Australian Government
Department of Finance

Australian Public Service Data Maturity Report 2024

Findings from the first Australian Public Service Data Maturity Assessment

Department of Finance

Background

What is the Australian Public Service Data Maturity Assessment?

The Australian Public Service (APS) Data Maturity Assessment is a new initiative under the Data and Digital Government Strategy as part of the Australian Government's commitment to:

- grow the data and digital maturity of APS entities; and
- develop tools to measure and track on the data maturity of entities and the APS as a whole.

The Data Maturity Assessment Tool provides a consistent approach to measuring and understanding data maturity across the APS. The Tool is published on the Department of Finance website.

Goals of data maturity assessments:

The Data Maturity Assessment aims to:

- consistently measure and track APS data maturity;
- allow agencies to track their maturity progress and compare their results and trends to similar agencies; and
- support the Government in identifying areas for improvement and where to target investment and resources.

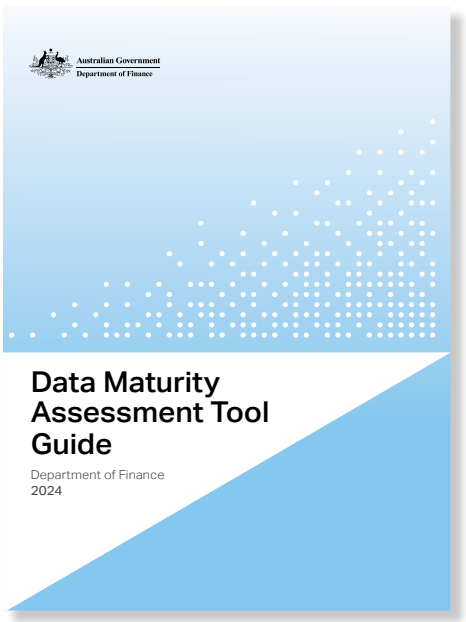
Which agencies are covered by the assessment?

Non-corporate Commonwealth entities that have primary responsibility for their data management regime are in-scope for the assessment. National Intelligence agencies are excluded. Other Commonwealth entites can participate voluntarily.

When did the first APS Data Maturity Assessment happen?

The 2024 Data Maturity Assessment was undertaken from May to July 2024.





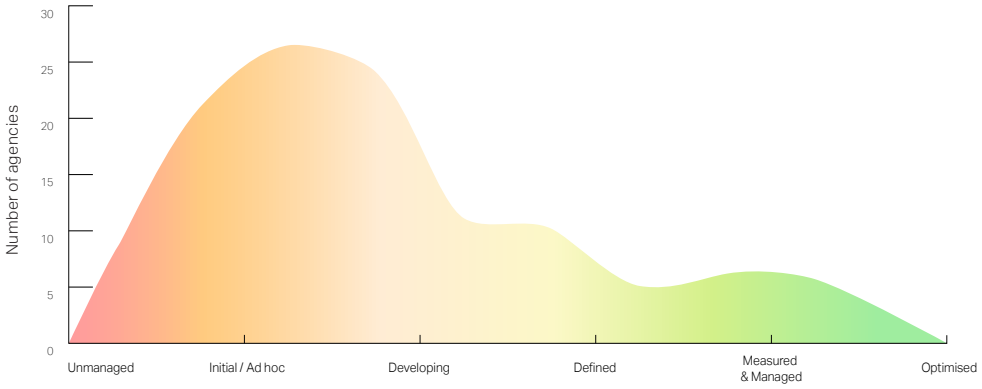
Overview

The Data and Digital Government Strategy (the Strategy) envisions an APS that provides simple, secure, and connected public services through world-class data and digital capabilities by 2030. To support this vision, agencies are required to self-assess their data maturity and track progress over time. The assessments are supported by the Data Maturity Assessment Tool (the Tool), which consists of 57 closed questions across 7 focus areas that agencies are required to rate themselves against on a scale of 0 to 5 using the Likert scale descriptors in the Tool.

Results

The average data maturity score across the APS was 2.02 out of 5, a rating of 'developing'. A rating of 'developing' indicates that agencies understand the importance of using and managing data effectively at the enterprise level, have some initiatives for increasing data capability, and have started using data to improve selected areas to advance operational efficiency, but that these improvements are still a work in progress.

