



Data Management in Australian Government: Strategies, Initiatives and Value

A Tech Research Asia Survey Report
Commissioned by NetApp Australia Pty Ltd



Introduction & Executive Summary

This research report commissioned by NetApp Australia provides a snapshot of how Australian government agencies and related organisations approach data management strategies and issues.

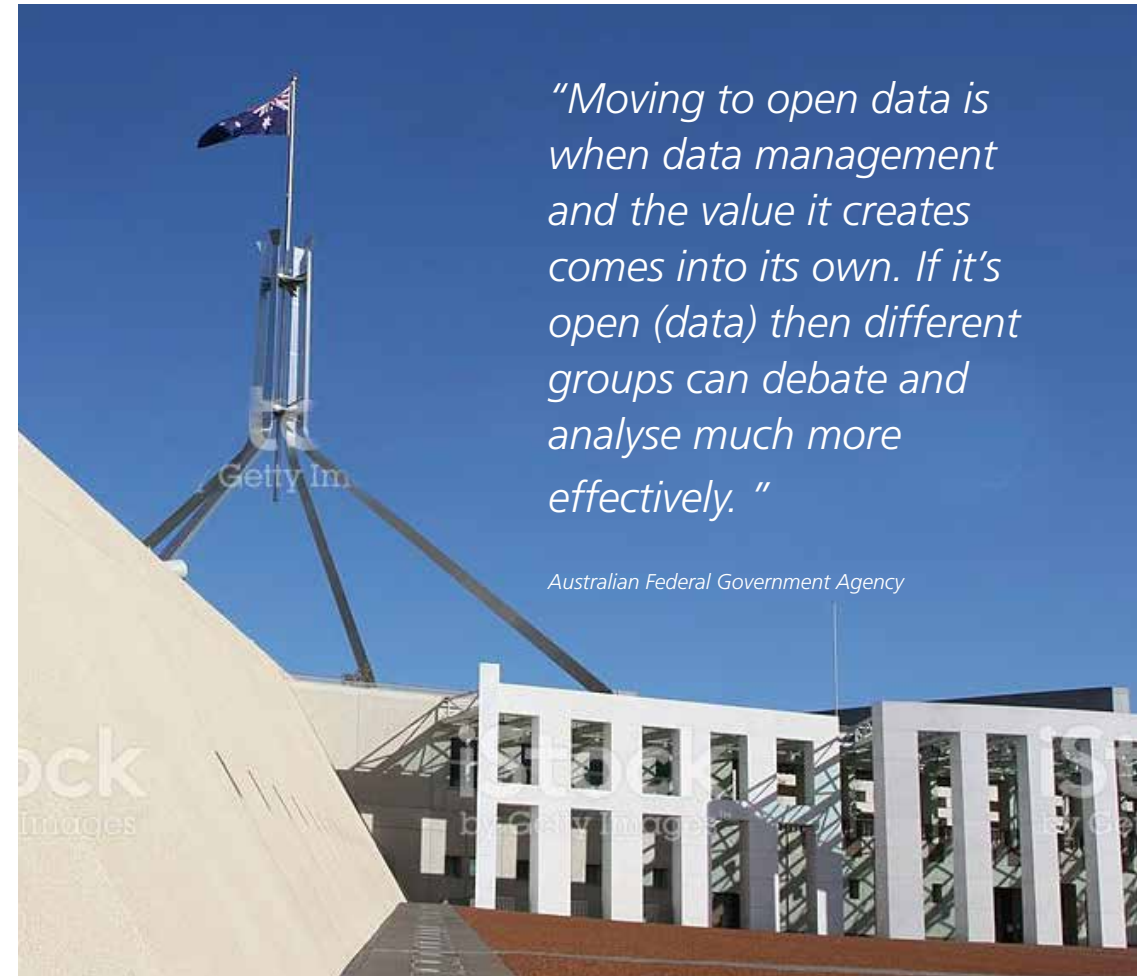
The data is drawn from two sources – survey responses from 129 organisations and three roundtables conducted during the August 2016 Tech in Government conference in Canberra. In the context of recent Australian Federal Government initiatives around data this report examines the following:

- The degree to which organisations have established formal data management strategies
- The role and extent of the value attained through data management activities
- The top five factors important to effective data management
- The top five data initiatives currently underway and the top five initiatives that organisations want to do but are yet to undertake
- The top data management challenges faced by organisations as they embark on their initiatives

