

# Emergence of the Public Sector Chief Data Officer in Asia Pacific

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# Table of Contents

<b>Summary</b>	<b>03</b>
Catalyst	03
Key findings	03
Recommendations	05
<b>Survey results</b>	<b>06</b>
Defining the data leadership role	06
Management experience	07
Core responsibilities	08
Resourcing strategy	10
Effective data governance	12
Key challenges post-COVID	14
Technology strategy	16
Appendix	18

# Summary

## Catalyst

In 2020, Qlik commissioned an earlier survey of US government Chief Data Officers, following the formalisation of these positions in US Federal Government law in 2018. This 2021 survey looks at equivalent roles in four Asia-Pacific countries: India, Australia, Singapore, and New Zealand.

None of these countries have passed similar legislation, but they each have a long history of data-related legislation and sophisticated government policy. The survey therefore takes a broader look at data executive roles, and the part they play in leading data initiatives in their respective countries.

## Key findings

### **The data executive role has significant challenges, even for experienced managers.**

It is still early days for the data executive role in government agencies in all surveyed countries. Data executives come to this role with a wealth of experience in both their own government agency and in the broader public sector. However, even these experienced managers are confronting some fundamental challenges. For example, 47% stated their jobs lack clarity in either job definition, job execution or both.

US government agencies have benefited from having the Chief Data Officer role defined in legislation. There is no equivalent legislative definition in APAC, and this has led to a plethora of job titles. However, there is a clear trend toward more consistency in job titles and reporting lines. The Chief Data Officer is the newest job title and is already the most popular.

### **The practical importance of data is not sufficiently accepted by government leaders.**

Government leaders still have a low understanding about the value of data for making mission-critical decisions. This is part of a broader problem for data governance within government agencies.

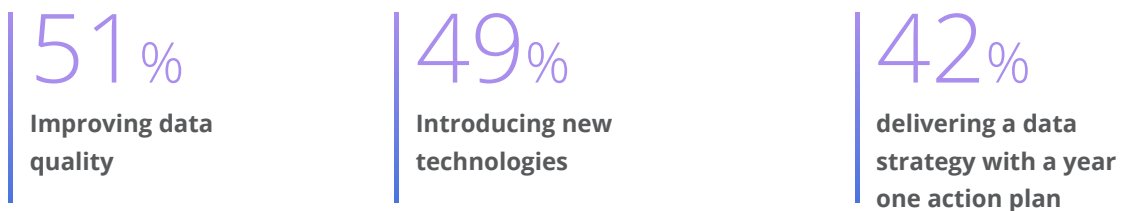
Only 36% of APAC agencies see data governance as a priority (compared to 71% USA). Only 65% of APAC agencies routinely rely on data insights when making mission-critical decisions (compared to 93% USA). Singapore (80%) has the strongest focus on data insights in the APAC region.

**The COVID crisis has been a time of disruptive change, and an opportunity for driving further change across the enterprise.**

The COVID crisis has been a watershed for the data executives, as both governments and the community look to data to provide insights. Data executives reported a number of key lessons from the COVID crisis:



**As the world moves toward COVID recovery, key priorities for the coming 12 months include:**



**Data skills and corporate culture continue to be a critical challenge.**

Corporate culture has not kept pace with changes in community expectations about the need for more facts when government policy is developed. The survey highlighted a significant skills gap in both understanding the value of data and putting the data to use in policy development.

The survey highlighted the need for a corporate culture of using data to support decisions (71%), and a more data literate staff (68%). The most in-demand skills are data science (50%) and policy (49%), as these are the skills necessary for knowing the data and then applying this knowledge in a government setting.

**Technology requirements are still evolving. Some existing software solutions may not be up to the task.**

The need for better technology is a recurring priority throughout the survey, particularly in open-ended questions.

**Key challenges highlighted by CDOs are:**

- Finding the right technology partner, with appropriately skilled staff,
- Ensuring technology currency to meet evolving business objectives,
- Developing an organizational culture that understands the reasons for changing technology and its benefits.

## Recommendations

**Focus on substance over form.**

The surveyed countries have a variety of job titles to describe the data executive function, but there is already evidence of natural convergence.

The bigger challenge is to focus on the substance of the role and to support its development. Chief Data Officers in Singapore and USA have benefited from a much greater acceptance of the importance of data as a cornerstone of corporate governance.

**Develop increased data literacy as a priority.**

Data literacy needs greater support across government agencies, so its potential is better understood and realised. This is especially important for mission-critical decisions. It is also important for staff at all levels to feel more confident in using data insights to make decisions.

**Apply the lessons of the COVID period to post-COVID strategic planning.**

The COVID period has provided some important lessons about the strategic value of data in digital government. However, these important lessons could easily be lost without a systematic effort to incorporate these lessons into business-as-usual corporate management practices and agency-wide strategic plans.

**Critically review the agency's existing technology investment.**

The appropriateness of existing technology was a recurring theme throughout the survey. There is a pressing need to reassess the agency's technology investment to ensure it is suitable to meet current and emerging requirements.

