The Data Capability Framework (DCF) Guide

Contents

Introduction

Nau mai haere mai and welcome.

This guide provides expanded information about the Data Capability Framework (DCF), including the levels of capability.

Purpose of the DCF

The DCF is a tool designed to help define and develop data & analytical capabilities.

Data has the power to change lives and create better outcomes for New Zealanders, by informing government policy and decision-making. The value of data can be maximised by those who have suitable data and analytical capabilities to use it, and decision-makers who understand how the data can be used in their decision-making processes.

The importance of improving these capabilities is not new in the data system. However, it is becoming more relevant to a wider range of roles as more data becomes available and its value is more widely recognised.

Who is the Framework for?

The DCF is for managing capability at an individual, team, or potentially organisational level. Its intended users are everyone in central government agencies who needs to use data in their work. It may also be useful to people working with data in other organisations, such as local government, NGOs, iwi, or Māori organisations.

It has been deliberately created in a "broad brush" way so that it can appeal to and be used by as wide a data-using community as possible. It is *not* designed specifically for statistics and data professionals.

What are some of the benefits of using the Framework?

Identifying current capability gaps and strengths of individuals and teams	Talent pool identification for teams and organisations	Matching training opportunities to capability-building needs
Identifying future capability needs for individuals and teams	Career planning for roles within an organisation or across the government sector	Identifying secondment opportunities within and between organisations

A number of these benefits are expanded on in the "Ways to Use the Framework" section further on.

What structure does the Framework have?

The Framework has been constructed according to the data lifecycle:

PLAN	COLLECT	DESCRIBE	STORE	ANALYSE	USE	SAVE/DESTROY
The processes and resources are mapped out for the lifecycle of the data. The project's goals are stated, and a full data management plan is created.	The data is gathered or generated by the individuals/organisation wanting to use it.	The data is accurately described using the appropriate metadata standards.	The data is stored in a digital repository, and is made secure and re-usable (often, this very quickly follows collection).	The data is analysed. I.e., it is explored and interpreted.	The data is used for the purpose for which it was collected/generated and re-used for additional value.	Actions are taken to safeguard the long-term viability and availability of the data.

What is in the Framework?

The DCF defines 25 capabilities that are associated with data use. They are grouped into the 7 categories of the data lifecycle.
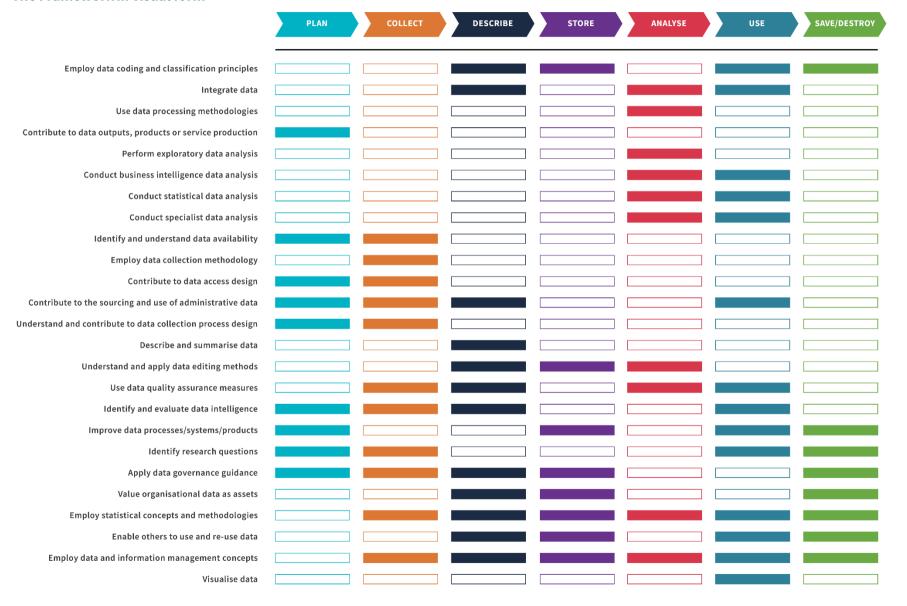
Many of the capabilities naturally fall into more than one category. Depending on how you want to use the Framework, you can look at all the capabilities together in no particular order or look at each category and the capabilities that they contain.

Each capability is also described with 3 levels of skill or knowledge: "New", "Proficient" and "Expert".

The following example shows one capability with all the categories it is in, and the levels of skill or knowledge that can be reached:

Category	Capability	New **Has a basic understanding of the subject or process.**	Proficient **Has sufficient experience to work independently and source additional expertise as needed.**	Expert **Is able to innovate in the subject or process and guides others via mentoring or training.**
Describe, Store, Use, Save/Destroy	Employ data coding and classification principles	• *Is aware of relevant data classifications and coding protocols, and their proper application to data in general.* • *Knows who to consult for expert knowledge.*	• *Has a comprehensive knowledge of data classifications and coding protocols.* • *Knows where to obtain expert advice about coding and classifications as needed.*	• *Is consulted regularly by others about data classifications and coding protocols.* • *Can employ conceptual frameworks in support of data classification and coding.*

The Framework in visual form

	PLAN	COLLECT	DESCRIBE	STORE	ANALYSE	USE	SAVE/DESTROY
Employ data coding and classification principles			●	●		●	●
Integrate data			●		●	●	
Use data processing methodologies					●		
Contribute to data outputs, products or service production	●						
Perform exploratory data analysis					●		
Conduct business intelligence data analysis					●	●	
Conduct statistical data analysis					●	●	
Conduct specialist data analysis					●	●	
Identify and understand data availability	●	●					
Employ data collection methodology		●					
Contribute to data access design	●	●					
Contribute to the sourcing and use of administrative data	●	●	●			●	
Understand and contribute to data collection process design	●	●					
Describe and summarise data			●				
Understand and apply data editing methods			●	●	●		
Use data quality assurance measures		●	●		●	●	
Identify and evaluate data intelligence	●	●	●			●	
Improve data processes/systems/products	●			●		●	●
Identify research questions	●	●				●	●
Apply data governance guidance	●	●	●	●			●
Value organisational data as assets			●	●			●
Employ statistical concepts and methodologies		●	●	●	●	●	●
Enable others to use and re-use data			●	●		●	●
Employ data and information management concepts		●	●	●	●	●	●
Visualise data						●	

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Ways to Use the Framework

The following describes possible positive impacts the DCF could have for an individual, a team or an organisation. Three particular contexts are identified with the possible impacts included in bulleted form, followed by a more detailed example involving an organisation.

In a strategic and future planning context

- While exploring or confirming a strategic direction, data capability needs and gaps can be identified using the DCF.
- The DCF can be used to create data talent pools and help earmark individuals to be thought or technical leaders.
- Existing organisational capability frameworks can be aligned with the DCF to create an expanded view.
- Key data roles can be identified and succession planning processes enhanced using the DCF.

In a performance and development context

Once individuals have used the Questionnaire to assess their capability levels and their managers are in agreement, there are a number of ways the DCF can enhance performance and development:

- DCF capabilities can be incorporated into performance and development plans as training needs for "New" or "Potential" individuals or as mentoring goals for "Experts".
- Training can be targeted to improve specific capabilities for individuals or teams.
- Changes can be made in day-to-day responsibilities to ensure an individual can practise an identified capability.
- Career planning can use the DCF capabilities to chart a particular direction, either so an individual can become more rounded in their data capabilities or so they can specialise.
- Secondment opportunities could be identified within the organisation and potentially wider, as roles are assessed against the DCF.

