

Practices in Asia and the Pacific



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Summary

Data governance arrangements vary across Asia and the Pacific and data governance practices are continually evolving.

This paper presents a data governance framework with five pillars. The framework provides a basis for describing national data governance arrangements in different countries.

National statistical offices can use the country profiles to consider the role they play in their own country's national data governance arrangements and how that compares with other countries.

I. Introduction

National statistical offices are operating in a complex setting. New global commitments, most notably the 2030 Agenda for Sustainable Development and the ambition to leave no one behind, have resulted in a significant increase in the demand for quality data. The coronavirus disease (COVID-19) pandemic has underscored the urgent need for timely and granular data while exposing the shortcomings of existing statistical production processes. Huge opportunities exist owing to technological advancements and the availability of new data sources. Alongside these opportunities, there is growing concern about harmful uses of data that reduce the trust of the public in the value, use and impact of data for the public good.

The expanding data ecosystem, changing regulatory environments, often associated with digital government transformation, and the rapidly growing range of actors with diverse interests calls for new rules and new capacities. This underscores the importance of establishing data governance mechanisms; however, there is insufficient capacity around data governance at the global, regional, and national levels.

The Committee of Statistics of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) data governance and stewardship at its 8th Session held in August 2022 discussed data governance as an emerging issue¹ and decided to *“feature data governance in its future work with an emphasis on sharing country experiences and facilitating the provision of technical assistance.”*²

The data governance framework that has been developed to implement the Committee decision has made extensive use of a paper prepared for the Statistical Institute for Asia and the Pacific’s (SIAP) management seminar³ in 2022.

This paper defined data governance as:

“The exercise of authority and control over the management and transformation of data with the objective of enhancing the value of data assets and mitigating data-related risks”⁴.

A draft data governance framework was developed from this definition and has been used to create a series of one page national data governance profiles. The framework and the profiles were discussed at an expert group meeting in 2023 where countries from Asia and the Pacific refined the framework and shared their country experiences.

The framework facilitates a shared understanding of what is meant by data governance. The national data governance profiles provide a basis for national statistical offices to consider the role that they play in data governance in their own countries and how those arrangements compare with other countries.

1 https://www.unescap.org/sites/default/d8files/event-documents/ESCAP.CST_.2022.6_Data_governance_EN.pdf

2 https://www.unescap.org/sites/default/d8files/event-documents/ESCAP.CST_.2022.8_Report_EN.pdf

3 Managing an Evolving Data Ecosystem, SIAP Management Seminar paper, December 2022

4 Based on definition in <https://www.sciencedirect.com/science/article/pii/S0268401219300787#bib0190>

II. What is the data governance framework?

The scope of official statistics is changing as national statistical offices evolve from their traditional role, which focused on collecting data through surveys and census, to a broader role including the integration of data from multiple sources, the coordination and leadership of the national statistical system and the provision of data quality assurance services to other data producers and users. A part of this change is that data is increasingly being viewed as an asset

These changes impact on the role and mandate of national statistical offices which has stimulated an interest in data governance arrangements.

The data governance framework, outlined in this paper, provides a basis for describing data governance arrangements in different countries in a consistent way which will allow countries to share their data governance practices with others.

It also allows national statistical offices to consider the role that they play in data governance in their own countries and how that role compares with other national statistical offices.

