APS Data Capability Framework
(Version 1)

User guide

Acknowledgments

The APS Data Professional Stream acknowledges and thanks Stats NZ for the use of their Data Capability Framework. The APS Data Capability Framework has drawn upon this framework, with additional themes included and amendments made to align with the APS context and Data Professional Stream requirements.

We also thank the following agencies who have been pivotal in developing and testing this framework:

Attorney-General's Department

Australian Bureau of Statistics

Australian Public Service Commission

Australian Taxation Office

Department of Foreign Affairs and Trade

Department of Health

Department of Social Services

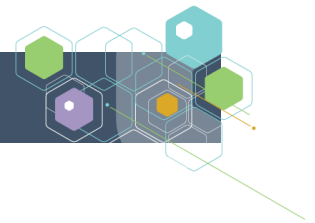Geoscience Australia

National Archives Australia

National Indigenous Australians Agency

Services Australia

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APS Data Capability Framework

Introduction

Data Capability is a core capability for all APS agencies, employees and managers now and increasingly into the future.

The APS Data Capability Framework provides the foundation to building APS data capability and supporting data career paths. It is relevant to all people in the APS who work with and use data in some way.

The Government's APS reform agenda outlines its commitment to *use data better – ensuring the APS has the right capability, tools and processes to securely use, share and understand data and other sources of information for better policy advice, regulation and services…*[1]

Ensuring the Australian Public Service (APS) has the right capabilities to use data is a key enabler to government leveraging the benefits of data and delivering quality services and outcomes to Australians.

The Framework stems from the APS Data Professional Stream Strategy and connects other Data Profession initiatives that will build data capability and professionalise data expertise across the APS. These initiatives include:

- Data Job roles
- Foundational data literacy learning pathways
- Data capability built into SES role descriptions
- Immersive learning experiences
- Career pathways
- Data capability assessment tool

The Framework will help ensure these initiatives share a consistent language and structure.

The Framework is also a resource that can guide APS agencies, employees and managers as they build data capabilities, manage workforce requirements and develop careers.

What is the APS Data Capability Framework?

The Framework outlines the 26 data-specific capability areas associated with working with data in the APS. Each has capability indicators (covering skills, knowledge and behaviours) that span across three proficiency levels of foundation, intermediate and advanced. The DCF has been designed to be flexible.

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[1] Commonwealth of Australia, Department of the Prime Minister and Cabinet, Delivering for Australians, 2019.

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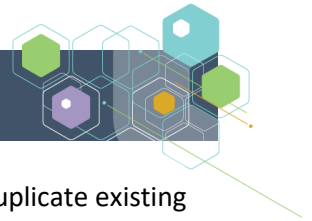
It focuses solely on data capabilities, and is designed to complement rather than duplicate existing frameworks in use. Such frameworks include:

- The Integrated Leadership System
- Skills Framework for the Information Age
- NAA's information Management and data capabilities
- The Office of the National Data Commissioner's Foundational Four

Who is the Framework for?

The Framework is relevant to all APS employees, managers and agencies.

How can we use the Framework?

The Framework has touchpoints across several elements of the Employee Lifecycle and can be used as a guide when involved in activities across the following:

- Attraction and recruitment
- Learning and performance
- Career development
- Engagement and retention

Agencies can use the Framework for a range of **human resource management** activities, including:

- Data capability assessment and baselining
- Mapping data capability resources and courses to the Framework to inform agency and employee learning choices
- Recruitment activities
- Workforce planning and mobility initiatives
- Incorporating the data capabilities into their existing people capability framework

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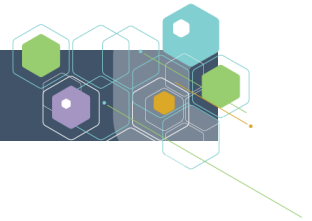
Examples of use

Development conversations and planning

Employees and managers can use the Framework as a tool to support individual and team development conversations and planning. Using the Framework can help employees and managers identify particular data capability needs or strengths, and prioritise training and development resource allocation.