In a recruitment and onboarding context

Once an organisation or team has clarified what capabilities it needs and at what levels, recruitment can be more targeted and informative:

- Role descriptions and advertisements can be more focussed and consistent in their language.
- Advertisements can refer to specific capabilities that are required in particular roles.
- Capabilities can be assessed against during the selection process, with questions focussed on drawing them out.
- The DCF could be introduced during induction, as appropriate, to create a common language and potentially a common set of expectations.

An organisational example

The following is a summary of how an organisation might use the Framework to strengthen its data and information use.

Need

The organisation identifies that it is not making the best use of its data, in terms of its decision-making and impact. It recognises that its current data capability levels or future data capability needs remain unclear, which represents a definite risk.

Approach

The organisation decides to take a workshop-based approach, after first using role descriptions to confirm who should be in attendance (i.e. all of those who work with data and analytics, plus a small number of individuals in key policy and leadership roles).

1. The first workshop focuses on introducing the Data Capability Framework (DCF) to the workshop attendees via a series of activities. Attendees are encouraged to start thinking in terms of these capabilities when assessing their organisation.
2. The second workshop concentrates on three aspects of the data capability within the organisation:
   a. How data capability should be used in the future, in 1-year and 2-year terms.
   b. How data capability is currently used that should stop.
   c. What barriers are in the way of achieving the desired future.

Desired state after one year

The resulting conversation reveals that, within one year, participants think the organisation should be clear on the existence, level, and location (i.e., who has them) of DCF capabilities. Participants also agree that the organisation should be clear on how individuals/teams can develop capabilities, either from scratch or by increasing the current level.

It is recognised that the way data is handled needs to change. It is felt that data should be more readily available (while still staying secure) within the organisation, and that there needs to be better communication between those who create and gather the data and those who analyse and use it.

The final desired change is in how data is visualised. Workshop participants want an increase in this capability to improve how data is communicated and understood.

Desired state after two years

Participants are keen for the organisation to have a reputation for using data well. They want the appropriate technology and tools to enable data producers and analysts to collaborate fully and maintain best practice. They also feel it is important that all data users, not only analysts, are upskilled enough to ask good data questions and reach useful answers.

3. The third workshop focuses on the barriers and ways to overcome them. Perceived barriers include:
   a. A lack of a technology roadmap that could support the need for better data technology and tools.
   b. Not enough capacity for the data storage needs of the organisation.
   c. Inadequate standardised rules for metadata and for data collection.
   d. Data illiteracy among the Policy decision-makers.
   e. No training/upskilling plan for everyone who works with data.
   f. No understanding or consistent practice of data stewardship by all those working with data.

DCF capabilities that are identified as vital in helping overcome some of these barriers include:

- Describe and summarise data
- Use data quality assurance methods
- Improve data processes/systems/products
- Value organisational data as assets
- Visualise data

4. Participants are brought back together in order to complete the DCF Questionnaire. This is in order to reach the desired state of knowing the organisation's current capabilities. It is acknowledged that many people may have capabilities that are not known or certainly under-utilised.

Results indicate that there are specific capabilities, already noted as vital to the future success of the organisation, that are lacking. The results also highlight that there are a small number of individuals who rate themselves as "Expert" in vital capabilities; this leaves the organisation potentially vulnerable should those experts leave.

Actions

- It is agreed that managers will sit down with staff members who filled in the Questionnaire to compare their views of the staff members self-rating. This is to reduce the risk of under- or over-estimating capability levels.
- The development of a technology roadmap that includes data capability needs is approved as urgent.
- Mentoring partnerships are set up so that knowledge and skill are shared, and risk reduced.
- A plan is begun to look at how data can be made more available within the organisation, while staying secure.
- Data storage needs are compared to current and future capacity.
- Workshops are set up for both data custodians and data analysts to talk about improved communication.
- Data capability development plans are created, and training providers sought to address gaps (e.g., data visualisation).
- It is decided that data stewardship will be introduced as a discussion topic to the next round of quarterly organisational forums. Attendees will be asked to debate what role they think they play in data stewardship, in order to extend the understanding beyond those who immediately produce, gather, or analyse data.

Results

The organisation found that using the DCF as a tool for exploration and identification was vital. The DCF was able to surface gaps, strengths and needs in a way that was easily translatable in to action.

Glossary of Terms Used

Before looking through the DCF it might be helpful to read through the terms below:

Term	Definition
Administrative data	Data which is derived from the operation of administrative systems (e.g. data collected by government agencies for the purposes of registration, transaction and record keeping, which is then used for statistical purposes).
Classification	A way to group a set of related categories in a meaningful, systematic, and standard format, e.g., country or region.
Data assets	Data collected and/or sourced and stored by an organisation.
Data governance	Data governance is a collection of practices and processes, which help to ensure the formal management of data assets within an organisation.
Data sources	A place or system or service where data is obtained.
Exploratory data analysis	The analysis of datasets to describe their main characteristics, e.g., the distribution of variables.
Information Management principles	Gathering data and then analysing, categorising, contextualising, and archiving (and in some cases, deleting) it, in order to support a business's needs.
Output	Analytical outputs may be graphs, charts, infographics, or reports with analytical content.
Processing Methodology	Statistical procedures used to deal with intermediate data and statistical outputs, e.g., weighting schemes, statistical adjustment, or methods for imputing missing values or source data.
Time Series Forecasting	Use of statistical methods to predict future behaviour based on historical data.

The Framework by Capability

The following table shows all 25 capabilities together, in no particular order. This view is useful if you want to get a complete view of the Framework, without concerned to the categories in which they fit.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

	Capability	Levels	
1	Employ data coding and classification principles	New	• *Is aware of relevant data classifications and coding protocols, and their proper application to data in general.* • *Knows who to consult for expert knowledge.*
		Proficient	• *Has a comprehensive knowledge of data classifications and coding protocols.* • *Knows where to obtain expert advice about coding and classifications as needed.*
		Expert	• *Is consulted regularly by others about data classifications and coding protocols.* • *Can employ conceptual frameworks in support of data classification and coding.*
2	Integrate data	New	• *Has a basic understanding of how data can be linked with other data and the value of that operation.*
		Proficient	• *Can perform data integration using standard tools and can implement quality controls.* • *Knows where to obtain expert advice on data integration as needed.*
		Expert	• *Can perform and provide expert advice on data integration.*

	Capability		Levels	
3	Use data processing methodologies		New	• *Is aware of the proper processing methodology for the data being used and understands its application.* • *Knows where to obtain advice on processing methodology as required.*
			Proficient	• *Can make and justify suggestions for improvements in how data is processed.* • *Understands how processing methodology affects the quality of the outputs.*
			Expert	• *Is consulted regularly by others about processing methodology and can assess it critically to identify improvements.* • *Can explain how processing methodology relates to the quality of data outputs.*
4	Contribute to data outputs, products or service production		New	• *Is aware of the steps of the data output process and understands the decisions made at each of those steps.* • *Knows where to obtain advice on data outputs as required.*
			Proficient	• *Is responsible for the production of a data output or service.* • *Can communicate effectively about the data output process, including explaining decisions made at all stages.*
			Expert	• *Has expert knowledge about the production of a data output or service.* • *Is consulted regularly about their knowledge.* • *Can train others in the delivery of the associated process.*