Graph 1: Maturity distribution across the Australian Public Service



Interpreting the results

In analysing the results, it is important to note there is no one-size-fits-all approach to data maturity, and appropriate maturity levels for individual agencies will depend on factors including agency purposes, risks, and operating environment. For example, the level of data maturity needed at an agency that frequently handles large amounts of personal data may be higher than at an agency which does not. For these reasons, in some cases a data maturity level of 'developing' might be an appropriate end-state for some agencies given their unique circumstances (such as a small agency with very limited data holdings or requirements). It is also worth noting that agency results are averages across an entire agency, and some agency results may mask pockets of higher maturity in some business areas.

A further consideration for the 2024 results is that time-series data is not yet available. However, in setting a baseline measure of data maturity some observations have emerged and can now be considered further and tracked in future assessment processes, including:

- In some areas, APS data maturity may not yet be fully aligned with Government expectations. For example, the Strategy commits agencies to appoint an appropriate senior leader to be responsible for the organisation's data. While the results suggest most agencies are already meeting this commitment, 21% of agencies are not.
- The lowest scoring focus area was 'Data Quality, Reference & Metadata'. This is important as many Government initiatives, such as the Digital Atlas, plus advanced uses of data such as artificial intelligence and data sharing, rely on high levels of data quality, good referencing of data, and consistent metadata to be fully effective.
- There appears to be a relationship between the size of an agency and its data maturity, with larger agencies tending to have higher data maturity. The median data maturity score for micro agencies (defined as having fewer than 20 employees) was the lowest (1.47), and this result trending up reached a median of 2.17 for extra-large agencies (defined as having more than 10,000 employees).

Agencies have indicated that the assessment process has helped them to identify appropriate data maturity goals to support their unique operational needs, and planned actions to uplift data maturity across the APS are detailed further below.

Overall APS Data Maturity:
Developing

High Level Findings

The responses from the 2024 assessment were used to create a baseline of data maturity levels for all 7 focus areas. Across all focus areas, the APS consistently performs in the low to mid-range of data maturity.

Focus area	Average APS rating	Description of Focus Area
Strategy and governance	Developing	Data governance, organisational structures, data management practises, and roles and responsibilities for data stewards and custodians.
Architecture	Initial / Ad hoc	Structures and plans in place to meet an agency's data requirements, and their adaptability in evolving their products, services, and data in emerging technologies.
Operations	Developing	Structures and resources to oversee data management activities and the extent to which it supports operational and strategy goals.
Risk	Developing	Risk management activities, appropriate access to data assets, compliance with data privacy protections and regulations, and protocols to audit and monitor data risk.
Quality, reference, and metadata	Initial / Ad hoc	Standards and processes to measure and monitor data quality standards, management of data assets and sources, and metadata quality, consistency, currency, and security.
Data integration	Developing	Strategic planning and day-to-day operations, integration of external data sources and data from other government bodies, and the processes for approvals, connections, and ongoing data maintenance.
Data analytics	Initial / Ad hoc	An agency's understanding and investment into data analytics, processes and technologies to support analytic scenarios, handling of large-scale data, and the presence of data ethics principles and frameworks.

Rating key

Unmanaged	Initial / Ad hoc	Developing	Defined	Measured & Managed	Optimised
Indicators of data maturity for this area are not met in any part of the agency	Indicators of data maturity are met in some business areas only	Indicators of data maturity are starting to be met at an enterprise level	Indicators of data maturity are being met at an enterprise level	Data maturity is managed effectively based on performance measures	Data maturity is managed effectively and there is continuous improvement