APS Employee

This Framework is a tool I can use when thinking about my development, performance, and career goals. Using the Data Lifecycle View to better understand the data capabilities relevant to my work, I can then look at these in more detail to identify my areas of strength, as well as set development goals for myself.

APS Manager

I can use this Framework when considering my team's development and performance. The Data Lifecycle View helps me identify the capability areas relevant to our work. I can then look closer at these to consider my team's strengths and development needs. This allows me to make informed decisions on where to focus development, as well as consider ways to help individuals in my team practise a particular skill, or coach and mentor others to broaden proficiency across the team.

APS Human Resource Manager

Learning and development

This Framework is a resource I can use when partnering with managers and teams in my agency to identify their data capability needs and target development opportunities that address these. I can use the Data Lifecycle View to identify the particular capabilities relevant to their work, and then look at the next level of detail to discuss specific needs.

I can also look at the entire set of capabilities in the Framework when reviewing our current development offerings, or collating a learning and development catalogue of data related courses, resources and programs.

Recruitment

I can use the capabilities in the Framework to create targeted and consistent role descriptions and advertisements, referencing specific data capabilities required in certain roles.

I can also use the capabilities in the Framework to create questions to draw out specific data capabilities during a selection process.

Workforce Management (strategic and operational)

I can incorporate the Framework into our existing people capability framework to gain an expanded view of the capability requirements for my agency.

I can also use the Framework to better understand agency data capability strengths, needs and gaps when considering succession planning, as well as when identifying secondment priorities and opportunities within my agency and beyond.

Case studies

Organisational planning and strategy

The following is an example of how the National Measurement Institute (NMI) used the Framework to plan how it will continue to build data capabilities and resources as a data-driven organisation.

Need

The NMI needed to understand the data use, skills, and capabilities of its employees, to inform strategies and initiatives to drive digital and data transformation.

Approach

Using a human-centred design approach, the NMI interviewed employees across each branch and complemented this with desktop research and analysis to develop journey maps and functional personas.

Each persona described a 'day in the life of' including pain points and challenges, as well as how the persona interacts with data. The data skills and capability requirements of each persona were mapped against the Framework to describe current skill requirements and identify potential upskilling opportunities. Only a subset of capabilities from the Framework were mapped as not all 26 capabilities were relevant to the personas.

Results

NMI developed a list of relevant and current training options for each Capability. Staff are enabled to undertake training to develop their own skills and capabilities aligned with their persona. These results will feed into strategies and initiatives to drive digital and data transformation within NMI, and create a baseline for future review.

Alignment with agency capability framework

The following is an example of how the Australian Taxation Office (ATO) aligned the Framework with the capability framework within their agency.

Need

The ATO wanted to ensure the capability framework used within their agency aligned with those being used across the APS.

Approach

Reviewed the Framework capabilities with existing job profiling, skills and knowledge mapping and communication materials used in their agency. Worked closely with their agency's data professionals to articulate gaps between the two frameworks. Also needed to align the Framework's proficiency levels which are 3-points with the agency's which have 5.

Results

Created a comparison between proficiency levels to assist their agency's interpretation of the Framework. Added additional descriptions to agency capability framework based on detail found in the Framework and updated the supporting materials for staff to explain.

Role enrichment workshops

The following is an example of how the Digital Profession at the APSC used the Framework and Skills for the Information Age (SFIA) to work out what skills are essential or desirable at each level for different roles.
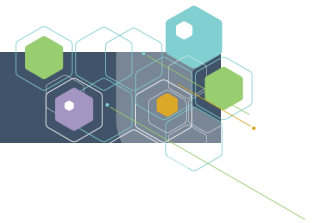
Need

The Digital Profession needed to identify the skills required for each role in a number of disciplines. This information was fed into the APS Career Pathfinder tool which then constructs customised career pathways for people based on their individual self-assessed skills. A career seeker can look at any role and determine what skills they may need to develop. Learning resources which help people fill any skills gap they have are mapped through the skill frameworks as well.

Approach

The APSC undertook a series of role enrichment workshops with discipline experts from various APS agencies to articulate what skills are needed for roles in their discipline. In these workshops the experts are taught to use the skills frameworks as their language to describe the different roles.