	Capability		Levels	
5	Perform exploratory data analysis		New	• *Can choose from data analysis techniques.* • *Can use (or learn how to use) appropriate analytical tools to investigate data.*
			Proficient	• *Can identify and implement suitable techniques and tools for exploratory analysis on large/complex datasets.* • *Can validate unexpected results.*
			Expert	• *Is highly competent at performing exploratory analysis on large/complex datasets.* • *Can communicate findings to a range of audiences.* • *Can train others in exploratory data analysis techniques.*
6	Conduct business intelligence data analysis		New	• *Can use common applications to generate basic analysis outputs like tables with calculations and static charts.* • *Understands reports and dashboards created with business intelligence tools.*
			Proficient	• *Can use business intelligence applications to create complex reports and dashboards.*
			Expert	• *Exhibits expertise in multiple business intelligence applications.* • *Can train others in developing outputs using those applications.*
7	Conduct statistical data analysis		New	• *Understands basic statistical measures and their application to data.*
			Proficient	• *Can use specialist statistical applications for statistical models.* • *Can write custom scripts and code in a statistical computing language to conduct complex analytical tasks.*

	Capability		Levels	
			Expert	• *Contributes to the development of new functionality for statistical analysis applications, which enables new ways of doing analysis.*
8	Conduct specialist data analysis		New	• *Understands the need for special data analysis methods and tools in some situations (e.g., time series forecasting or spatial).*
			Proficient	• *Can develop, fit, diagnose, and troubleshoot a model in a new data analysis scenario that requires a specialist method (e.g., time series forecasting or spatial statistics).*
			Expert	• *Innovates in developing new methods in a specialist data area (e.g., new approaches to time series forecasting).*
9	Identify and understand data availability		New	• *Is aware of available data (both internal and external).*
			Proficient	• *Can identify and evaluate internal and external sources of data, including understanding any limitations and gaps.* • *Can use suitable techniques to evaluate new sources of data.*
			Expert	• *Is an expert resource for seeking out new sources of data or identifying new ways of using existing sources of data.* • *Provides expertise in techniques to evaluate possible new sources of data.* • *Researches new techniques to assess data availability.*
10	Employ data collection methodology		New	• *Is aware of relevant data collection methodologies.* • *Knows where to obtain advice on those methodologies as required.*

	Capability		Levels	
			Proficient	• *Has a comprehensive knowledge of relevant data collection methodologies.* • *Can make and justify recommendations for various modes of collection.*
			Expert	• *Is consulted regularly by others about data collection methodology.* • *Can make justifiable recommendations to address data collection issues and communicate these recommendations to a wide range of audiences.*
11	Contribute to data access design		New	• *Can use the range of available options to access common data sources.*
			Proficient	• *Has a comprehensive knowledge of protocols associated with data access.*
			Expert	• *Can mitigate issues arising from different access approaches.* • *Can make and justify recommendations for data access.* • *Can provide actionable strategic advice on data access.*
12	Contribute to the sourcing and use of administrative data		New	• *Is aware of the data obtained from administrative sources and the use of administrative data.* • *Knows where to obtain advice about administrative data sources and use as required.*
			Proficient	• *Is knowledgeable about various sources of administrative data and can explain their limitations.* • *Understands the advantages and disadvantages of using administrative data, including in relation to survey data.* • *Can assess the utility of different sources for a particular purpose.*

	Capability		Levels	
			Expert	• *Is knowledgeable about multiple sources of administrative data and helps maintain a good working relationship with the suppliers.* • *Can advise on how the data has been used to produce new insights.* • *Provides expertise to identify new sources of administrative data as well as uses for that data.*
13	Understand and contribute to data collection process design		New	• *Understands the role of data collection and the value propositions of different collection approaches.*
			Proficient	• *Has a comprehensive knowledge of the full range of data collection options, including understanding costs and benefits.* • *Knows how to mitigate issues arising from different collection modes.*
			Expert	• *Is an expert resource in all aspects of data collection, including understanding why data is collected, and the roles associated with collection.* • *Can make justifiable decisions about how data is collected.*
14	Describe and summarise data		New	• *Understands that there are different ways to summarise data and has a basic understanding of commonly used options.*
			Proficient	• *Can use various summary options to effectively describe data, and explain and justify those choices.*

	Capability		Levels	
			Expert	• *Can use innovative approaches to improve the process of summarising data into meaningful narratives.* • *Can effectively incorporate data summaries into compelling communication, including for new, large, and complex datasets.*
15	Understand and apply data editing methods		New	• *Knows where to access relevant methods and understands the basics of those methods.* • *Knows who to consult for expert knowledge.*
			Proficient	• *Has a comprehensive knowledge of the different editing methods at their disposal.* • *Understands why different methods are used and can describe the limitations of each method.* • *Knows where to find expert advice about data editing as required.*
			Expert	• *Is an expert resource on different methods of data editing and is consulted regularly by others.* • *Can assess current editing methods critically.* • *Can train others on data editing concepts and methods.*
16	Use data quality assurance measures		New	• *Understands the concept of data quality and its importance.* • *Knows where to access data quality measures for the data they use.*
			Proficient	• *Can describe and produce data quality measures for the outputs they produce.* • *Has a comprehensive knowledge of relevant data quality measures and can use them to make accurate assessments of data fitness-for-purpose.*

	Capability		Levels	
			Expert	• *Is an expert resource in the use of measures for data quality assurance, the interaction of those measures, and their application in conjunction with one another.* • *Can advise others on the use of data quality measures to make accurate assessments of data fitness-for-purpose.*
17	Identify and evaluate data intelligence		New	• *Has a general understanding of the subject matter area associated with data use (e.g., small business, healthcare, rural sector, etc.).*
			Proficient	• *Has a comprehensive knowledge of the subject matter area associated with the data use and can readily identify the parameters of the subject matter that influence the use of the data.* • *Can effectively communicate the relationship between the data and the context in which it is used.*
			Expert	• *Is an expert resource on the subject matter area associated with data use, including understanding and influencing the effective use of the data within that subject matter area and the relationship between that use and other data use contexts.*
18	Improve data processes/systems/products		New	• *Can identify a successful process/system/ product.* • *Can identify deficiencies in current processes/systems/ products.*
			Proficient	• *Can identify deficiencies in current processes/systems/ products, gain the required approval to make changes, and lead the implementation of those changes.*

	Capability		Levels	
			Expert	• *Thinks strategically to assess current processes/systems/ products across a broad context.* • *Develops improvements where needed and encourages others to think critically about processes/systems/products relevant to them.* • *Advises those leading changes to processes/ systems/products, measures resultant benefits, and makes recommendations.*
19	Identify research questions		New	• *Can formulate research questions with guidance and consider the appropriate approaches and measures to resolve those questions.*
			Proficient	• *Can identify and structure relevant research questions for specific needs, and develop the approach and specific measures to resolve those questions.*
			Expert	• *Uses a range of techniques to assess data needs and identify gaps, towards the formulation of appropriate research questions.* • *Can communicate research questions to a range of audiences.* • *Can collaborate with stakeholders and users to develop approaches to resolve those questions.*
20	Apply data governance guidance		New	• *Is aware of data governance frameworks and policies.* • *Knows where to obtain advice on governance as required.*
			Proficient	• *Can contribute to the creation of internal policies in support of data governance.* • *Can educate others in the importance of good data governance practice.*

