as the CFO." These recommendations also look at how to strengthen the connection of data teams to the business and evolve the CDO's role related to information management and open data.

The **Evolve** recommendations are as follows:

- Examine the longer-term evolution of the CDO position within GC organizations.

- Embed data teams in programs and business lines.

- Clarify roles for the CDO related to Information Management, Open Data and transparency initiatives.

This report and the study methodology behind it are aimed at improving data practices in government and optimizing the use of good quality, shared data for broad societal benefit as the CDO role matures. Several interviewees suggested that increased transparency in this regard will contribute to overall trust in government. With this in mind, we encourage the reader to consider and adapt our recommendations, as well as the key findings from this study to their specific context.

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