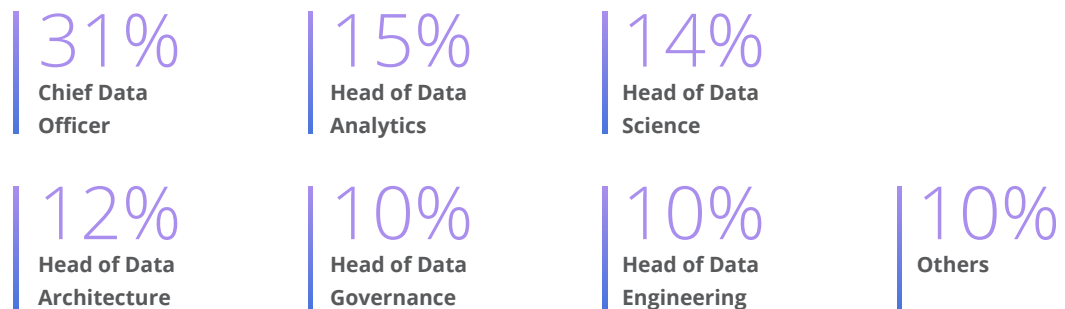


# Survey Results

## Defining the data leadership role

Government agencies are far from settled in finding an appropriate job title for the top data executive. Chief Data Officer is by far the most common job title but is only used in 31% of the surveyed government agencies. Of the others, there is no standout alternative to Chief Data Officer. Each of the alternatives are similar in popularity.

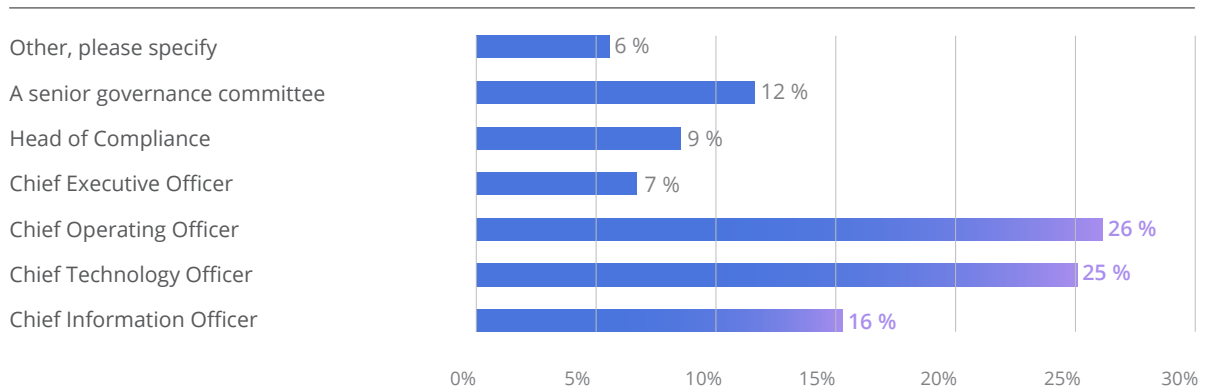
Essentially, the job titles fell within seven broad groupings:



Singapore is the country that most commonly uses the Chief Data Officer title (40%), while New Zealand uses it least (25%).

Reporting lines for each of the job titles are very similar. All typically report (Figure 1) to either the Chief Technology Officer (25%), the Chief Operating Officer (26%), or the Chief Information Officer (16%). The only significant outlier is the Head of Data Governance, who typically reports to a senior governance committee (60%), the Chief Technology Officer (20%) or the Chief Operating Officer (20%).

Figure 1: To whom do you report?



Source: Omdia

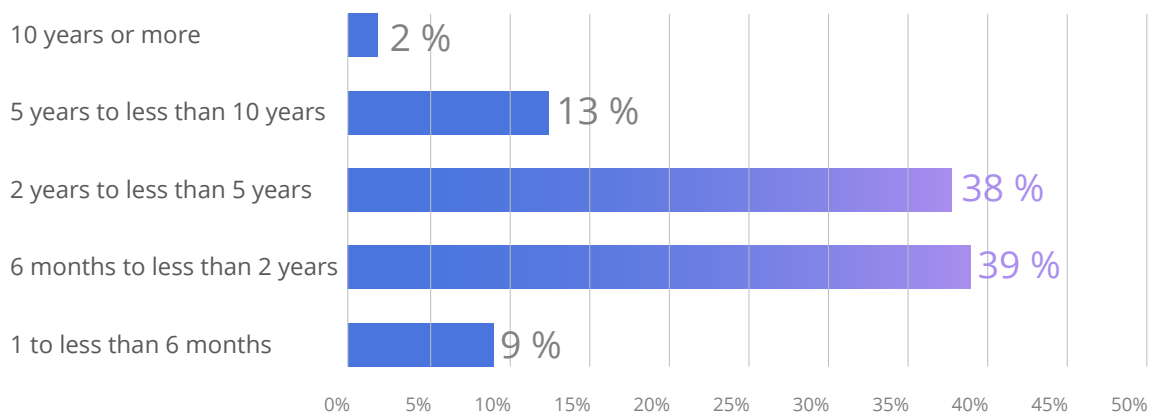
## Management experience

Data executives come to their role with a wealth of experience in government (Figure 3). This broad experience has prepared them well for a role that needs to build bridges between the technology and the wider business of government. The most experienced of these roles is the Head of Data Governance, where 50% have ten or more years' experience in government, and 90% have five or more years' experience.