	Capability		Levels	
			Expert	• *Is consulted regularly about data governance.* • *Can formulate and advise on data governance policies and contribute to the structure of organisational data governance frameworks.* • *Can provide data governance thought leadership across broader data use contexts.*
21	Value organisational data as assets		New	• *Is familiar with organisational data assets relevant to their work.* • *Understands how those assets contribute value to the organisation.*
			Proficient	• *Has extensive knowledge of the organisation's data assets, including a comprehensive understanding of how their fitness for purpose translates to value for the organisation.*
			Expert	• *Has a comprehensive understanding of the data assets available to the organisation and understands how those assets contribute strategic value.* • *Looks for new ways to obtain value from those assets.* • *Can advise on how organisational data assets contribute value in broader data contexts.*
22	Employ statistical concepts and methodologies		New	• *Is familiar with statistical methodologies relevant for their work.* • *Maintains a basic understanding of the concepts underpinning those methodologies.*
			Proficient	• *Has a comprehensive understanding of a wide range of statistical concepts, methodologies, and their appropriate application.* • *Can explain their proper use to others.*

	Capability		Levels	
			Expert	• *Is consulted regularly by others for their understanding of statistical concepts and their advice on the proper use of statistical methods.* • *Leads efforts to apply good statistical practice.* • *Can develop statistical training for others.*
23	Enable others to use and re-use data		New	• *Understands that the data they work with can be used more widely.* • *Is familiar with basic open data measures to support the re-use of their data by others.*
			Proficient	• *Understands and can articulate the value of data in terms of use and re-use.* • *Implements a variety of techniques to ensure data is open and can be used beyond the specific purpose for which it was collected.* • *Can advise others on approaches to make data re-usable.*
			Expert	• *Is consulted regularly as a leading strategic adviser on the use of organisational data assets.* • *Is consulted on the design and management of those assets as open data, to promote re-use and ongoing value across wider contexts.*
24	Employ data and information management concepts		New	• *Can access data and information management principles and associated guidelines.* • *Knows where to obtain advice on the application of good data and information management practice.*

	Capability		Levels	
			Proficient	• *Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice.* • *Can advise others on the proper application of data and information management concepts.*
			Expert	• *Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others.* • *Represents a point of contact for data and information management leads in other organisations.*
25	Visualise data		New	• *Can interpret basic data visualisations like standard charts and explain them to others.*
			Proficient	• *Can readily produce a range of data visualisation outputs and can critically assess and enhance those produced by others.* • *Can advise others on data visualisation options and the best options to present data results.*
			Expert	• *Innovates the development of new approaches to, and options for, data visualisation, and can incorporate a range of techniques, including automation, interactivity, and animation.* • *Can train others in data visualisation.*

The Framework by Category

The following tables show the capabilities in the 7 possible categories (i.e., capabilities get repeated across the categories as applicable). This view is useful if you want to focus in on a particular category to assess an individual or a team.

Category: Plan

In this part of the data lifecycle, the processes and resources are mapped out for the length of the data's life. The project's goals are stated, and a full data management plan is created.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Contribute to data outputs, products or service production		New	• *Is aware of the steps of the data output process and understands the decisions made at each of those steps.* • *Knows where to obtain advice on data outputs as required.*
		Proficient	• *Is responsible for the production of a data output or service.* • *Can communicate effectively about the data output process, including explaining decisions made at all stages.*
		Expert	• *Has expert knowledge about the production of a data output or service.* • *Is consulted regularly about their knowledge.* • *Can train others in the delivery of the associated process.*
Identify and understand data availability		New	• *Is aware of available data (both internal and external).*
		Proficient	• *Can identify and evaluate internal and external sources of data, including understanding any limitations and gaps.* • *Can use suitable techniques to evaluate new sources of data.*

Capability		Levels	
		Expert	• *Is an expert resource for seeking out new sources of data or identifying new ways of using existing sources of data.* • *Provides expertise in techniques to evaluate possible new sources of data.* • *Researches new techniques to assess data availability.*
Contribute to data access design		New	• *Can use the range of available options to access common data sources.*
		Proficient	• *Has a comprehensive knowledge of protocols associated with data access.*
		Expert	• *Can mitigate issues arising from different access approaches.* • *Can make and justify recommendations for data access.* • *Can provide actionable strategic advice on data access.*
Contribute to the sourcing and use of administrative data		New	• *Is aware of the data obtained from administrative sources and the use of administrative data.* • *Knows where to obtain advice about administrative data sources and use as required.*
		Proficient	• *Is knowledgeable about various sources of administrative data and can explain their limitations.* • *Understands the advantages and disadvantages of using administrative data, including in relation to survey data.* • *Can assess the utility of different sources for a particular purpose.*

Capability		Levels	
		Expert	*Is knowledgeable about multiple sources of administrative data and helps maintain a good working relationship with the suppliers.* *Can advise on how the data has been used to produce new insights.* *Provides expertise to identify new sources of administrative data as well as uses for that data.*
Understand and contribute to data collection process design		New	*Understands the role of data collection and the value propositions of different collection approaches.*
		Proficient	*Has a comprehensive knowledge of the full range of data collection options, including understanding costs and benefits.* *Knows how to mitigate issues arising from different collection modes.*
		Expert	*Is an expert resource in all aspects of data collection, including understanding why data is collected, and the roles associated with collection.* *Can make justifiable decisions about how data is collected.*
Identify and evaluate data intelligence		New	*Has a general understanding of the subject matter area associated with data use (e.g., small business, healthcare, rural sector, etc.).*
		Proficient	*Has a comprehensive knowledge of the subject matter area associated with the data use and can readily identify the parameters of the subject matter that influence the use of the data.* *Can effectively communicate the relationship between the data and the context in which it is used.*

Capability		Levels	
		Expert	• *Is an expert resource on the subject matter area associated with data use, including understanding and influencing the effective use of the data within that subject matter area and the relationship between that use and other data use contexts.*
Improve data processes/systems/products		New	• *Can identify a successful process/system/ product.* • *Can identify deficiencies in current processes/systems/ products.*
		Proficient	• *Can identify deficiencies in current processes/systems/ products, gain the required approval to make changes, and lead the implementation of those changes.*
		Expert	• *Thinks strategically to assess current processes/systems/ products across a broad context.* • *Develops improvements where needed and encourages others to think critically about processes/systems/products relevant to them.* • *Advises those leading changes to processes/ systems/products, measures resultant benefits, and makes recommendations.*
Identify research questions		New	• *Can formulate research questions with guidance and consider the appropriate approaches and measures to resolve those questions.*
		Proficient	• *Can identify and structure relevant research questions for specific needs, and develop the approach and specific measures to resolve those questions.*

Capability		Levels	
		Expert	• *Uses a range of techniques to assess data needs and identify gaps, towards the formulation of appropriate research questions.* • *Can communicate research questions to a range of audiences.* • *Can collaborate with stakeholders and users to develop approaches to resolve those questions.*
Apply data governance guidance		New	• *Is aware of data governance frameworks and policies.* • *Knows where to obtain advice on governance as required.*
		Proficient	• *Can contribute to the creation of internal policies in support of data governance.* • *Can educate others in the importance of good data governance practice.*
		Expert	• *Is consulted regularly about data governance.* • *Can formulate and advise on data governance policies and contribute to the structure of organisational data governance frameworks.* • *Can provide data governance thought leadership across broader data use contexts.*

Category: Collect

In this part of the lifecycle, data is gathered or generated by the individuals/organisation wanting to use it.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Identify and understand data availability		New	• Is aware of available data (both internal and external).
		Proficient	• Can identify and evaluate internal and external sources of data, including understanding any limitations and gaps. • Can use suitable techniques to evaluate new sources of data.
		Expert	• Is an expert resource for seeking out new sources of data or identifying new ways of using existing sources of data. • Provides expertise in techniques to evaluate possible new sources of data. • Researches new techniques to assess data availability.
Employ data collection methodology		New	• Is aware of relevant data collection methodologies. • Knows where to obtain advice on those methodologies as required.
		Proficient	• Has a comprehensive knowledge of relevant data collection methodologies. • Can make and justify recommendations for various modes of collection.
		Expert	• Is consulted regularly by others about data collection methodology. • Can make justifiable recommendations to address data collection issues and communicate these recommendations to a wide range of audiences.

