

Data Management – A key enabler to Open Data and Open Government

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Data Driven Economy



- **Data Explosion:** Data is driving organizations and people into action to store, analyze, share and manage it effectively and efficiently.
- **Open Data:** Governments as well as commercial organizations are increasingly wanting to share data with citizens as well as external stakeholders. A cloud deployment of data is an extension of open data.
- **Managing data as an asset:** As data moves into an open data state, it immediately becomes a visible asset both inside and outside the organization. Impacts to privacy, security and usage of the data force whole-scale changes in business processes.
- **Data responsibility:** Organizations need to take control of the process for moving to open data, consider impacts and align roles and responsibilities for data stewardship

Data Explosion



Mobile Services:

- Mobile data traffic is due to increase 26-fold to 75 exabytes annually

Cisco Mobile Data Traffic Forecast for 2010 to 2015

Military:

- In 2009, the USA's UAVs alone generated 24 years' worth of video if watched continuously.

Medical:

- 1 TB or 800,000 Books generated for one patient, for one data set over 5 seconds

Data Challenges in Government



The Government of Canada faces substantial challenges:

- Increased security and privacy challenges;
- Escalating operational costs (hardware, utilities, support, etc.);
- Uncertainty around data integrity and reliability;
- Preservation and long-term accessibility issues; and
- Demands to provide federal data to the public (e.g., Open Data).

Attraction and Demand of Open Data



- Government leaders around the world are beginning to understand that increasing access to public data can fuel unforeseen economic and social benefits.
- In many jurisdictions, government data is now being viewed as a public asset to be leveraged by citizens, businesses, and communities

Open Data in Action



The Goal of Open Data in the GC

- To expand access to federal government data to promote participation by the public and create socio-economic opportunities.

Open Data Portal (data.gc.ca)

- Launched in March 2011, was the first step towards meeting GC goal.

The Ongoing Challenge

- Making data that is trusted and non-sensitive in nature (e.g. without privacy or national security implications) broadly available in reusable formats to Canadian citizens.

Data Management supports Open Data



Data management is the development, execution and supervision of plans, policies, programs and practices that control, protect, deliver and enhance the value of data and information assets ” - DAMA DM-BOK

- Improved decision support, and integrated planning and reporting
- Reduced cost of information collection and management
- Drives consistent and standardized practices
- Added business value through re-use, sharing of data assets, and common design for collaborative systems and services
- Improved timeliness, consistency, quality of information

Major Gov of Canada Data Initiatives



- **Data Stewardship Directive & Supporting Policy Instruments:** will provide direction and guidance on how to implement effective Data Management practices in the GC
- **Aging IT Systems Renewal:** opportunity to explore shared solutions and interoperability on the strength of data management best practices
- **Open Data Portal:** sharing and re-use of GC data that can be made available in machine readable formats, to increase its value
- **iCOE:** Interoperability Centre of Excellence project aimed at designing and delivering GC common system interoperability architecture and services