However, many data executives are relatively new to their current role and are still establishing themselves in their role (Figure 2). The most recent of the job titles is the Chief Data Officer, where 57% have less than two years' experience in the role, and almost all of them (98%) have less than five years in the role.

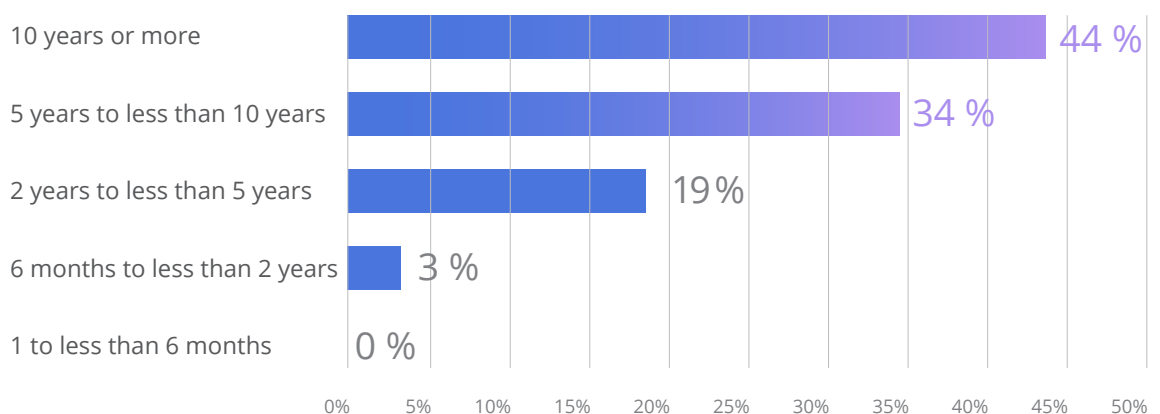
This can lead to some short-term challenges as managers settle into this comparatively new role. However, they have the skills and experience to work through these challenges, if given sufficient time and space by the wider organization.

**Figure 2: How long have you been in your current role?**



Source: Omdia

**Figure 3: How many years have you been an employee of federal/state government?**



Source: Omdia

## Core responsibilities

### Clarifying the role

Many data executives are still working out the fundamentals of what their job is all about and what they are expected to do. This is still very much work-in-progress.

Figure 4 shows that just under half of the interviewees (47%) stated their current jobs lack clarity in either job definition, job execution, or both. The most significant challenge is job execution (32%).

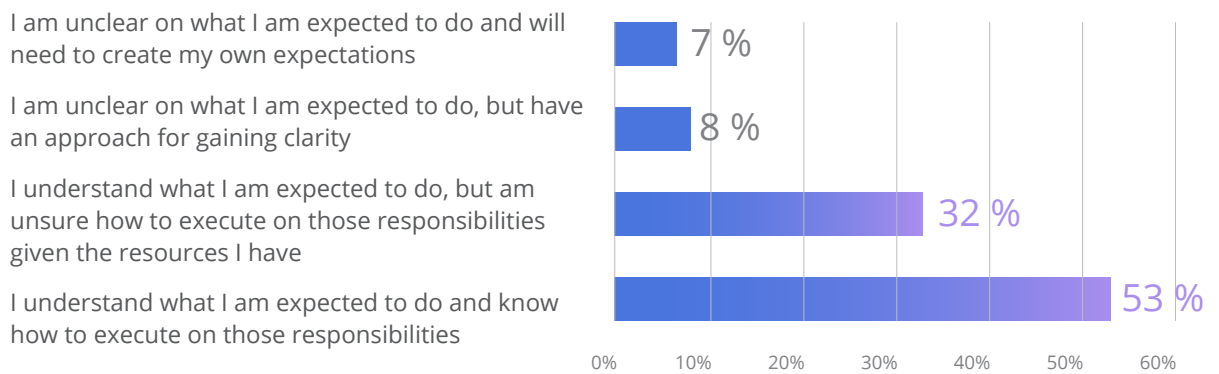
### Clarifying the fundamental importance of data

Many organizations are still clarifying why data is important to them when making critical decisions. Figure 5 shows only 65% of organizations routinely rely on data insights when making mission-critical decisions, while 29% do not rely on data at all. The best of the APAC countries surveyed was Singapore where 80% of organizations routinely rely on data for mission-critical decisions.

