New Zealand Government

Government Enterprise Architecture
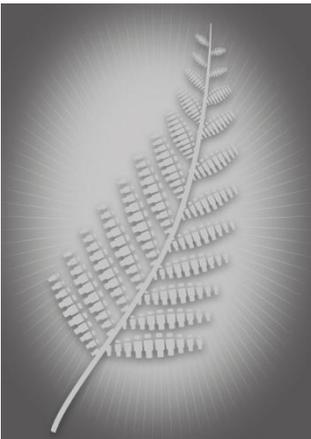
Data and Information Governance Toolkit Guidelines

Document

Purpose

The purpose of this guideline document is to provide agencies with a Data and Information Governance toolkit.

Audience

The intended audience of this document is (but not limited to):

- Enterprise, Business, Data, and Solution Architects
- Information Service Management Providers
- Business partners involved in development and delivery of business and technology solutions
- Information, Knowledge and IT Managers
- Business Subject Matter Experts

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Acknowledgements

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Executive Summary

The Government ICT Strategy and Action Plan to 2017 aims to transform service delivery through digital self-service channels and to unlock the full economic potential of government's information holdings. It is organised into four integrated focus areas:

- *Services are digital by default* - Government information and services must be joined-up and easy to access through common customer-centric digital channels.
- *Information is managed as an asset* - information and data is at the core of all government services, and government is the guardian of this asset on behalf of the New Zealand public. Exercising this responsibility, while making more effective use of this critical resource, is at the heart of transforming government services for citizens and businesses.
- *Investment and capability are shared* - Government's investment in information and technology must be integrated, leveraging common capabilities to deliver effective and efficient public services.
- *Leadership and culture deliver change* - Leadership and culture change are needed to give effect to the strategy. Change needs to be delivered collaboratively, with delegated decision rights and clear accountabilities that connect at a system level.

Each of these focus areas is underpinned by a system of assurance to provide not only Ministers and agencies, but also the public, with assurance that ICT risk and processes within the State Services are identified and effectively managed.

The Government ICT Strategy seeks to:

- Create effective and efficient integrated service delivery models.
- Realise new value from government information assets.
- Optimise the use of scarce resources and capabilities.
- Strengthen assurance systems to manage risk and quality.
- Deliver a migration path for aging legacy systems.
- Leverage scale and efficiencies.
- Partner with the private sector and non-governmental organisations.
- Increase the pace of change.

The future for Government ICT is envisaged as *information-centric* rather than the technology-centric model of today. The Government ICT Strategy and Action Plan to 2017 will transcend agency boundaries to deliver smarter customer-centred services. This future state will see information being open by default, and information-sharing being widespread to encourage knowledge creation and innovation - including by the private sector.

Ministers are keen on better informed policy making and investment optimisation based on trusted information.

Data and information governance is a set of processes that ensures that important data and information assets are formally managed throughout the enterprise. Data and information governance ensures that data and information can be trusted and that people can be made accountable for ensuring that data and information assets are fit for purpose and that their value is fully realised. Data and information governance also describes an evolutionary process for an organisation, altering the organisation's way of thinking and setting up the processes to handle data and information so that it may be utilized by the entire organization.

Data and information governance encompasses the people, processes, and information technology required to create a consistent and proper handling of an organization's data and information across the business. Goals may be defined at all levels of the business and doing so may aid in acceptance of processes by those who will use them.

Some goals include:

- Increasing consistency and confidence in decision making
- Improving data and information security
- Maximizing the benefit generation of data and information
- Designating accountability for data and information quality
- Minimizing or eliminating re-work

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- Optimize staff effectiveness
- Establish process performance baselines to enable improvement efforts
- Managing business risks
- Optimising investments
- Enabling evidence-based policy development
- Consistency in reporting.

These goals are realized by the implementation of data and information governance programs, or initiatives using Change Management techniques.

Data and Information Governance Toolkit

This data and information governance toolkit contains the Data and Information Governance Framework, the Data and Information Governance Maturity Questionnaire, and Data and Information Governance Maturity Analyses tool.

Data and Information Governance Framework

Data and information is one of the most vital strategic assets agencies possess. They depend on data and information to develop products and services, make critical strategic decisions, protect property rights, manage projects, process transactions, service customers, and generate revenues. These critical data and information are contained in the agency's business records.

It has not always been easy to describe what "good data and information governance" looks like. Yet, this question gains in importance as regulators, shareholders, and customers are increasingly concerned about the business practices of organizations. A clear statement will guide:

- CEOs in determining how to protect their agency in the use of data and information assets.
- Organizations accountability.
- Information management professionals in designing comprehensive and effective information management programs.