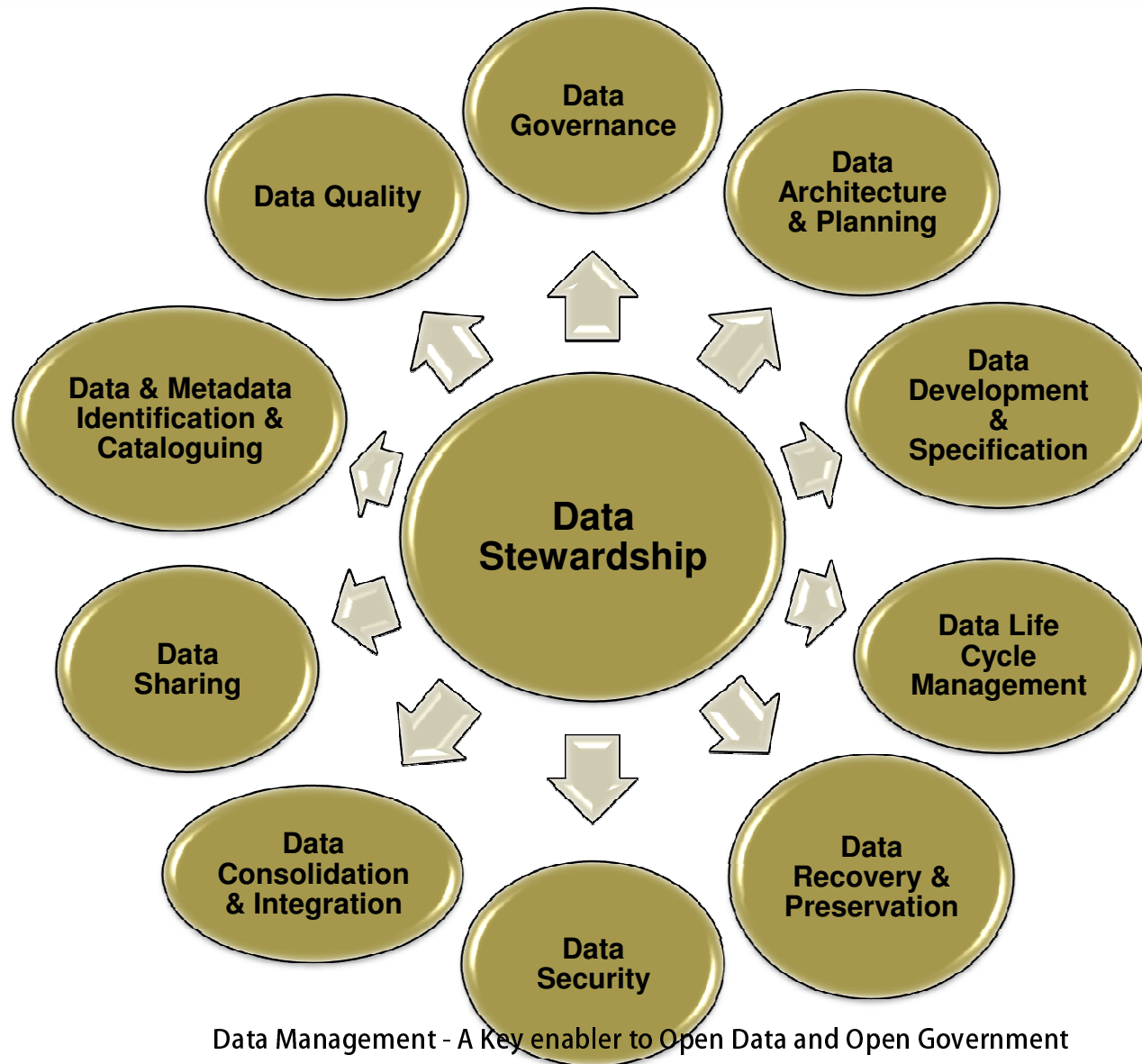
GoC Directive on Data Stewardship



Outcomes focus for Data

- Drive consistency and standardization across GC pertaining to data management
- Reduce the Federal Government's Total Cost of Ownership (TCO) of data assets
- Enhance the reliability, integrity and security of Federal data assets
- Enable increased access and sharing of data internally across GC and externally with citizens

GoC Directive on Data Stewardship (draft)



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TBS Stewardship Draft Requirements



| Area | Requirement |
|---|---|
| Data Governance | Develop, implement, and maintain efficient and effective departmental governance structures to support the effective planning, monitoring and enforcement of data management practices across the enterprise. |
| Data Architecture & Planning | Identify, define and document the department's data needs and design master plans to need those needs. |
| Data & Metadata Identification & Cataloguing | All data & metadata assets are inventoried. |
| Data Development & Specification | Standardize the management and development of data assets of business value. |

TBS Stewardship Draft Requirements



| | |
|---|--|
| Data Life Cycle Management | Establish and implement mechanisms and processes to ensure structured data assets within operational databases and other structured data repositories support the management of data throughout the data life cycle. |
| Data Security | Establish and implement mechanisms and processes to ensure strong authentication and access control policies and systems are implemented; this includes adhering to GC policies, directives and standards on security. |
| Data Recovery & Preservation | Establish plans and processes to ensure <u>Data Recovery</u> is possible for data of business value. Establish mechanisms and processes to evaluate and when required ensure data of business value is retained and preserved for the long-term |