APS Maturity:
Developing

Detailed Findings

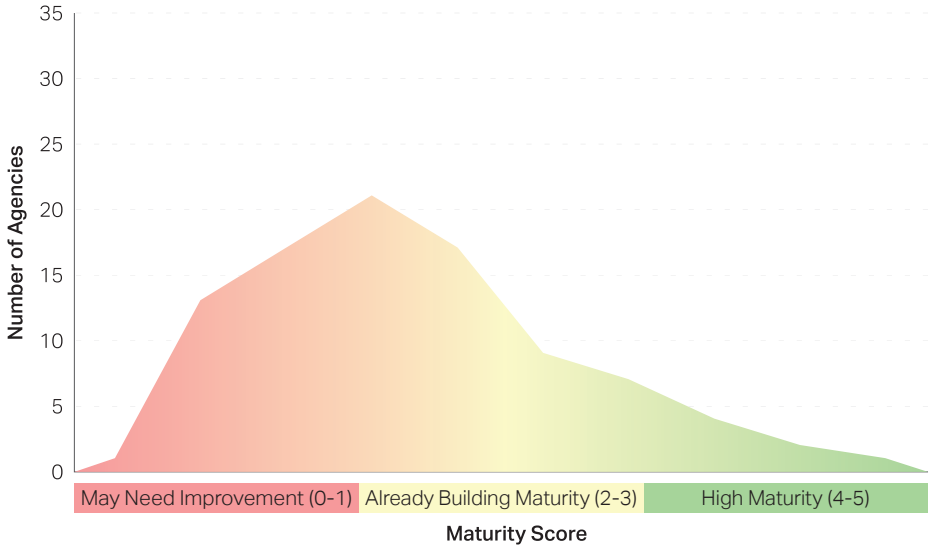
Focus Area 1: Strategy and Governance

Strategy and Governance is a measure of data governance, organisational structures, data management practises, and roles and responsibilities for data stewards and custodians. The average score for this focus area was 'developing'. For agencies at this level, this rating indicates:

- the data and processes needed to support their informed decision making are understood in the data-focussed areas of the organisation only.
- they have released and are starting to implement a data strategy to inform their actions in certain parts of the organisation, and their data management practices draw on the broader vision of the organisation, but are mainly focused on business areas.
- they are likely to have data governance groups, but those groups will often not be involved in the organisation's deliberations at an enterprise level.
- data use for decision making and enhanced user experience is encouraged in data-focussed areas of the organisation but is limited elsewhere.
- the agency's senior data analytic leads collaborate internally and consult with business units in other areas of the organisation on an 'as-needed' basis.
- data custodians and stewards are identified for most of the agency's data assets.

Agency distribution – Strategy and Governance

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their strategy and governance data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	✓	-	✓
Regulatory	✓	-	-
Policy	-	✓	✓
Larger Operational	-	✓	-
Small Operational	-	✓	-

Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
Micro	✓	-	-
Extra Small	✓	-	-
Small	✓	-	✓
Medium	✓	-	✓
Large	-	✓	-
Extra Large	-	✓	-

APS Maturity:
Inital / Ad hoc

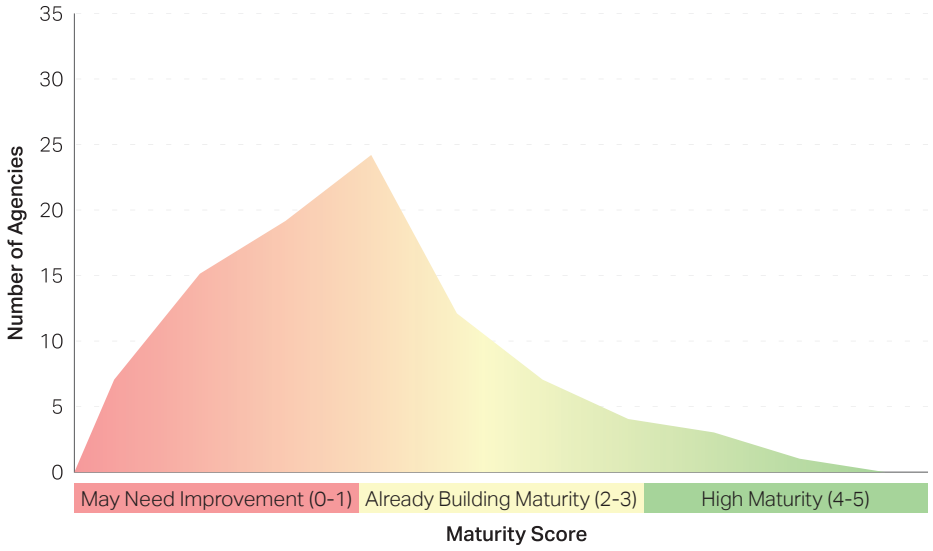
Focus Area 2: Architecture

Data Architecture measures structures and plans in place to meet an agency's data requirements, and their adaptability in evolving their products, services, and data in emerging technologies. The average score for this focus area was 'initial/Ad hoc'. For agencies at this level, this rating indicates:

- their legacy architecture is unsuitable for maximising the value of the organisation's data, and that awareness of the agency's data management and enterprise architecture principles is likely limited to ICT areas.
- they have some data architecture resourcing and competencies confined to a small number of areas. Models and plans for related architecture are likely done on an ad hoc basis.