Capability		Levels	
			27
Contribute to data access design		New	• *Can use the range of available options to access common data sources.*
		Proficient	• *Has a comprehensive knowledge of protocols associated with data access.*
		Expert	• *Can mitigate issues arising from different access approaches.* • *Can make and justify recommendations for data access.* • *Can provide actionable strategic advice on data access.*
Contribute to the sourcing and use of administrative data		New	• *Is aware of the data obtained from administrative sources and the use of administrative data.* • *Knows where to obtain advice about administrative data sources and use as required.*
		Proficient	• *Is knowledgeable about various sources of administrative data and can explain their limitations.* • *Understands the advantages and disadvantages of using administrative data, including in relation to survey data.* • *Can assess the utility of different sources for a particular purpose.*
		Expert	• *Is knowledgeable about multiple sources of administrative data and helps maintain a good working relationship with the suppliers.* • *Can advise on how the data has been used to produce new insights.* • *Provides expertise to identify new sources of administrative data as well as uses for that data.*

Capability		Levels	
Understand and contribute to data collection process design		New	• Understands the role of data collection and the value propositions of different collection approaches.
		Proficient	• Has a comprehensive knowledge of the full range of data collection options, including understanding costs and benefits. • Knows how to mitigate issues arising from different collection modes.
		Expert	• Is an expert resource in all aspects of data collection, including understanding why data is collected, and the roles associated with collection. • Can make justifiable decisions about how data is collected.
Use data quality assurance measures		New	• Understands the concept of data quality and its importance. • Knows where to access data quality measures for the data they use.
		Proficient	• Can describe and produce data quality measures for the outputs they produce. • Has a comprehensive knowledge of relevant data quality measures and can use them to make accurate assessments of data fitness-for-purpose.
		Expert	• Is an expert resource in the use of measures for data quality assurance, the interaction of those measures, and their application in conjunction with one another. • Can advise others on the use of data quality measures to make accurate assessments of data fitness-for-purpose.
Identify and evaluate data intelligence		New	• Has a general understanding of the subject matter area associated with data use (e.g., small business, healthcare, rural sector, etc.).

Capability		Levels	
		Proficient	• Has a comprehensive knowledge of the subject matter area associated with the data use and can readily identify the parameters of the subject matter that influence the use of the data. • Can effectively communicate the relationship between the data and the context in which it is used.
		Expert	• Is an expert resource on the subject matter area associated with data use, including understanding and influencing the effective use of the data within that subject matter area and the relationship between that use and other data use contexts.
Identify research questions		New	• Can formulate research questions with guidance and consider the appropriate approaches and measures to resolve those questions.
		Proficient	• Can identify and structure relevant research questions for specific needs, and develop the approach and specific measures to resolve those questions.
		Expert	• Uses a range of techniques to assess data needs and identify gaps, towards the formulation of appropriate research questions. • Can communicate research questions to a range of audiences. • Can collaborate with stakeholders and users to develop approaches to resolve those questions.
Apply data governance guidance		New	• Is aware of data governance frameworks and policies. • Knows where to obtain advice on governance as required.

Capability		Levels	
		Proficient	• *Can contribute to the creation of internal policies in support of data governance.* • *Can educate others in the importance of good data governance practice.*
		Expert	• *Is consulted regularly about data governance.* • *Can formulate and advise on data governance policies and contribute to the structure of organisational data governance frameworks.* • *Can provide data governance thought leadership across broader data use contexts.*
Employ statistical concepts and methodologies		New	• *Is familiar with statistical methodologies relevant for their work.* • *Maintains a basic understanding of the concepts underpinning those methodologies.*
		Proficient	• *Has a comprehensive understanding of a wide range of statistical concepts, methodologies, and their appropriate application.* • *Can explain their proper use to others.*
		Expert	• *Is consulted regularly by others for their understanding of statistical concepts and their advice on the proper use of statistical methods.* • *Leads efforts to apply good statistical practice.* • *Can develop statistical training for others.*
Employ data and information management concepts		New	• *Can access data and information management principles and associated guidelines.* • *Knows where to obtain advice on the application of good data and information management practice.*

Capability		Levels	
		Proficient	• *Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice.* • *Can advise others on the proper application of data and information management concepts.*
		Expert	• *Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others.* • *Represents a point of contact for data and information management leads in other organisations.*

Category: Describe

In this part of the lifecycle, the data is accurately described using the appropriate metadata standards.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Employ data coding and classification principles		New	• Is aware of relevant data classifications and coding protocols, and their proper application to data in general. • Knows who to consult for expert knowledge.
		Proficient	• Has a comprehensive knowledge of data classifications and coding protocols. • Knows where to obtain expert advice about coding and classifications as needed.
		Expert	• Is consulted regularly by others about data classifications and coding protocols. • Can employ conceptual frameworks in support of data classification and coding.
Integrate data		New	• Has a basic understanding of how data can be linked with other data and the value of that operation.
		Proficient	• Can perform data integration using standard tools and can implement quality controls. • Knows where to obtain expert advice on data integration as needed.
		Expert	• Can perform and provide expert advice on data integration.

Capability		Levels	
Contribute to the sourcing and use of administrative data		New	• *Is aware of the data obtained from administrative sources and the use of administrative data.* • *Knows where to obtain advice about administrative data sources and use as required.*
		Proficient	• *Is knowledgeable about various sources of administrative data and can explain their limitations.* • *Understands the advantages and disadvantages of using administrative data, including in relation to survey data.* • *Can assess the utility of different sources for a particular purpose.*
		Expert	• *Is knowledgeable about multiple sources of administrative data and helps maintain a good working relationship with the suppliers.* • *Can advise on how the data has been used to produce new insights.* • *Provides expertise to identify new sources of administrative data as well as uses for that data.*
Describe and summarise data		New	• *Understands that there are different ways to summarise data and has a basic understanding of commonly used options.*
		Proficient	• *Can use various summary options to effectively describe data, and explain and justify those choices.*
		Expert	• *Can use innovative approaches to improve the process of summarising data into meaningful narratives.* • *Can effectively incorporate data summaries into compelling communication, including for new, large, and complex datasets.*

Capability		Levels	
Understand and apply data editing methods		New	• *Knows where to access relevant methods and understands the basics of those methods.* • *Knows who to consult for expert knowledge.*
		Proficient	• *Has a comprehensive knowledge of the different editing methods at their disposal.* • *Understands why different methods are used and can describe the limitations of each method.* • *Knows where to find expert advice about data editing as required.*
		Expert	• *Is an expert resource on different methods of data editing and is consulted regularly by others.* • *Can assess current editing methods critically.* • *Can train others on data editing concepts and methods.*
Use data quality assurance measures		New	• *Understands the concept of data quality and its importance.* • *Knows where to access data quality measures for the data they use.*
		Proficient	• *Can describe and produce data quality measures for the outputs they produce.* • *Has a comprehensive knowledge of relevant data quality measures and can use them to make accurate assessments of data fitness-for-purpose.*
		Expert	• *Is an expert resource in the use of measures for data quality assurance, the interaction of those measures, and their application in conjunction with one another.* • *Can advise others on the use of data quality measures to make accurate assessments of data fitness-for-purpose.*