The statement identifies the critical hallmarks of data and information governance:

> *The Data and Information Governance framework is an accountability framework that includes the processes, roles, standards, and metrics that ensure the effective and efficient use of information in enabling an organization to achieve its goals.*

It applies to all sizes of organizations and in all types of industries, both public and private sectors.

Effective Data and Information Governance

The Data and Information Governance Maturity Model paints a more complete picture of what effective data and information governance looks like. It is based on five focus areas and sixteen principles:

- Data and Information Processes
    - Data and Information Landscape
    - Data and Information Process Management
- Data and Information Responsibilities
    - Executive Sponsorship
    - Policy and Standards
    - Accountabilities
    - Training
    - Performance Measures
- Common Data and Information Language
    - Data and Information Definition Forum
    - Master Data Management Framework
- Assure Data and Information Quality
    - Data and Information Quality Forums
    - Data and Information Quality Framework
    - Change Control
    - Data and Information Measurement
- Use of Data and Information
    - Business Reporting Forum
    - Business Reporting Framework
    - Data and Information Tools

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The maturity model goes beyond a mere statement of the principles by beginning to define characteristics of various levels of information management programs. For each principle, the maturity model associates various characteristics that are typical for each of the five levels in the model:

- **Level 1 (Sub-standard):** This level describes an environment where information management concerns are either not addressed at all, or are addressed in a very ad hoc manner. Agencies that identify primarily with these descriptions should be concerned that their programs will suffer from inconsistent and poorly defined reporting.
- **Level 2 (In Development):** This level describes an environment where there is a developing recognition that information management has an impact on the agency, and that the agency may benefit from a more defined information governance program. However, in Level 2, the agency still suffers from inconsistent and poorly defined reporting since practices are ill-defined and still largely ad hoc in nature.
- **Level 3 (Essential):** This level describes the essential or minimum requirements that must be addressed in order to meet the requirements for high quality, consistent reporting. Level 3 is characterized by defined policies and procedures, and more specific decisions taken to improve information management. However, agencies that identify primarily with Level 3 descriptions may still be missing significant opportunities for streamlining business and controlling costs.
- **Level 4 (Proactive):** This level describes an agency that is initiating information governance program improvements throughout its business operations. Information governance issues and considerations are integrated into business decisions on a routine basis, and the agency easily meets the requirements for high quality, consistent reporting. Agencies that identify primarily with these descriptions should begin to consider the business benefits of information availability in transforming their agency globally.
- **Level 5 (Transformational):** This level describes an agency that has integrated information governance into its overall corporate infrastructure and business processes to such an extent that compliance with the program requirements is routine. These agencies have recognized that effective information governance plays a critical role in cost containment, competitive advantage, and client service.

How to Use the Data and Information Governance Toolkit

The Data and Information Governance maturity assessment will assist an agency in conducting a preliminary evaluation of its information management programs and practices. Thoughtful consideration of the agency's practices should allow users to make an initial determination of the maturity of their agency's data and information governance. Initially, it is not unusual for an agency to be at differing levels of maturity for the sixteen principles. It is also important to note that the maturity model represents an initial evaluation. In order to be most effective, a more in-depth analysis of the agency's policy and practices may be necessary.

The maturity model will be most useful to leaders who wish to achieve the maximum benefit from their data and information governance practices. Effective data and information governance requires a continuous focus. But in order to get started, agencies can look to the steps below:

- Identify the gaps between the agency's current practices and the desirable level of maturity for each principle.
- Assess the risk(s) to the agency, based on the biggest gaps.
- Determine whether additional information and analysis is necessary.
- Develop priorities and assign accountability for further development of the program.

Data and Information Governance Structure

The Data and Information Governance presentation is used to explain the concept of the governance structure and the maturity assessment to leaders and participants of the maturity assessment. It gives a high level overview of the data and information governance structure, the value, and the maturity assessment. It also contains a glossary of specific data and information terms and their definition.

Data and Information Governance Maturity Questionnaire

At the start of the assessment each participant gets the questionnaire which they need to fill in as accurate as possible. The participant needs to answer the questions at an agency level, not at business unit level (unless the business unit is being assessed). If there are questions that they cannot answer the answer needs to be 'Not assessed". Each question has 6 possible answers that the participant can choose from.

Data and Information Landscape

Q1	Does the agency has a centralised approach for describing there data and information which are stored in core record systems and in excel sheets, documents, statistics...?
A1	Not Assessed

Not Assessed
There are incomplete or inconsistent data dictionaries and there is data redundancy across systems. There is no process in place to ensure that data models are designed and developed in a consistent way.
Data architecture models, data dictionaries and data structures are documented, base lined and subject to change control.
A comprehensive agency data architecture has been approved and processes are embedded to reconcile the data architecture with changes to the information and data landscape.
The agency has documentation of the complete information and data landscape which is under change control.
The agency continually monitors, refines and simplifies their high level information and data landscape.