Agency distribution – Architecture

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their architecture data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	✓	-	✓
Regulatory	✓	-	-
Policy	✓	-	✓
Larger Operational	✓	-	-
Small Operational	-	✓	-

Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
Micro	✓	-	-
Extra Small	✓	-	✓
Small	✓	-	✓
Medium	✓	-	✓
Large	✓	-	-
Extra Large	✓	-	-

APS Maturity:
Developing

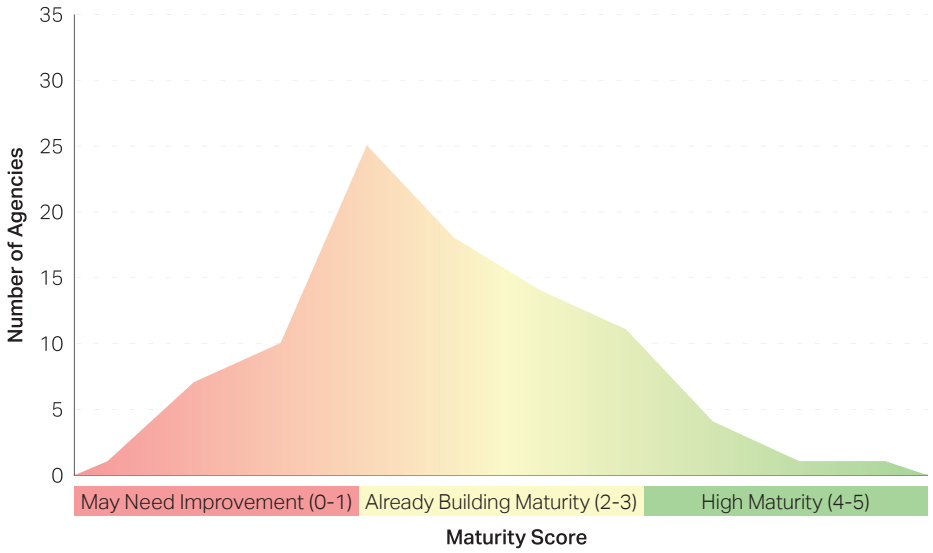
Focus Area 3: Operations

Data operations measure an agency's structures and resources to oversee data management activities and the extent to which it supports operational and strategy goals. The average score for this focus area was 'developing'. For agencies at this level, this rating indicates:

- they have developed regular procedures to ensure the security, usability, and maintenance of data assets.
- they effectively manage major data assets throughout their lifecycle.
- they have developed procedures and policies for data backup, recovery, and retention.
- they perform occasional capacity planning on databases.
- they have developed procedures for communicating some system outages and database service disruptions.
- they have developed procedures and controls for processing improvements in data operations, data analysis, data management, or data engineering to support value creation from data.

Agency distribution – Operations

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their operations data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	✓	-	✓
Regulatory	-	✓	-
Policy	-	✓	-
Larger Operational	-	✓	-
Small Operational	-	✓	-
Type of agency	**May Need Improvement (≥50% at 0-1 level)**	**Already Building Maturity (≥50% at 2-3 level)**	**Pockets of High Maturity (instances of 4-5 levels)**
Micro	-	✓	-
Extra Small	-	✓	-
Small	-	✓	✓
Medium	-	✓	✓
Large	-	✓	-
Extra Large	-	✓	-