TBS Stewardship Draft Requirements

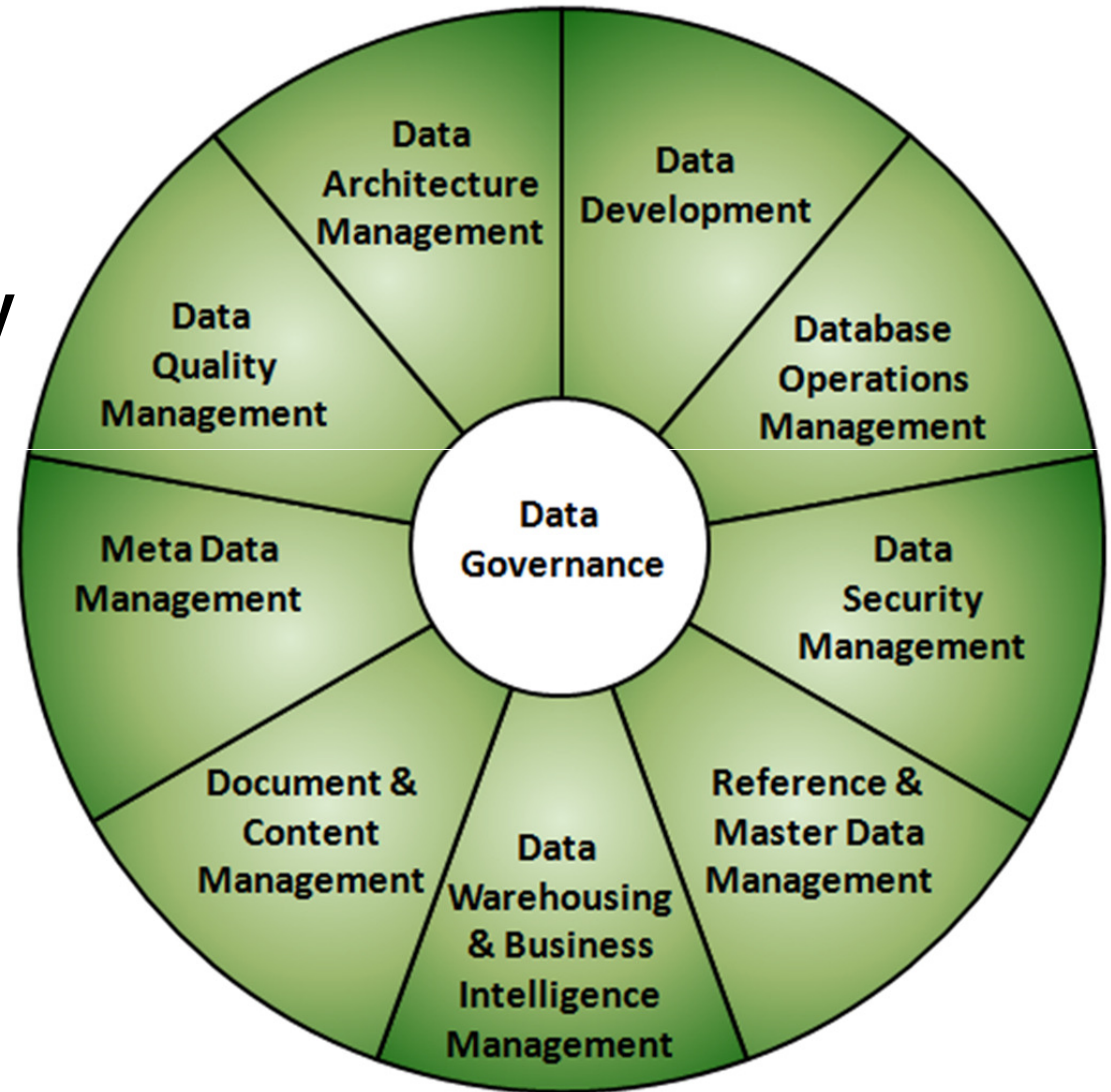


| | |
|---|--|
| Data Consolidation & Integration | Develop and implement mechanisms and processes to manage and maintain consolidation and integration of data of business value that is common across many programs and services. |
| Data Quality | Establish data quality management methodologies and mechanisms to ensure the quality of data of business value meet established business requirements |
| Data Sharing | Establish mechanisms to ensure departmental data assets of business value can be accessed, shared and disseminated to those authorized while maximizing timely access (availability), efficient data exchange and open, transparent practices (interoperability). |

DAMA DM-BOK (Data Management Body of Knowledge)



The Government of Canada is developing its Directive on Data Stewardship to closely align to the DAMA DM-BOK



- **DAMA International's Mission**

- *DAMA International* is a not-for-profit, vendor-independent, global association of technical and business professionals dedicated to advancing the concepts and practices of information and data management.

- **DAMA International's Vision**

- *DAMA International's vision* is to be an essential resource to those who engage in information and data management.

- **DAMA International's Goals**

- Help practitioners become more knowledgeable and skilled in the information and data management profession
- Influence practices, education and certification in the information and data management profession
- Support DAMA members and their organizations to address their information and data management needs
- Form alliances with other organizations with similar principles to strengthen the profession.

Summary



- Data explosion is driving organizations to embrace data as an asset
- Hunger for information is motivating organizations to move to Open Data and Open Government (cloud)
- The management of data as it is moved to Open Data is critical to ensure control over data privacy, security, consistency, quality and to manage TCO
- The GoC is developing data management standards aligned to DAMA DM-BOK
- Data Management is a key enabler for Open Data and Open Government