The excel file has two hidden sheets. These sheets are hidden for the purpose not to distract the participants from the questionnaire. They are to be used by the organiser(s) of the assessment, to copy the results of to the Data and Information Governance Analyses file.
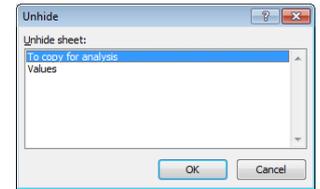
The "To copy for analysis" sheet contains the results of the questionnaire, that is, the levels of the principles.

The cells in green are to be copied into the Data and Information Governance Analyses file (see description of the next item).

The "Values" sheet contains the values for the dropdown boxes of the questionnaire. This sheet is not to be changed!

	A	B
1	Q1	1
2	Q2	2
3	Q3	2
4	Q4	1
5	Q5	1
6	Q6	2
7	Q7	2
8	Q8	3
9	Q9	2
10	Q10	1
11	Q11	3
12	Q12	1
13	Q13	1
14	Q14	2
15	Q15	1
16	Q16	2

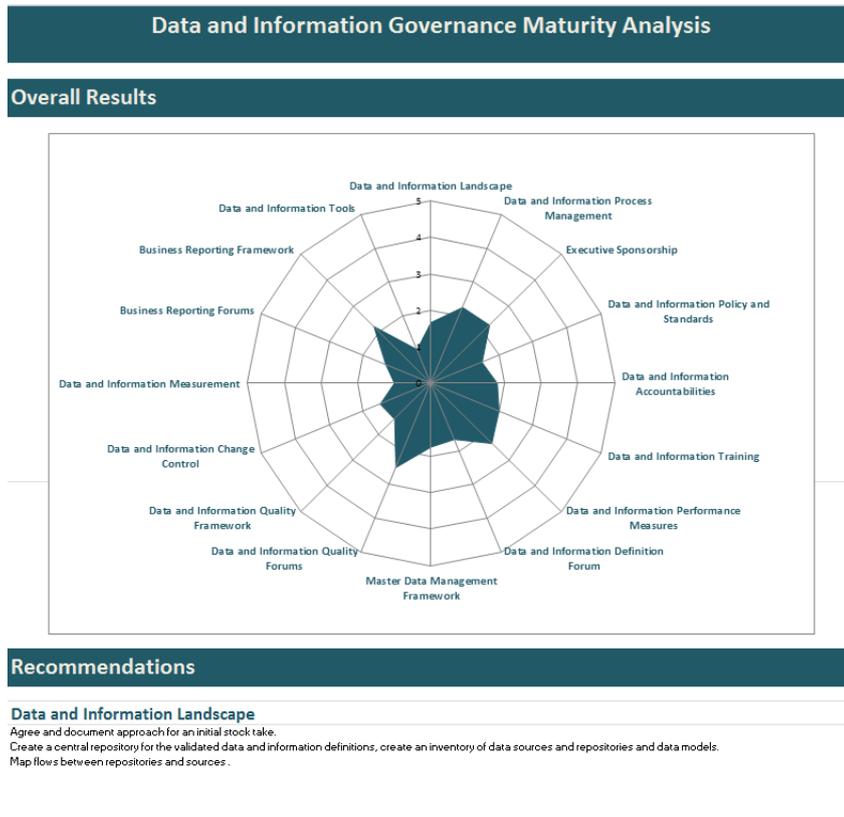# Data and Information Governance Maturity Analysis

At the end of the assessment the organisers receive all the filled in questionnaires back. They can start with the analysis of the results. This is done with the Data and Information Governance Maturity Analysis tool. The Data and Information Governance Maturity Analysis file also contains two hidden sheets.

The "Copy results here" sheet is used to past the *value* of results from each questionnaire between the two green columns. The *value* is past by right clicking on, for example cell F2, and selecting the 123 icon. Make sure there are enough columns (for 10 filled in questionnaires you will need 10 columns) between the two green columns.

After pasting all the results in this sheet, column D will show the average result for each principle.