### Looking forward, adding value to better government

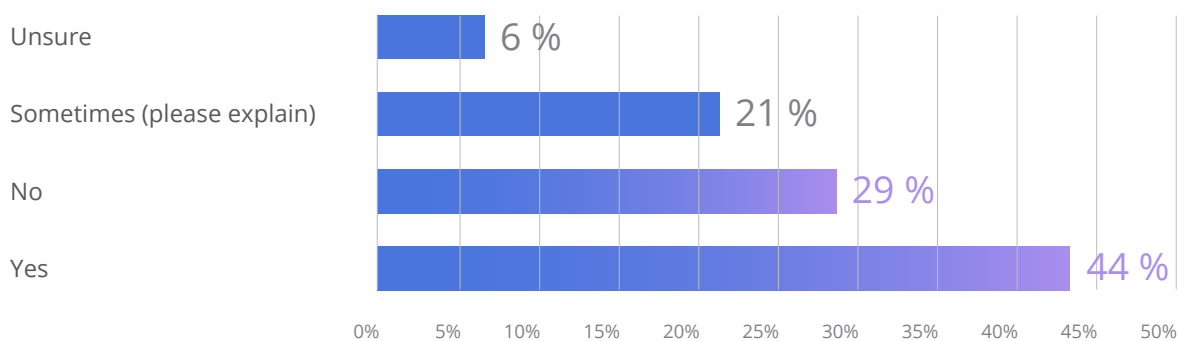
Given the developing nature of the role, data executives see their most critical responsibility is to first get the core capabilities in place (Figure 6). Looking forward, their priority task is to improve operational efficiency and provide more value-added services to both internal and external stakeholders (Figure 7).

**Figure 4: How clear are your responsibilities?**



Source: Omdia

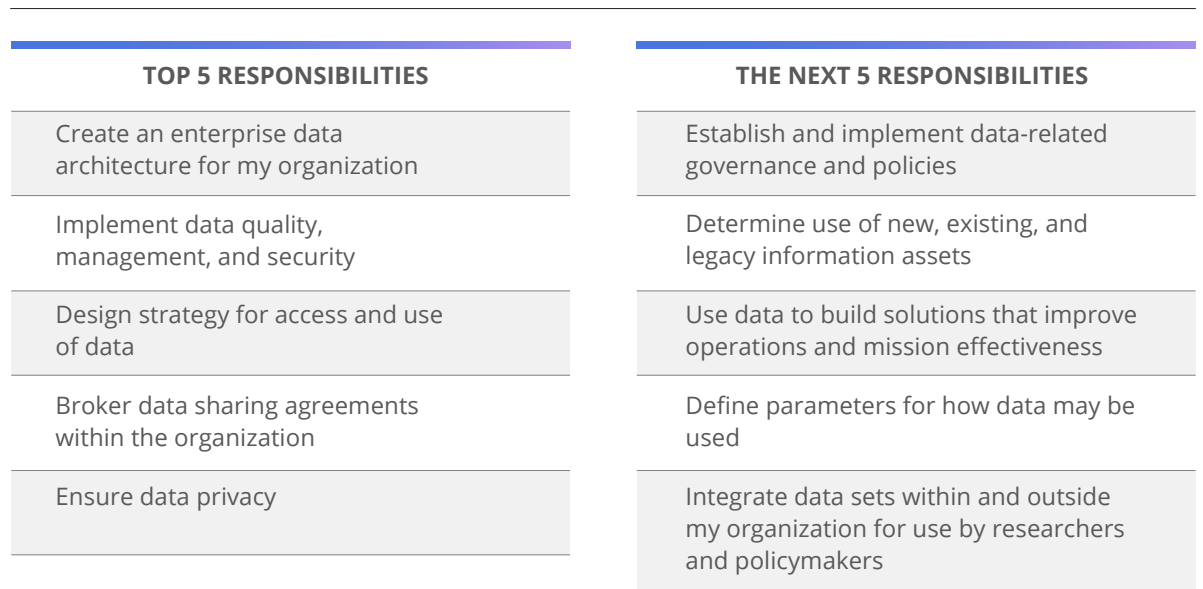
**Figure 5: Does the leadership rely on data insights when making mission decisions?**



Source: Omdia

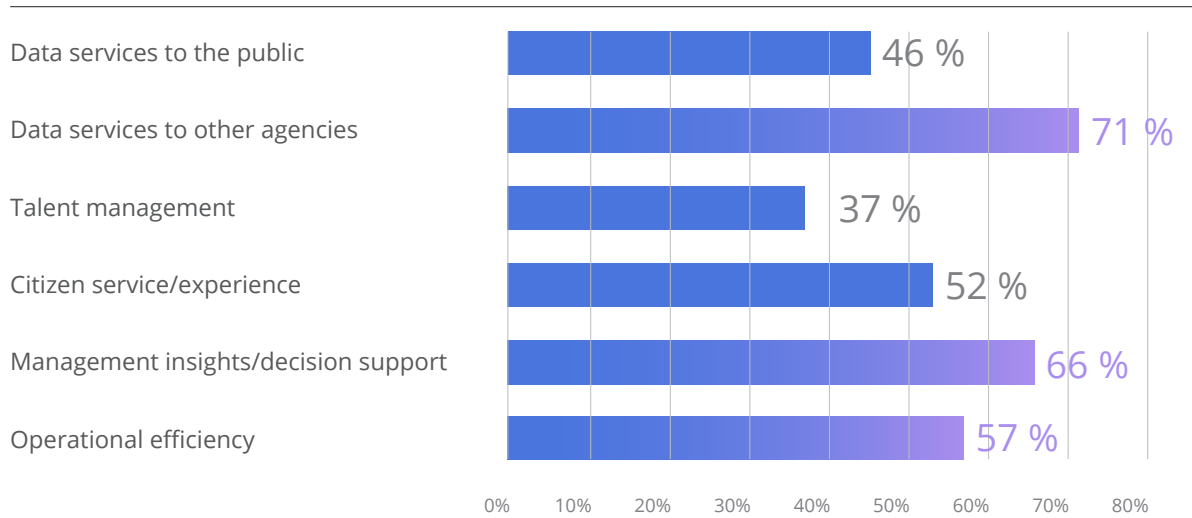


**Figure 6: From your perspective, what are your five most important responsibilities?**



Source: Omdia

**Figure 7: In the next 6 to 12 months, what are your key data-related opportunities?**



Source: Omdia



## Resourcing strategy

### Addressing the broad resourcing issues

Figure 8 takes a very broad perspective on resourcing and explores the multifaceted nature of the data executive role:

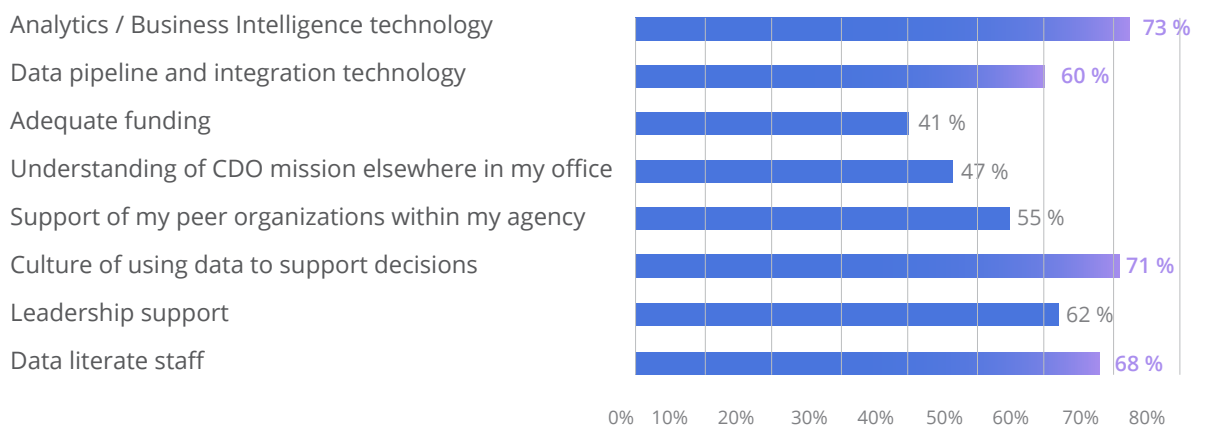
- The first priority is the need for improved analytics and business intelligence technology (73%). As the needs of the agency develop and mature, so too must the underlying technology. This recurring theme also emerges as a priority in Figures 16 and 18.
- The next two priorities are about getting better support from the wider organization: data literacy (68%) and culture (71%). This theme also emerges as a priority in Figure 5.
- The fourth priority is the need for more support from the agency’s leadership (62%).
- It is noteworthy that funding rated lowest (41%). As data-related software moves toward cloud and other forms of subscription/usage-based funding, the requirement for large capital investments will diminish.

### Dealing with staffing priorities

Figure 9 looks specifically at staff resources and tries to identify where the key bottlenecks exist. It is noteworthy that the two most in-demand skills rate almost equal in priority and demonstrate the diverse nature of the data executive role.

- Data science is a key technical skill needed to derive insights from disparate data sources by applying scientific methods. It is a role with growing importance, but one that does not necessarily relate well to the business of the wider enterprise. The requirement for this role could be moderated to an extent by sourcing appropriate technology resources in this fast-developing software market.
- Complementing the data science role, policy skills are needed to apply the richness of data insights to practical challenges in a government setting.

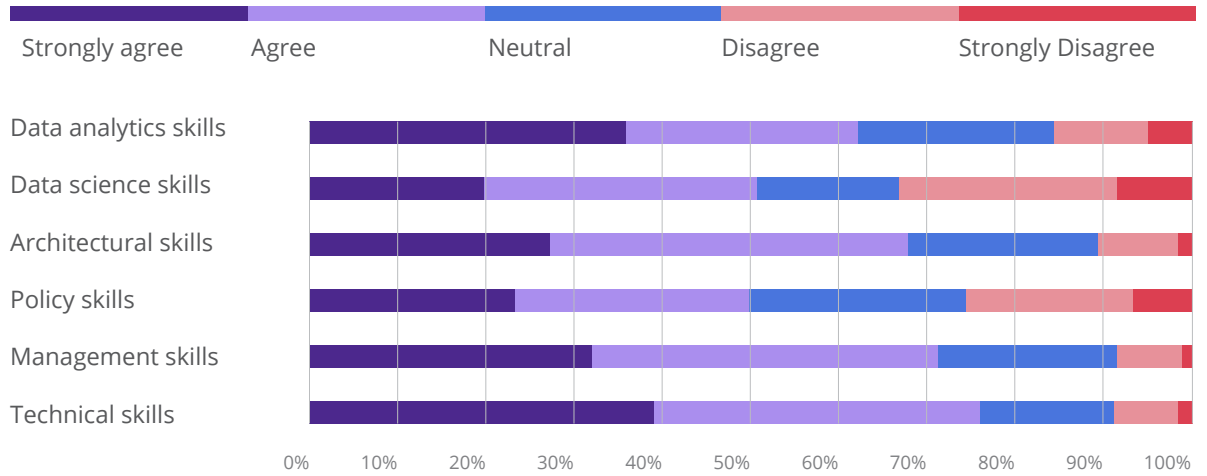
**Figure 8: What resources are most important in achieving your mission?**



Source: Omdia

Figure 9: Rate your level of agreement with the following statement.