APS Maturity:
Developing

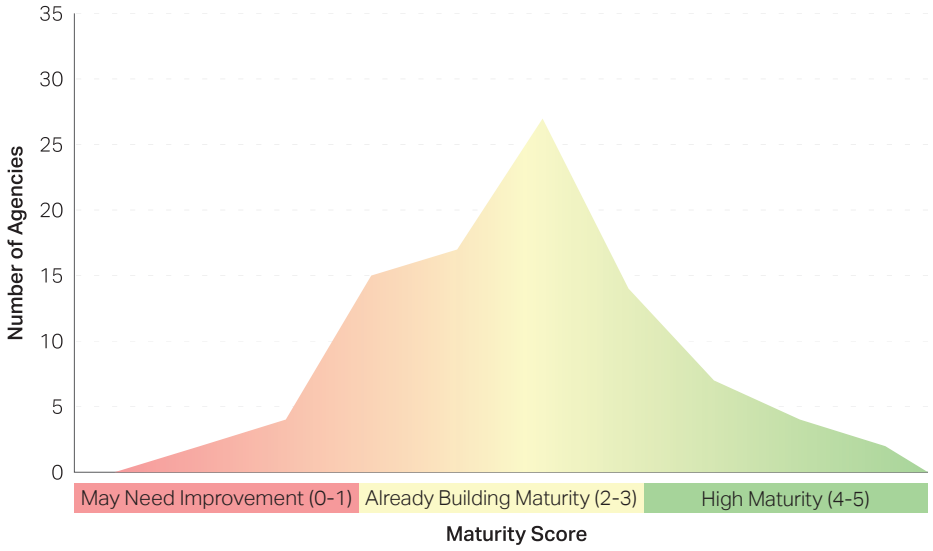
Focus Area 4: Risk

Risk measures an agency's risk management activities, appropriate access to data assets, compliance with data privacy protections and regulations, and protocols to audit and monitor data risk. The average score for this focus area was 'developing'. For agencies at this level, this rating indicates:

- they have developed a classification scheme to identify the sensitivity levels of each of their assets, and the privacy and security protocols required.
- they have developed security protocols for some data that is in motion and at rest.
- they have developed processes and procedures to protect data from unauthorised access or manipulation, theft, or attack, and to ensure compliance with privacy requirements.
- they have developed an incident response action plan in place if data is stolen or attacked that applies to certain areas of the organisation.

Agency distribution – Risk

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their risk data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	-	✓	✓
Regulatory	-	✓	✓
Policy	-	✓	✓
Larger Operational	-	✓	-
Small Operational	-	✓	✓
Type of agency	**May Need Improvement (≥50% at 0-1 level)**	**Already Building Maturity (≥50% at 2-3 level)**	**Pockets of High Maturity (instances of 4-5 levels)**
Micro	-	✓	✓
Extra Small	-	✓	✓
Small	-	✓	✓
Medium	-	✓	✓
Large	-	✓	✓
Extra Large	-	✓	-

APS Maturity:
Inital / Ad hoc

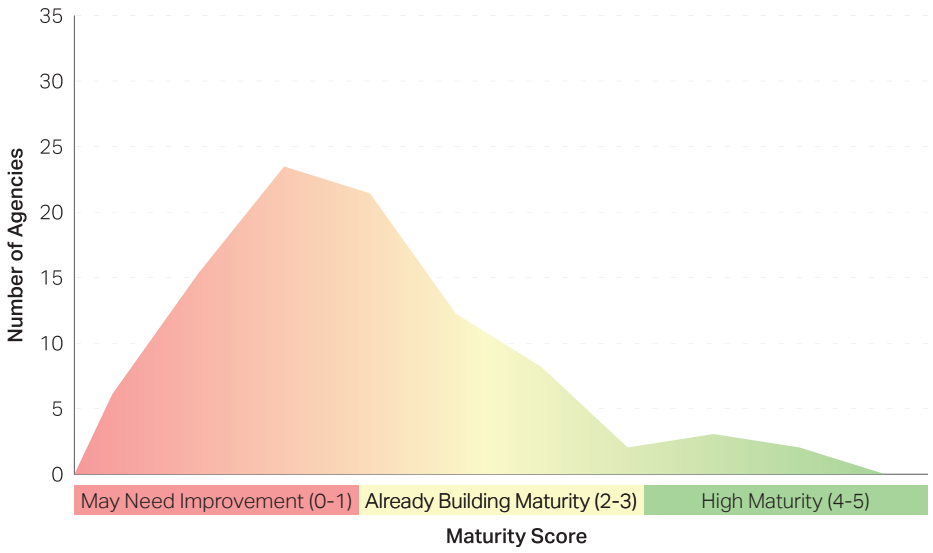
Focus Area 5: Quality, reference and metadata