What became abundantly clear from the survey data and roundtable commentary is the strong linkage between successful data management and data strategy. Whilst an obvious point, it is a concern that only 49% of organisations indicated that they had a data management strategy in place. They also told us that:

- 61% had formally appointed an individual to lead their organisation's data management activities (a positive precursor to the development of strategy amongst the outstanding 51%)
- 50% of organisations felt they were creating high levels of value from their data

- Organisations that were successful in creating strong value from data were also 5 times more likely to evidence high levels of data management maturity; 70% more likely to have a formal strategy in place to govern data management; and 33% more likely to have a formal, designated individual with data management responsibility
- Effective data management requires a strong infrastructure platform that supports robust security and governance, high data quality, rapid access to data, multi-cloud management and eradicates data silos



“Moving to open data is when data management and the value it creates comes into its own. If it’s open (data) then different groups can debate and analyse much more effectively.”

Australian Federal Government Agency



Data Strategies in Government: The Survey Data & Commentary

The Australian Federal Government December 2015 Public Data and Policy Statement clearly stipulates that releasing value from public data is a key competitive issue and will spur innovation and positive economic outcomes.

At the heart of the policy statement is the commitment that the Australian Government will, amongst other things, undertake to:

- Optimise the use and reuse of public data;
- Release non-sensitive data as open by default;
- Collaborate with private / research sectors to “extend the value of public data for the benefit of the Australian public”;
- Securely share data between Australian Federal Government entities as well as Australian States and Territories; and
- “Uphold the highest standards of security and privacy for the individual, national security and commercial confidentiality.”

Intent is one thing, successful execution another. Let’s look at the current state of data management amongst Federal, State and Local agencies and related organisations.

Formal Data Management Strategies?

Almost half (49%) of those surveyed stated they had a formal plan and strategy in place to manage their data environment, whilst another 36% of respondents stated they were keen to develop one in the near future. A relatively small percentage, 5%, neither had nor wanted to develop, a strategy.

Despite over 41% (5%+36%) of organisations currently not possessing a formal strategy, 61% of all respondents indicated their organisation had an individual with formal, primary responsibility for data management, suggesting perhaps that even those without one, are aware of the benefits of developing a clear, data management culture.

“Moving to open data is when data management and the value it creates comes into its own. If it’s open (data) then different groups can debate and analyse much more effectively. ”

Australian Federal Government Agency

Strategy does not necessarily imply having a high-degree of data management maturity. Only 33% of respondents stated that they had a mature and robust approach in place that ensured data, documentation and policy was consistently followed across their organisation. Over half of organisations (59%) classified themselves as at a ‘developing’ level of maturity of data management, citing variances in internal data usage and policies despite the establishment of guidelines.

Analysis of the data suggests a positive link between strategy and maturity. As to be expected, those organisations with clear strategy and formal data management roles in place on the whole evidenced greater levels of maturity and consistency in their data usage and policy environments.

The Role and Value of Data - Public Data, Public Resource?

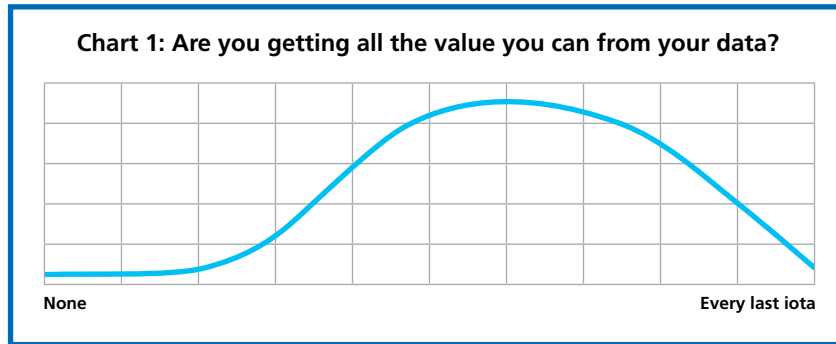
Conflicting somewhat with the Federal Government data policy around open-by default (when appropriate) only 20% of those surveyed held the belief that their data was a public resource that should be made widely available to government agencies, non-government organisations and the general public. Another 27% were of the view their data should only be shared between government agencies and 43% stated their data had to be key strictly confidential for internal usage only.