"I have access to sufficient skilled and motivated resources, to achieve my mission".



Source: Omdia



# Effective data governance

## Corporate governance

Data does not exist in a vacuum. For it to be of value, government data needs to be collected, managed, and used in a way that closely aligns with corporate processes and priorities. The survey found there is good alignment (Figure 10) between the organization’s data and digital strategies.

Of the various job titles, the Head of Data Governance was the most aligned to the rest of the organization, particularly with respect to government policy or corporate governance. Data Engineering was the least aligned of the job titles, with 50% of responses reporting misalignment with government policy.

## Data governance

Data Governance is itself becoming a specialist area. Each country is working hard to open up its data, while still strengthening privacy and security.

It is still early days for the establishment of formal structures to drive data governance. Overall, only 38% of the surveyed government agencies (Figure 11) have established a data governance body (compared to 71% US government).

There are significant differences between job titles regarding their appetite to set up formal data governance structures. The job titles most interested in data governance are: Chief Data Officer (75%) and Head of Data Governance (70%). The job titles least likely to set up formal structures are the Head of Data Architecture (0%), Head of Data Engineering (0%) and Head of Data Analytics (7%).

In Figure 12, interviewees were asked to provide an unconstrained free-text answer about what they saw as the key functions of data governance. The question was given only to those agencies that had set up a data governance body. The top four answers are shown below, together with examples of the sentiments expressed:

### Data security

- Data is protected from interference or inappropriate disclosure.
- Permissions are in place to ensure data is used only for approved purposes.

### Policy

- A robust set of policies are put in place that take account of government and community expectations.
- The data governance body acts as a conduit for internal and external reporting against policy guidelines.

### Quality

- Ensure data holdings are fit for purpose.

### Management/Regulation

- The data executive acts as a gatekeeper to ensure adherence to corporate standards and processes.



# Key challenges post-COVID

The government sector, post-COVID, is shaping up to be quite different. Managers will need to operationalise the tough lessons learned during the pandemic (Figure 13).

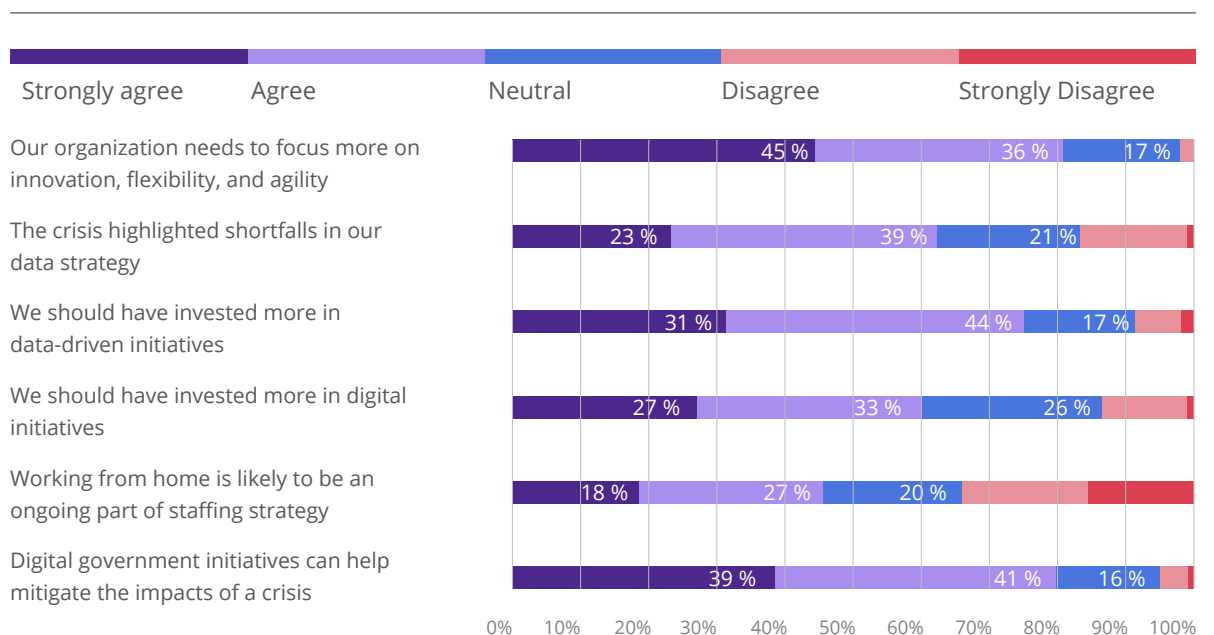
In a way, the COVID crisis was all about data. Politicians appeared regularly in the media quoting COVID, economic and welfare statistics. Governments turned to numbers as a way of focusing their citizens on the reality of the situation. This strategy has paid off handsomely in the surveyed nations, given that New Zealand, Australia and Singapore have proven to be world leaders in their COVID response. India has also performed very well when its large and diverse population is considered.