Data quality, reference, and metadata measures an agency's standards and processes to measure and monitor data quality standards, management of data assets and sources, and metadata quality, consistency, currency, and security.
The average score for this focus area was 'initial/Ad hoc'. For agencies at this level, this rating indicates:

- they monitor and fix issues related to the data quality and usability of data assets on an ad hoc basis.
- they are developing corrective improvement plans to support the cleansing and management of their data assets.
- they are developing automated capabilities to reduce manual cleansing steps and support streamlined cleansing and maintenance of data assets.
- their universal master domains are partially documented.
- they are developing a mechanism for capturing and maintaining metadata for some of their key data assets.
- they are developing a process to review and approve metadata standards and management practices before they are applied.

Agency distribution – Quality, reference and metadata

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their quality, reference and metadata data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	✓	-	✓
Regulatory	✓	-	-
Policy	✓	-	✓
Larger Operational	✓	-	-

Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
Micro	✓	-	-
Extra Small	✓	-	-
Small	✓	-	✓
Medium	✓	-	✓
Large	✓	-	-
Extra Large	✓	-	-

APS Maturity:
Developing

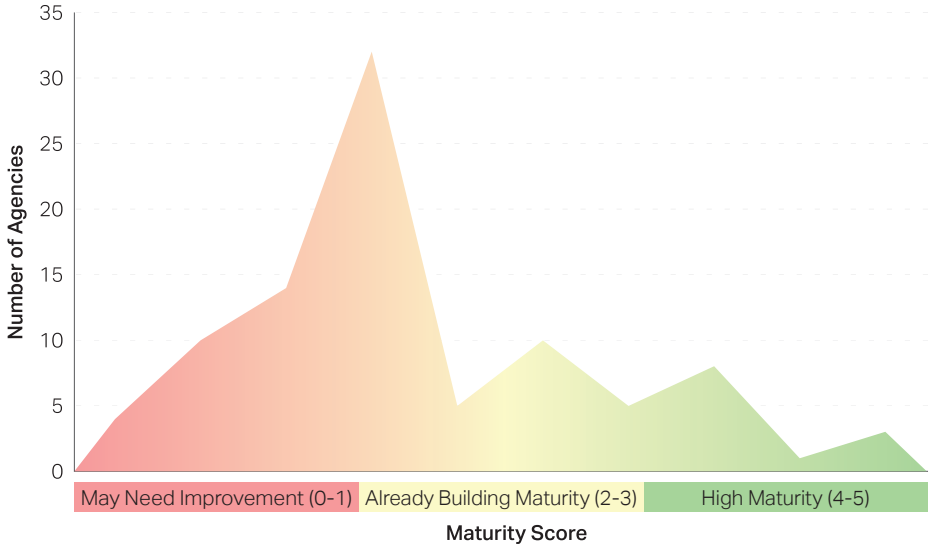
Focus Area 6: Integration

Data integration measures strategic planning and day-to-day operations, integration of external data sources and data from other government bodies, and the processes for approvals, connections, and ongoing data maintenance. The average score for this focus area was 'developing'. For agencies at this level, this rating indicates:

- they have a limited understanding of their data integration needs.
- they are working towards accessing data integration assets necessary to inform strategic planning (either developing the assets internally or accessing assets externally).
- they add and maintain external data sources in accordance with a process of approvals, connections, and maintenance in part of the organisation.

Agency distribution – Integration

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their integration data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	✓	-	✓
Regulatory	✓	✓	-
Policy	-	✓	✓
Larger Operational	✓	✓	-
Smaller Operational	-	✓	-

Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
Micro	✓	-	-
Extra Small	✓	-	✓
Small	✓	-	✓
Medium	-	✓	✓
Large	✓	-	-
Extra Large	-	✓	-