Capability		Levels	
Identify and evaluate data intelligence		New	• *Has a general understanding of the subject matter area associated with data use (e.g., small business, healthcare, rural sector, etc.).*
		Proficient	• *Has a comprehensive knowledge of the subject matter area associated with the data use and can readily identify the parameters of the subject matter that influence the use of the data.* • *Can effectively communicate the relationship between the data and the context in which it is used.*
		Expert	• *Is an expert resource on the subject matter area associated with data use, including understanding and influencing the effective use of the data within that subject matter area and the relationship between that use and other data use contexts.*
Apply data governance guidance		New	• *Is aware of data governance frameworks and policies.* • *Knows where to obtain advice on governance as required.*
		Proficient	• *Can contribute to the creation of internal policies in support of data governance.* • *Can educate others in the importance of good data governance practice.*
		Expert	• *Is consulted regularly about data governance.* • *Can formulate and advise on data governance policies and contribute to the structure of organisational data governance frameworks.* • *Can provide data governance thought leadership across broader data use contexts.*

Capability		Levels	
Value organisational data as assets		New	• *Is familiar with organisational data assets relevant to their work.* • *Understands how those assets contribute value to the organisation.*
		Proficient	• *Has extensive knowledge of the organisation's data assets, including a comprehensive understanding of how their fitness for purpose translates to value for the organisation.*
		Expert	• *Has a comprehensive understanding of the data assets available to the organisation and understands how those assets contribute strategic value.* • *Looks for new ways to obtain value from those assets.* • *Can advise on how organisational data assets contribute value in broader data contexts.*
Employ statistical concepts and methodologies		New	• *Is familiar with statistical methodologies relevant for their work.* • *Maintains a basic understanding of the concepts underpinning those methodologies.*
		Proficient	• *Has a comprehensive understanding of a wide range of statistical concepts, methodologies, and their appropriate application.* • *Can explain their proper use to others.*
		Expert	• *Is consulted regularly by others for their understanding of statistical concepts and their advice on the proper use of statistical methods.* • *Leads efforts to apply good statistical practice.* • *Can develop statistical training for others.*

Capability		Levels	
Enable others to use and re-use data		New	• *Understands that the data they work with can be used more widely.* • *Is familiar with basic open data measures to support the re-use of their data by others.*
		Proficient	• *Understands and can articulate the value of data in terms of use and re-use.* • *Implements a variety of techniques to ensure data is open and can be used beyond the specific purpose for which it was collected.* • *Can advise others on approaches to make data re-usable.*
		Expert	• *Is consulted regularly as a leading strategic adviser on the use of organisational data assets.* • *Is consulted on the design and management of those assets as open data, to promote re-use and ongoing value across wider contexts.*
Employ data and information management concepts		New	• *Can access data and information management principles and associated guidelines.* • *Knows where to obtain advice on the application of good data and information management practice.*
		Proficient	• *Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice.* • *Can advise others on the proper application of data and information management concepts.*

Capability		Levels	
		Expert	• *Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others.* • *Represents a point of contact for data and information management leads in other organisations.*

Category: Store

In this part of the lifecycle, the data is stored in a digital repository, and made secure and re-usable (this often very quickly follows collection).

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Employ data coding and classification principles		New	• *Is aware of relevant data classifications and coding protocols, and their proper application to data in general.* • *Knows who to consult for expert knowledge.*
		Proficient	• *Has a comprehensive knowledge of data classifications and coding protocols.* • *Knows where to obtain expert advice about coding and classifications as needed.*
		Expert	• *Is consulted regularly by others about data classifications and coding protocols.* • *Can employ conceptual frameworks in support of data classification and coding.*
Understand and apply data editing methods		New	• *Knows where to access relevant methods and understands the basics of those methods.* • *Knows who to consult for expert knowledge.*

Capability		Levels	
		Proficient	• *Has a comprehensive knowledge of the different editing methods at their disposal.* • *Understands why different methods are used and can describe the limitations of each method.* • *Knows where to find expert advice about data editing as required.*
		Expert	• *Is an expert resource on different methods of data editing and is consulted regularly by others.* • *Can assess current editing methods critically.* • *Can train others on data editing concepts and methods.*
Improve data processes/systems/products		New	• *Can identify a successful process/system/ product.* • *Can identify deficiencies in current processes/systems/ products.*
		Proficient	• *Can identify deficiencies in current processes/systems/ products, gain the required approval to make changes, and lead the implementation of those changes.*
		Expert	• *Thinks strategically to assess current processes/systems/ products across a broad context.* • *Develops improvements where needed and encourages others to think critically about processes/systems/products relevant to them.* • *Advises those leading changes to processes/ systems/products, measures resultant benefits, and makes recommendations.*

Capability		Levels	
Apply data governance guidance		New	• *Is aware of data governance frameworks and policies.* • *Knows where to obtain advice on governance as required.*
		Proficient	• *Can contribute to the creation of internal policies in support of data governance.* • *Can educate others in the importance of good data governance practice.*
		Expert	• *Is consulted regularly about data governance.* • *Can formulate and advise on data governance policies and contribute to the structure of organisational data governance frameworks.* • *Can provide data governance thought leadership across broader data use contexts.*
Value organisational data as assets		New	• *Is familiar with organisational data assets relevant to their work.* • *Understands how those assets contribute value to the organisation.*
		Proficient	• *Has extensive knowledge of the organisation's data assets, including a comprehensive understanding of how their fitness for purpose translates to value for the organisation.*
		Expert	• *Has a comprehensive understanding of the data assets available to the organisation and understands how those assets contribute strategic value.* • *Looks for new ways to obtain value from those assets.* • *Can advise on how organisational data assets contribute value in broader data contexts.*

Capability		Levels	
Employ statistical concepts and methodologies		New	• Is familiar with statistical methodologies relevant for their work. • Maintains a basic understanding of the concepts underpinning those methodologies.
		Proficient	• Has a comprehensive understanding of a wide range of statistical concepts, methodologies, and their appropriate application. • Can explain their proper use to others.
		Expert	• Is consulted regularly by others for their understanding of statistical concepts and their advice on the proper use of statistical methods. • Leads efforts to apply good statistical practice. • Can develop statistical training for others.
Enable others to use and re-use data		New	• Understands that the data they work with can be used more widely. • Is familiar with basic open data measures to support the re-use of their data by others.
		Proficient	• Understands and can articulate the value of data in terms of use and re-use. • Implements a variety of techniques to ensure data is open and can be used beyond the specific purpose for which it was collected. • Can advise others on approaches to make data re-usable.
		Expert	• Is consulted regularly as a leading strategic adviser on the use of organisational data assets. • Is consulted on the design and management of those assets as open data, to promote re-use and ongoing value across wider contexts.

Capability		Levels	
Employ data and information management concepts		New	• Can access data and information management principles and associated guidelines. • Knows where to obtain advice on the application of good data and information management practice.
		Proficient	• Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice. • Can advise others on the proper application of data and information management concepts.
		Expert	• Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others. • Represents a point of contact for data and information management leads in other organisations.