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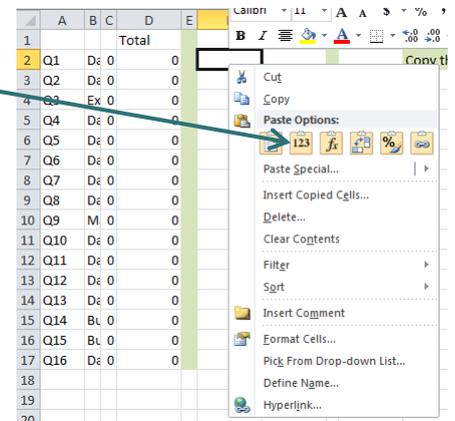
The other hidden sheet is the "Next steps" sheet contains the typical steps for each principle and each level. This sheet is not to be changed! It is used to fill in the recommendations in the first sheet "Assessment Report". This report is automatically filled in according to the result and contains a spider web graph and a list of recommended next steps for each principle.

This report is a recommendation, a guideline for agencies to prioritise. Recommended steps can be adjusted or even removed if needed.

Data and Information Governance Best Practices

Not all data and information governance efforts yields expected results. Major obstacles exist that affect the value and success of the program. They include cultural, political, and organizational challenges that can lead to resistance to the changes that are required to move forward with the governance initiatives.

Here are some steps that help bring success and address the above-mentioned challenges.

Best Practice #1 – Take a holistic approach but start small

Data and information governance is an iterative process. Start with the people, politics and culture, and then move on to the data and information governance and stewardship processes as well as technology. It takes a number of steps to gradually move up the maturity scale. However, start with an end in mind. Balance out strategic objectives and tactical compromises to ensure the overall program is moving towards the desired direction at reasonable pace.

Best Practice #2 – Obtain executive sponsorship

Data and information governance involves significant behavioural and cultural changes. Funding for projects and technology tools are also required. Without strong backing from the executive level, none of the above will happen. Analyse the stakeholders and align and get on board key decision makers who represent core functional areas and lines of businesses, who have the strong influence and decision-making power. With them as champion, the foundational changes have a higher possibility to be successful.

Best Practice #3 – Define data stewardship during early stage

The main responsibility of the data stewards is to ensure effective control and use of data and information assets. The best data stewards are found, not made. Take the time to identify and build a data steward team that includes subject matter experts from all business areas.

Difference of opinion exists with regards to whether or not to establish an official level 3-4 tier position for this role. The answer is: it depends. It depends on the stage the agency is in developing their data and information governance program and it depends on the political and cultural environment of the agency. What's most important is that the definition of this role is included in the job descriptions of these individuals and proper time allocation is applied to the stewardship work.

Best Practice #4 – Establish quantifiable benefits by building business case

An effective data and information governance program brings tremendous benefits to an agency in a long run. However, some of the effects might or might not be visible immediately. As a result, it is not always easy to obtain and justify funding for the program cost. Focus on the relationship of the key data and information elements and the business processes they support. Calculate the cost of managing these data and information elements through repeated and duplicated manual integration and validation. Quantify the business risk of such data and information elements becoming unavailable or incorrect such as missing transaction or loss of customer. Identify clearly the opportunities high quality data brings in terms of generating and improving revenue through better customer service and insight, through up-sale and cross sale.

In short, building a business case to articulate and highlight quantifiable benefits is essential to get buy-ins and support towards the program.

Best Practice #5 – Establish, collect, and report on metrics to measure the progress

Choose a combination of tactical quick wins and longer-term strategic improvements as a starting project. Measure the immediate returns of the quick wins to gain positive feedback, sustain engagement, and obtain more support. Measures should be determined at the beginning of the project and focus on quantitative metrics that support the objectives of the project as well as the overall program. Metrics need to covey business values and some sample metrics include data and information value, data and information management cost (before and after), number of decisions made, and data and information management process maturity. A data and information governance KPI dashboard is a good way to automate the reporting of the progress.

Best Practice #6 – Link and build in incentives towards KPIs

One of the most challenging aspects of data and information governance is adequate participation at an on-going basis. Data stewards are usually tasked with multitude of operational duties and business units often vary significantly on resource allocation. The collaborative nature of a data and information governance program, however, depends heavily on levelled and prioritised commitment from all business functions. Integrate data measures with agency-wide KPI's and use these measures as a foundation for IT investments.

Conclusion

Data and information governance is one of the most important components of Enterprise Information Management. It is interrelated with all other disciplines of data and information management functions. The level of dependency might vary from function to function. Master Data Management, as an example, would not succeed without effective data and information governance. Styles and different focuses of data and information governance require unique data and information governance activities to meet these specific requirements. However, as the term "Governance" indicates, the foundation of any governance involves certain levels of control. Practicing data and information governance is about finding the right amount and right level of control. Taking an iterative approach will mitigate implementation risks and help an agency focus on the right level of control to be effective and successful in managing their most important asset – data and information.