Results

The workshops have proved to be a useful way of mapping the skills and are currently ongoing.

Development and career planning workshop

The following is an example of how the Department of Social Services (DSS) used the Framework to run a development workshop with data graduates.

Need

To understand the current data capabilities of data graduates and career interests for the short, medium and long term.

Approach

DSS hosted a development and career planning workshop for data graduates. In this workshop participants were given an activity sheet with the Framework's data capabilities listed alongside the Data Lifecycle view. Participants were asked to tick capabilities where they have had exposure to date and then highlight focus areas for their development in the short-, medium- and long-term.

Result

The results of these activity sheets were collated and used to inform the DSS Data Graduate Program. Participants were also encouraged to use their development goals in performance discussions with their immediate supervisor.

Capability assessment – agency level

The following is an example of how the Commonwealth Fraud Prevention Centre (the Centre) used the Framework to develop a beta Fraud Data Capability Assessment tool.
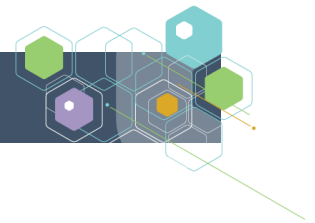
Need

Stakeholder engagement in 2021 identified the core problems experienced in countering fraud, one of which was a lack of effective tools and processes to find and deal with the fraud they likely experience. Also noted was a lack of collaboration and information sharing across the APS on preventing fraud.

Approach

This led to the Centre developing a Fraud Data Capability Assessment tool that aligns with the Framework. APS entities can use the assessment tool to identify fraud data capabilities, strengths, areas of improvement, and enhance their fraud data analytic capabilities by identifying activities and training opportunities.

The assessment tool includes a series of questions designed to measure and identify an entity's current fraud data analytics proficiency against each of the 26 capabilities in the Framework. The questionnaire is divided into eight categories that aligns with the Centre's Fraud Data Analytics Framework, addressing risk assessment and requirements, data acquisition, analysis, visualisation, and consumption.

Results

The Centre analyses the questionnaire results and provides the entity a report which outlines proficiency levels against Framework capabilities. Entities can use this to identify areas where they might like to build capacity, and the report provides information about resources that can assist with capability uplift, linking entities with other capability building activities happening across the Commonwealth.

Self-assessment survey approach

The following is an example of how the Australian Bureau of Statistics (ABS) developed the Data Capability Census, a survey to assess data capability, using the Framework

Need

The ABS wanted to better understand the current levels of data capability across the organisation, and also offer its employees an opportunity to reflect on their data capability strengths and areas for development.

Approach

The ABS developed the survey using the Framework as a base, engaging with internal partners to adapt it to ABS needs and context. The ABS removed some capability areas that weren't relevant, and created an additional two to accommodate their needs. The online self-assessment was developed in an ABS survey tool and asks respondents to rate their proficiency across 24 data capability areas. Guidance notes are provided to help participants select their responses. These guidance notes are based on the proficiency indicators outlined in the Framework.

Results

The ABS will use the results of the Data Capability Census to help identify priorities for future development initiatives and capability building. Respondents will have an opportunity to use their response from the survey to inform planning their development and career goals.

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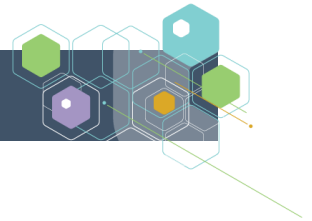
Navigating the Framework

To navigate the Framework, you can either refer to the complete set of 26 capability areas, or you can target specific ones that are relevant to a category within the data lifecycle.

Example: using the capability areas

Step 1: Looking at the capability area, identify which capabilities are most relevant to your situation.

Step 2: Select the relevant capability and the view will navigate to the related capability indicators.

Example: using the data lifecycle view

Step 1: Looking at the data lifecycle view, identify which categories are most relevant to your situation.

Step 2: Identify the capability areas that relate to these data lifecycle categories.

Step 3: Refer to the relevant capability indicators in the Framework. You can click on the cell in the data lifecycle view to navigate directly to the related capability indicators.