Considering the Federal Government intent to drive value and innovation through data we asked respondents to assess how well their organisation manages its data to maximise value.



Only 5% of respondents indicated that their organisation was close to fully maximising the value of their data.

More than half (55%) of organisations felt they were only deriving at best 50% of the data's value for their operation. (See Chart 1: Are you getting all the value you can from your data?).



Exploring the characteristics of those organisations that extracted high or very levels of value from their data activities revealed that they were:

- 5 times more likely to evidence high levels of data management maturity;
- 70% more likely to have a formal strategy in place to govern data management; and
- 33% more likely to have a formal, designated individual with data management responsibility.

“What characterises ‘value’ for us? I’d say it’s an almost maniacal focus on doing everything we can to ensure we get the very best information from our data...”

Australian Federal Government Agency

We asked respondents to identify the key issues they felt contribute to an effective data management capability, revealing the top five factors that organisations need to ensure are addressed:

Table 1: Effective Data Management

Ranking	Data Attributes
1	Robust security and governance
2	Quality – relevancy, source consistency, accuracy, etc
3	Speed of access – on-demand tiering, near real-time, etc
4	Ability to manage across multiple data platforms, such as hybrid cloud environments
5	Eradication of data silos to develop single source of truth

Data Initiatives, Wants and Obstacles

From the research we see that organisations derive more value from their data environment if they have a strategy and process clearly in place and that driving this value depends on a mixture of security, speed, quality, data portability and single source of truth. But where exactly are organisations focusing?

The research revealed an interesting and potentially conflicting list of projects.

Echoing the stated desire of both Federal and State governments, the first priority project is to open data access to other government agencies. It’s priorities two and three where things get a little messy. Organisations told us their second point of focus is reducing the use of analytics and business intelligence as they’re drowning in too much data. (Our emphasis)...swiftly followed by priority three: increasing the use of analysis and business intelligence.

Obviously every organisation is different and whilst this goes somewhat towards addressing the two contradictory activities, it also raises the question of whether organisations with a clear strategy struggle less with data overload than those



without? According to the survey data the answer is yes: Organisations without a clear strategy in place were 60% more likely to experience data overload than those with.

The perennial problem of data management – silos – raised itself as the fourth issue for organisations to address whilst the need for greater agility and more dynamic access to information in the form of faster data access rounded out the top 5 list.

Table 2: Top 5 Data Priorities – Underway and Wanted

Priority	Underway	Not underway but wanted
1	Opening access to other government agencies	Opening access to other government agencies
2	Decreasing the use of analytics/BI – data overload	Providing public access to the data
3	Increasing the use of analytics/BI	Decreasing the use of analytics/BI – drowning in data
4	Eliminating data silos	ID data that is useful to goals/operations
5	Enabling fastest possible access to data at any time	Creating stronger employee data management and governance skills

We also asked respondents what projects they should be undertaking but weren't at the current time. (See Table 2: Top 5 Data Priorities – Underway and Wanted). Whilst there is some overlap with those projects currently underway (opening data access and decreasing the use of analytics/BI due to data overload) organisations told us that they also wanted to focus on:

- Open data – providing the public with access to more data;
- Identifying data that is relevant to their organisation's goals and operations; and
- Developing employee capabilities through increasing data management and governance skills

Finally we wanted to understand the top challenges faced by organisations in pursuing their goals: Speed, it's all about speed, or rather the need for timely, faster data access. This requirement is driven by a number of factors including:

- Increased emphasis on innovation and agility;
- The desire to improve decision making;
- The expectations of greater value from near real-time data analytics; and
- The growing expectations from constituents of improved access to their own data.

Intimately linked with timely data access is the 2nd issue inhibiting success: the need to enhance the value of data through improved toolsets that allow staff enhanced ability to access and analyse data sets.

Issues around the data composition rounded out the last three top five issues – organisations told us they need to determine what data is appropriate to retain and discard, a particularly complex issue in certain areas. As an agency responsible for maintaining state population records observed "we still have data that was created before Federation. We know we need to keep it, we're just not too sure how often we need to use it." The inefficiency of data silos was also reflected in the 4th impediment – the need to have a better understanding of what data is residing where. Organisations also cited the rapid growth in unstructured data as having an adverse impact on data management programmes.



"You can use data but if it's not (good) quality then you're going to do real damage with it".