Category: Analyse

In this part of the lifecycle, the data is analysed, i.e., explored and interpreted.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Integrate data		New	• *Has a basic understanding of how data can be linked with other data and the value of that operation.*
		Proficient	• *Can perform data integration using standard tools and can implement quality controls.* • *Knows where to obtain expert advice on data integration as needed.*
		Expert	• *Can perform and provide expert advice on data integration.*
Use data processing methodologies		New	• *Is aware of the proper processing methodology for the data being used and understands its application.* • *Knows where to obtain advice on processing methodology as required.*
		Proficient	• *Can make and justify suggestions for improvements in how data is processed.* • *Understands how processing methodology affects the quality of the outputs.*
		Expert	• *Is consulted regularly by others about processing methodology and can assess it critically to identify improvements.* • *Can explain how processing methodology relates to the quality of data outputs.*

Capability		Levels	
Perform data exploratory data analysis		New	• *Can choose from data analysis techniques.* • *Can use (or learn how to use) appropriate analytical tools to investigate data.*
		Proficient	• *Can identify and implement suitable techniques and tools for exploratory analysis on large/complex datasets.* • *Can validate unexpected results.*
		Expert	• *Is highly competent at performing exploratory analysis on large/complex datasets.* • *Can communicate findings to a range of audiences* • *Can train others in exploratory data analysis techniques.*
Conduct business intelligence data analysis		New	• *Can use common applications to generate basic analysis outputs like tables with calculations and static charts.* • *Understands reports and dashboards created with business intelligence tools.*
		Proficient	• *Can use business intelligence applications to create complex reports and dashboards.*
		Expert	• *Exhibits expertise in multiple business intelligence applications.* • *Can train others in developing outputs using those applications.*
Conduct statistical data analysis		New	• *Understands basic statistical measures and their application to data.*
		Proficient	• *Can use specialist statistical applications for statistical models.* • *Can write custom scripts and code in a statistical computing language to conduct complex analytical tasks.*

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Capability		Levels	
		Expert	• *Contributes to the development of new functionality for statistical analysis applications, which enables new ways of doing analysis.*
Conduct specialist data analysis		New	• *Understands the need for special data analysis methods and tools in some situations (e.g., time series forecasting or spatial).*
		Proficient	• *Can develop, fit, diagnose, and troubleshoot a model in a new data analysis scenario that requires a specialist method (e.g., time series forecasting or spatial statistics).*
		Expert	• *Innovates in developing new methods in a specialist data area (e.g., new approaches to time series forecasting).*
Understand and apply data editing methods		New	• *Knows where to access relevant methods and understands the basics of those methods.* • *Knows who to consult for expert knowledge.*
		Proficient	• *Has a comprehensive knowledge of the different editing methods at their disposal.* • *Understands why different methods are used and can describe the limitations of each method.* • *Knows where to find expert advice about data editing as required.*
		Expert	• *Is an expert resource on different methods of data editing and is consulted regularly by others.* • *Can assess current editing methods critically.* • *Can train others on data editing concepts and methods.*

Capability		Levels	
Use data quality assurance measures		New	• *Understands the concept of data quality and its importance.* • *Knows where to access data quality measures for the data they use.*
		Proficient	• *Can describe and produce data quality measures for the outputs they produce.* • *Has a comprehensive knowledge of relevant data quality measures and can use them to make accurate assessments of data fitness-for-purpose.*
		Expert	• *Is an expert resource in the use of measures for data quality assurance, the interaction of those measures, and their application in conjunction with one another.* • *Can advise others on the use of data quality measures to make accurate assessments of data fitness-for-purpose.*
Employ data and information management concepts		New	• *Can access data and information management principles and associated guidelines.* • *Knows where to obtain advice on the application of good data and information management practice.*
		Proficient	• *Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice.* • *Can advise others on the proper application of data and information management concepts.*
		Expert	• *Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others.* • *Represents a point of contact for data and information management leads in other organisations.*

Category: Use

In this part of the lifecycle, the data is used for the purpose for which it was collected/generated and re-used for additional value.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Employ data coding and classification principles		New	• *Is aware of relevant data classifications and coding protocols, and their proper application to data in general.* • *Knows who to consult for expert knowledge.*
		Proficient	• *Has a comprehensive knowledge of data classifications and coding protocols.* • *Knows where to obtain expert advice about coding and classifications as needed.*
		Expert	• *Is consulted regularly by others about data classifications and coding protocols.* • *Can employ conceptual frameworks in support of data classification and coding.*
Integrate data		New	• *Has a basic understanding of how data can be linked with other data and the value of that operation.*
		Proficient	• *Can perform data integration using standard tools and can implement quality controls.* • *Knows where to obtain expert advice on data integration as needed.*
		Expert	• *Can perform and provide expert advice on data integration.*

Capability		Levels	
Conduct business intelligence data analysis		New	• Can use common applications to generate basic analysis outputs like tables with calculations and static charts. • Understands reports and dashboards created with business intelligence tools.
		Proficient	• Can use business intelligence applications to create complex reports and dashboards.
		Expert	• Exhibits expertise in multiple business intelligence applications. • Can train others in developing outputs using those applications.
Conduct statistical data analysis		New	• Understands basic statistical measures and their application to data.
		Proficient	• Can use specialist statistical applications for statistical models. • Can write custom scripts and code in a statistical computing language to conduct complex analytical tasks.
		Expert	• Contributes to the development of new functionality for statistical analysis applications, which enables new ways of doing analysis.
Conduct specialist data analysis		New	• Understands the need for special data analysis methods and tools in some situations (e.g., time series forecasting or spatial).
		Proficient	• Can develop, fit, diagnose, and troubleshoot a model in a new data analysis scenario that requires a specialist method (e.g., time series forecasting or spatial statistics).
		Expert	• Innovates in developing new methods in a specialist data area (e.g., new approaches to time series forecasting).

Capability		Levels	
Contribute to the sourcing and use of administrative data		New	• *Is aware of what data is obtained from administrative sources and how that administrative data is used.* • *Knows where to obtain advice about administrative data sources and use when required.*
		Proficient	• *Is knowledgeable about various sources of administrative data and can explain their limitations.* • *Understands the advantages and disadvantages of using administrative data, including in relation to survey data.* • *Can assess the utility of different sources for a particular purpose.*
		Expert	• *Is knowledgeable about multiple sources of administrative data and helps maintain a good working relationship with the suppliers.* • *Can advise on how the data has been used to produce new insights.* • *Provides expertise to identify new sources of administrative data as well as uses for that data.*
Use data quality assurance measures		New	• *Understands the concept of data quality and its importance.* • *Knows where to access data quality measures for the data they use.*
		Proficient	• *Can describe and produce data quality measures for the outputs they produce.* • *Has a comprehensive knowledge of relevant data quality measures and can use them to make accurate assessments of data fitness-for-purpose.*

Capability		Levels	
		Expert	• Is an expert resource in the use of measures for data quality assurance, the interaction of those measures, and their application in conjunction with one another. • Can advise others on the use of data quality measures to make accurate assessments of data fitness-for-purpose.
Identify and evaluate data intelligence		New	• Has a general understanding of the subject matter area associated with data use (e.g., small business, healthcare, rural sector, etc.).
		Proficient	• Has a comprehensive knowledge of the subject matter area associated with the data use and can readily identify the parameters of the subject matter that influence the use of the data. • Can effectively communicate the relationship between the data and the context in which it is used.
		Expert	• Is an expert resource on the subject matter area associated with data use, including understanding and influencing the effective use of the data within that subject matter area and the relationship between that use and other data use contexts.
Improve data processes/systems/products		New	• Can identify a successful process/system/ product. • Can identify deficiencies in current processes/systems/ products.
		Proficient	• Can identify deficiencies in current processes/systems/ products, gain the required approval to make changes, and lead the implementation of those changes.