APS Maturity:
Inital / Ad hoc

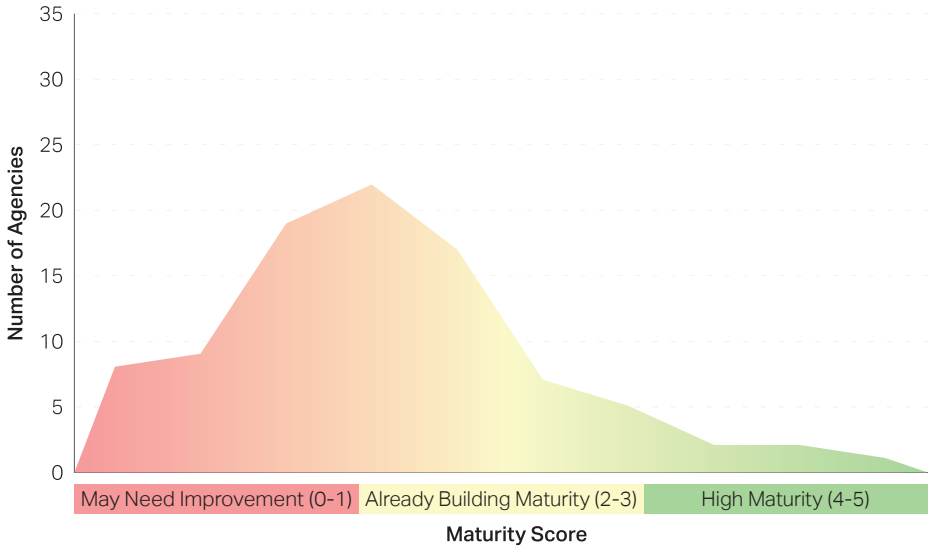
Focus Area 7: Data Analytics

Data analytics measures an agency's understanding and investment into data analytics, processes and technologies to support analytic scenarios, handling of large-scale data, and the presence of data ethics principles and frameworks. The average score for this focus area was 'initial/Ad hoc'. For agencies at this level, this rating indicates:

- they are working to understand their information and data analytic needs to support the creation of a business intelligence and analytics strategy.
- they are working to understand their data analytics capability investment needs and their data specialists are engaged on the same basis as other employees.
- they are working to implement self-service business intelligence tools, procedures, and controls for managing the quality of business intelligence.
- they are investigating or transitioning to use cloud technologies to support their strategic plans.
- they are working to evaluate the appropriateness of processes and controls to support the training of AI models, or know the processes and controls are not quite sufficient.
- they are working on developing and implementing tactics to reduce human bias inherent in algorithms and data, to govern data ethics, and to limit perpetuating social and cultural biases.

Agency distribution – Data Analytics

While agencies have different data maturity needs, the diagram below indicates how many agencies may need to improve their data analytics data maturity.



Type of agency	May Need Improvement (≥50% at 0-1 level)	Already Building Maturity (≥50% at 2-3 level)	Pockets of High Maturity (instances of 4-5 levels)
National Cultural & Specialist	✓	-	✓
Regulatory	✓	-	-
Policy	-	-	✓
Larger Operational	-	✓	-
Smaller Operational	✓	-	-
Type of agency	**May Need Improvement (≥50% at 0-1 level)**	**Already Building Maturity (≥50% at 2-3 level)**	**Pockets of High Maturity (instances of 4-5 levels)**
Micro	✓	-	-
Extra Small	✓	-	-
Small	✓	-	✓
Medium	✓	-	✓
Large	-	✓	-
Extra Large	-	✓	-

Actions

To address the findings of this report, the following actions will be taken.

Commonwealth agencies are working to improve their data maturity

Agencies are using their Data Maturity Assessment results to:

- understand their enterprise data maturity; and
- assess priorities to improve maturity and agree on associated actions.

The Department of Finance is acting on the Data Maturity Assessment findings

The Department of Finance will:

- promote best practices and engage with agencies to support an uplift in data maturity;
- consider additional supports in focus areas and for agency types that need it most; and
- improve guidance around data maturity assessments, including the Data Maturity Assessment Tool itself.

The Australian Government continues to invest in Australian Public Service data maturity and capability uplift

Work is underway to meet the commitments under the Data and Digital Government Strategy. This includes:

- championing the data profession and developing an APS Data, Digital and Cyber Workforce Plan;
- developing a Data Governance Framework and a Data Ethics Framework;
- implementing the Intergovernmental Agreement on Data Sharing through the National Data Sharing Work Program;
- reviewing the *Data Availability and Transparency Act 2022*; and
- increasing the number of accredited entities under the DATA Scheme.

The Australian Public Service Data Maturity Report 2024

- This report will inform further work to uplift data maturity and be used to measure the government's progress in the Data and Digital Government Strategy Implementation Plan.
- For more information, see the Department of Finance website.