Australian Federal Government Agency



In closing

It's hard to conclude anything but the relationship between strategy and extracting value from data is extremely clear from our survey responses. A strategy is critical to success and if your organisation is amongst the 51% that doesn't, you're missing out.

Organisations should ensure their individual data management strategies synch with the recommendations of the Public Sector Data Management report, especially in areas such as:

- Establishing public/private partnerships and engagement in programmes/events such as DataStart and GovHack
- Development of skillsets through alignment with the APS "Data Skills and Capability Framework" once published as well as the Data Literacy programme
- Initiatives around sharing of data with other government agencies need to reflect the learnings of the Multi-Agency Data Integration Project (MADIP) and be mindful of the Trusted Access Model being proposed to support secure access
- Organisations need an effective data management infrastructure that supports security, compliance, multi-cloud management and rapid access

Some Considerations for Effective Data Management:

- Has the organisation followed guidelines, policies and approaches recommended by ANDS (Australian National Data Service www.ands.org.au)
- Does your organisation have a designated person(s) formally responsible for data management?
- Does your organisation have, or plan to develop, a data management strategy?
- Does your data management strategy reflect the Trusted Access Model approach?
- Has your organisation considered how the strategy reflects the Multi-Agency Data Integration Project guidelines?
- Are there metrics in place to assist in assessing what value is created from the data?
- Is your strategy open by default for non-sensitive data?
- What strategy is in place to collaborate with third party entities such as private firms, research groups or universities?
- What is the roadmap for inter-agency sharing of data?
- Are the organisation's goals/objectives supported by a data management strategy?
- What capability does your organisation have in the top 5 attributes for successful data management, namely:
 1. Robust security and governance
 2. High quality data – relevancy, source consistency, accuracy
 3. Speed of access – on-demand tiering, near real-time performance
 4. Manage data across multiple platforms and cloud environments
 5. The eradication of data silos to develop a single source of truth from the data

Research Methodology & Demographics

TRA conducted an online survey of 129 government agencies and related organisations during the course of the Technology in Government conference in Canberra during August 2016. These survey results have been supplemented with input from three government agency roundtables encompassing 44 employees during the same Technology in Government conference.

Details by number of survey respondents by government agency and state are illustrated opposite.

Chart 2: Survey Respondents by Agency Type

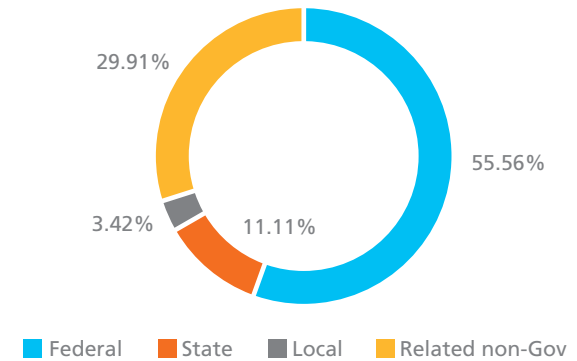
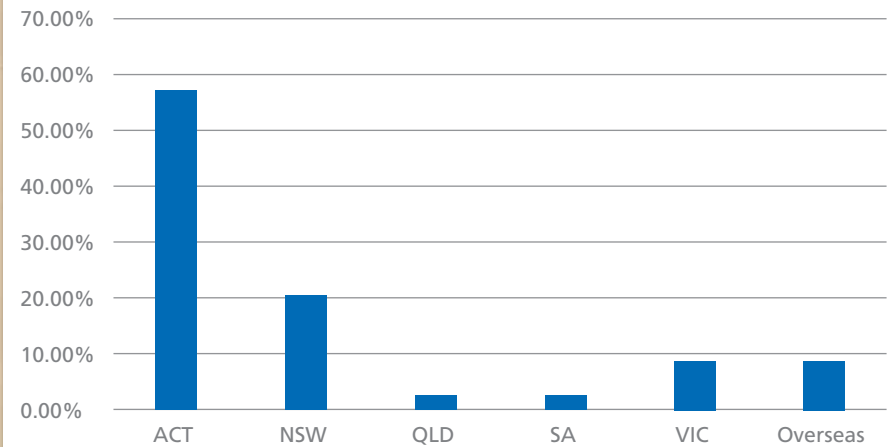


Chart 3: Survey Respondents by Geography





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