Among the surveyed data executives, there is clear acceptance (80%) that digital initiatives can help mitigate the impacts of a crisis. However, 75% of executives believe they should have invested more in data-driven initiatives.

Digital transformation is itself set to be transformed post-COVID: 81% of the surveyed agencies agreed their organization needs to focus more on innovation, flexibility and agility.

As executives look forward to a post-COVID future, their plans are far more action oriented. The past six months (Figure 14) focused on foundational work, such as training needs assessments (51%), data sensitivity assessments (49%) and data maturity assessments (45%). In contrast, the coming 12 months (Figure 15) will be all about improving data quality (51%), introducing new technologies (49%), and delivering a strategy with a year one action plan (42%).

**Figure 13: Key lessons each organization has learned from the pandemic.**



Source: Omdia

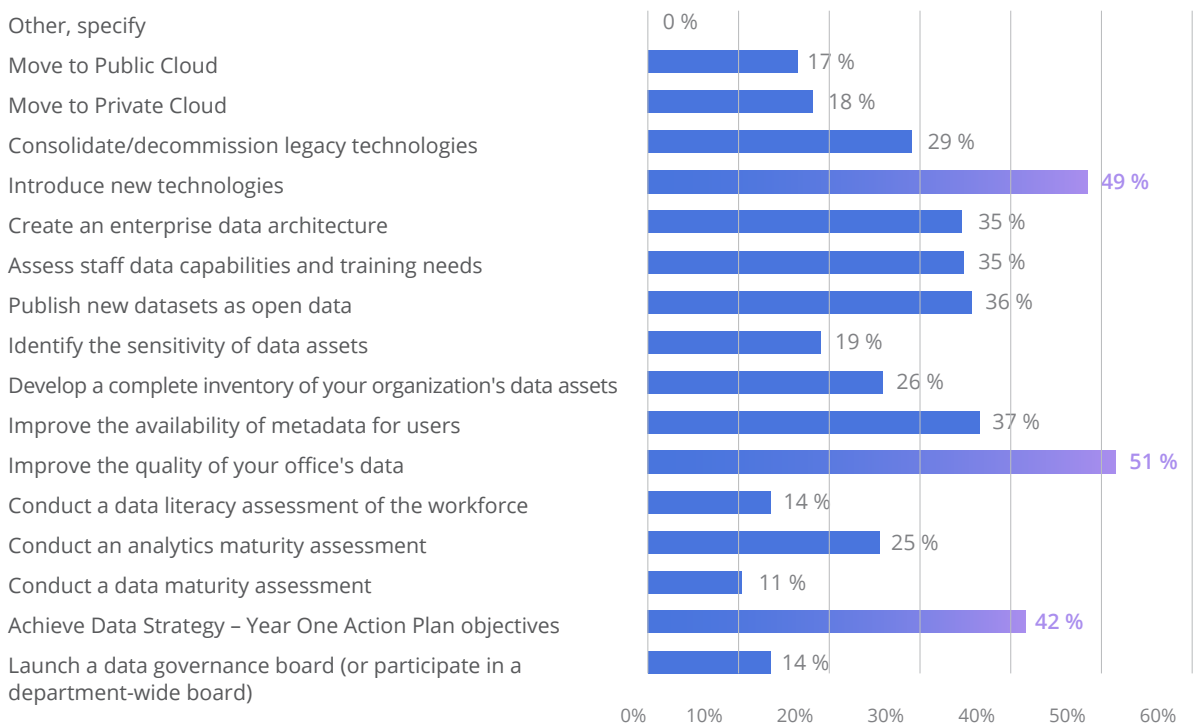


**Figure 14: Top three focus areas for data function over the past six months.**



Source: Omdia

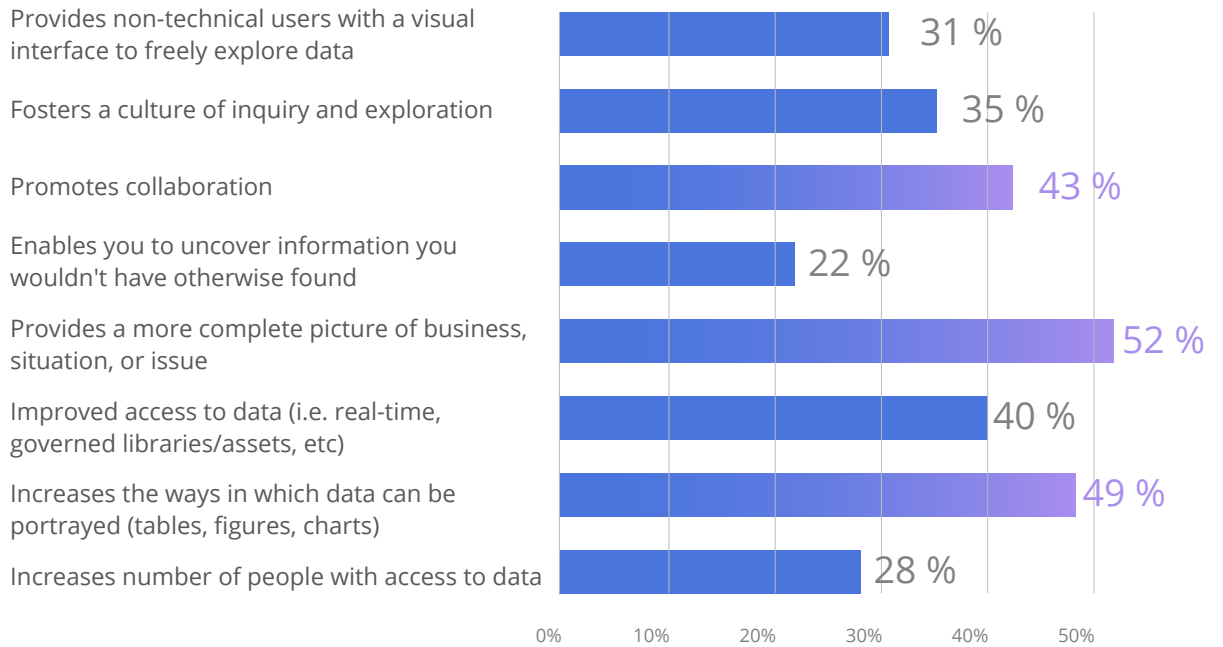
**Figure 15: Top three focus areas for data function over the next 6 to 12 months.**