Capability		Levels	
		Expert	• *Thinks strategically to assess current processes/systems/ products across a broad context.* • *Develops improvements where needed and encourages others to think critically about processes/systems/products relevant to them.* • *Advises those leading changes to processes/ systems/products, measures resultant benefits, and makes recommendations.*
Identify research questions		New	• *Can formulate research questions with guidance and consider the appropriate approaches and measures to resolve those questions.*
		Proficient	• *Can identify and structure relevant research questions for specific needs, and develop the approach and specific measures to resolve those questions.*
		Expert	• *Uses a range of techniques to assess data needs and identify gaps, towards the formulation of appropriate research questions.* • *Can communicate research questions to a range of audiences.* • *Can collaborate with stakeholders and users to develop approaches to resolve those questions.*
Employ statistical concepts and methodologies		New	• *Is familiar with statistical methodologies relevant for their work.* • *Maintains a basic understanding of the concepts underpinning those methodologies.*
		Proficient	• *Has a comprehensive understanding of a wide range of statistical concepts, methodologies, and their appropriate application.* • *Can explain their proper use to others.*

Capability		Levels	
		Expert	• Is consulted regularly by others for their understanding of statistical concepts and their advice on the proper use of statistical methods. • Leads efforts to apply good statistical practice. • Can develop statistical training for others.
Enable others to use and re-use data		New	• Understands that the data they work with can be used more widely. • Is familiar with basic open data measures to support the re-use of their data by others.
		Proficient	• Understands and can articulate the value of data in terms of use and re-use. • Implements a variety of techniques to ensure data is open and can be used beyond the specific purpose for which it was collected. • Can advise others on approaches to make data re-usable.
		Expert	• Is consulted regularly as a leading strategic adviser on the use of organisational data assets. • Is consulted on the design and management of those assets as open data, to promote re-use and ongoing value across wider contexts.
Employ data and information management concepts		New	• Can access data and information management principles and associated guidelines. • Knows where to obtain advice on the application of good data and information management practice.

Capability		Levels	
		Proficient	• *Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice.* • *Can advise others on the proper application of data and information management concepts.*
		Expert	• *Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others.* • *Represents a point of contact for data and information management leads in other organisations.*
Visualise data		New	• *Can interpret basic data visualisations like standard charts and explain them to others.*
		Proficient	• *Can readily produce a range of data visualisation outputs and can critically assess and enhance those produced by others.* • *Can advise others on data visualisation options and the best options to present data results.*
		Expert	• *Innovates the development of new approaches to, and options for, data visualisation, and can incorporate a range of techniques, including automation, interactivity, and animation.* • *Can train others in data visualisation.*

Category: Save/Destroy

In this part of the lifecycle, actions are taken to safeguard the long-term viability and availability of the data.

The levels:

- New: has a basic understanding of the subject or process.
- Proficient: has enough experience to work independently and source additional expertise as needed.
- Expert: can innovate in the subject or process and guide others via mentoring or training.

Capability		Levels	
Employ data coding and classification principles		New	• Is aware of relevant data classifications and coding protocols, and their proper application to data in general. • Knows who to consult for expert knowledge.
		Proficient	• Has a comprehensive knowledge of data classifications and coding protocols. • Knows where to obtain expert advice about coding and classifications as needed.
		Expert	• Is consulted regularly by others about data classifications and coding protocols. • Can employ conceptual frameworks in support of data classification and coding.
Improve data processes/systems/products		New	• Can identify a successful process/system/ product. • Can identify deficiencies in current processes/systems/ products.
		Proficient	• Can identify deficiencies in current processes/systems/ products, gain the required approval to make changes, and lead the implementation of those changes.

Capability		Levels	
		Expert	• *Thinks strategically to assess current processes/systems/ products across a broad context.* • *Develops improvements where needed and encourages others to think critically about processes/systems/products relevant to them.* • *Advises those leading changes to processes/ systems/products, measures resultant benefits, and makes recommendations.*
Identify research questions		New	• *Can formulate research questions with guidance and consider the appropriate approaches and measures to resolve those questions.*
		Proficient	• *Can identify and structure relevant research questions for specific needs, and develop the approach and specific measures to resolve those questions.*
		Expert	• *Uses a range of techniques to assess data needs and identify gaps, towards the formulation of appropriate research questions.* • *Can communicate research questions to a range of audiences.* • *Can collaborate with stakeholders and users to develop approaches to resolve those questions.*
Apply data governance guidance		New	• *Is aware of data governance frameworks and policies.* • *Knows where to obtain advice on governance as required.*
		Proficient	• *Can contribute to the creation of internal policies in support of data governance.* • *Can educate others in the importance of good data governance practice.*

Capability		Levels	
		Expert	• *Is consulted regularly about data governance.* • *Can formulate and advise on data governance policies and contribute to the structure of organisational data governance frameworks.* • *Can provide data governance thought leadership across broader data use contexts.*
Value organisational data as assets		New	• *Is familiar with organisational data assets relevant to their work.* • *Understands how those assets contribute value to the organisation.*
		Proficient	• *Has extensive knowledge of the organisation's data assets, including a comprehensive understanding of how their fitness for purpose translates to value for the organisation.*
		Expert	• *Has a comprehensive understanding of the data assets available to the organisation and understands how those assets contribute strategic value.* • *Looks for new ways to obtain value from those assets.* • *Can advise on how organisational data assets contribute value in broader data contexts.*
Employ statistical concepts and methodologies		New	• *Is familiar with statistical methodologies relevant for their work.* • *Maintains a basic understanding of the concepts underpinning those methodologies.*
		Proficient	• *Has a comprehensive understanding of a wide range of statistical concepts, methodologies, and their appropriate application.* • *Can explain their proper use to others.*

Capability		Levels	
		Expert	*Is consulted regularly by others for their understanding of statistical concepts and their advice on the proper use of statistical methods.* *Leads efforts to apply good statistical practice.* *Can develop statistical training for others.*
Enable others to use and re-use data		New	*Understands that the data they work with can be used more widely.* *Is familiar with basic open data measures to support the re-use of their data by others.*
		Proficient	*Understands and can articulate the value of data in terms of use and re-use.* *Implements a variety of techniques to ensure data is open and can be used beyond the specific purpose for which it was collected.* *Can advise others on approaches to make data re-usable.*
		Expert	*Is consulted regularly as a leading strategic adviser on the use of organisational data assets.* *Is consulted on the design and management of those assets as open data, to promote re-use and ongoing value across wider contexts.*
Employ data and information management concepts		New	*Can access data and information management principles and associated guidelines.* *Knows where to obtain advice on the application of good data and information management practice.*

Capability		Levels	
		Proficient	• *Has a comprehensive knowledge of the organisation's data and information management principles and guidelines and can apply them to support good data practice.* • *Can advise others on the proper application of data and information management concepts.*
		Expert	• *Is an expert resource for implementing and shaping the organisation's strategic use of data and information management good practice, and can advise others.* • *Represents a point of contact for data and information management leads in other organisations.*