Source: Omdia

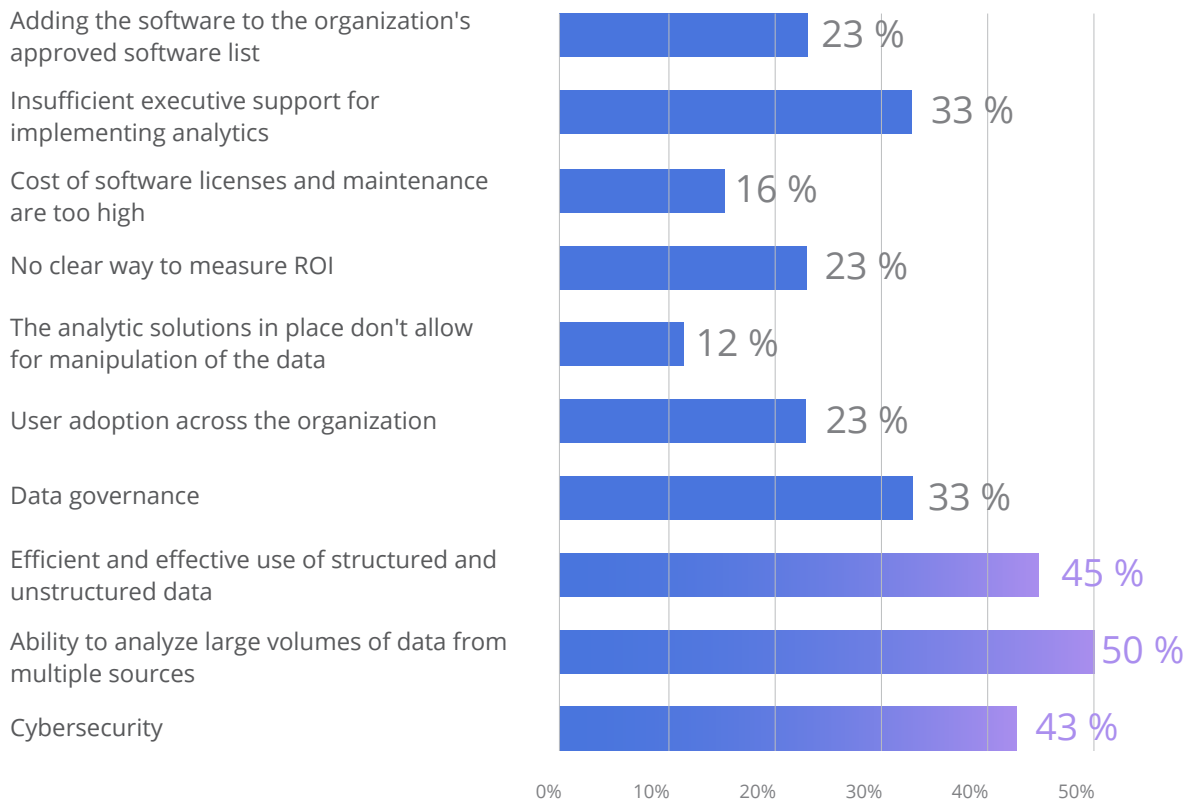


**Figure 17: Top three benefits from using data management, analytic software & tools.**



Source: Omdia

**Figure 18: Top three concerns about using data management and analytic technology.**



Source: Omdia

# Appendix

## Methodology

<b>Survey Date</b>	January 2021
<b>Organizations</b>	103 government agencies All were drawn from central government and state government (where applicable).
<b>Countries</b>	India (50), Australia (25), Singapore (20), New Zealand (8)
<b>Interviewees</b>	Each of the selected interviewees was the most senior executive, responsible for data within their own government agency, regardless of job title.
<b>Methodology</b>	<p>This survey was commissioned by Qlik and performed independently by Omdia.</p> <p>A number of survey questions were sourced from an earlier survey commissioned in the USA by Qlik. This enabled comparisons to be made between the two surveys.</p> <p>Recruitment was undertaken by calling government agencies in each country. An online survey was then sent to each selected manager.</p>

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