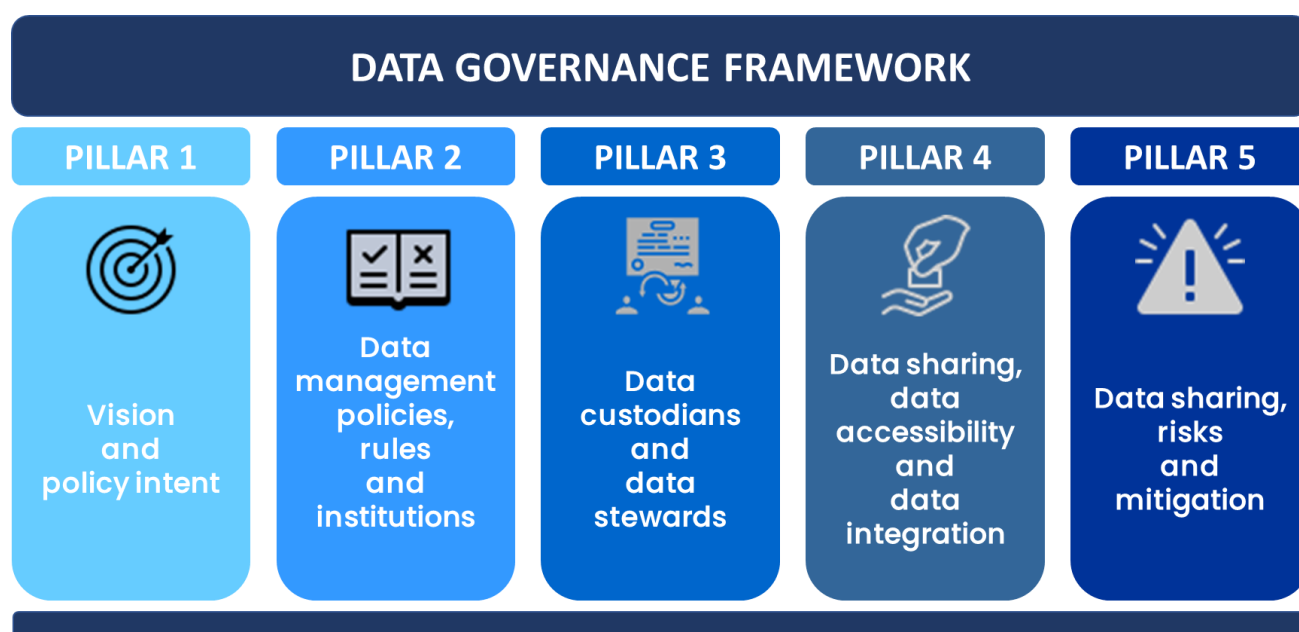
The data governance framework is shown in [Figure 1](#). The framework outlines key aspects of national data governance arrangements.

The framework helps ensure that we all have a common understanding of the key terms so we are able to discuss the issues in a more meaningful manner.

The framework recognizes five specific areas, or pillars, which are usually part of the data governance arrangements.

Each pillar is described in more detail in the following sections.

FIGURE 1: Data Governance Framework



PILLAR 1: Vision and policy intent

Across all countries there is a growing demand for data, whether it is policy makers wanting data to inform decisions or local communities wanting their own data to make their own decisions.

Governments are increasingly seeing data as an asset and managing it as an asset. A key part of this is the first pillar which looks at the government's strategic vision and policy intent for data. This is the highest level vision for data which may or may not be identical to the vision of the national statistical office.

The vision for data could be articulated at the highest level of government or it may be articulated at a lower level. The vision might be set across the whole of government or for just one part of government, such as the national statistical office.

This pillar considers the main drivers of the policy intent. For example, is it part of the government's

wider policy intent for digital services or e-government such as in Mongolia seeking to roll out e-government or Singapore with their vision of "Digital to the core." Similarly in Kazakhstan and Tajikistan, their vision for data is part of a broader move towards e-government.

Another driver of a vision for data could be about better public services or building a strong economy or it might be part of a move to support better decision-making.

The government's vision for data might focus solely on government data or it may go beyond government data to include other data such as data from the private sector and citizen generated data.

In some countries, the government is focused on managing data rather than seeing data as an asset and does not have a high level vision for data.

FIGURE 2: PILLAR 1 – Vision and policy intent



PILLAR 2: Data management, policies, rules and institutions

The second pillar looks at government plans for achieving their vision for data.

Bearing in mind the definition of data governance used in this paper as “the exercise of authority and control over the management and transformation of data with the objective of enhancing the value of data assets and mitigating data-related risks” this pillar looks in more detail at how authority and control are exercised.

The pillar looks at the policies, rules, codes of practice, guidance and processes already in place, or under development, that will contribute to achieving the policy intent (see [Figure 3](#)).

Authority and control can take the form of legislation, principles, frameworks, rules and guidance, each with varying application and legal status.

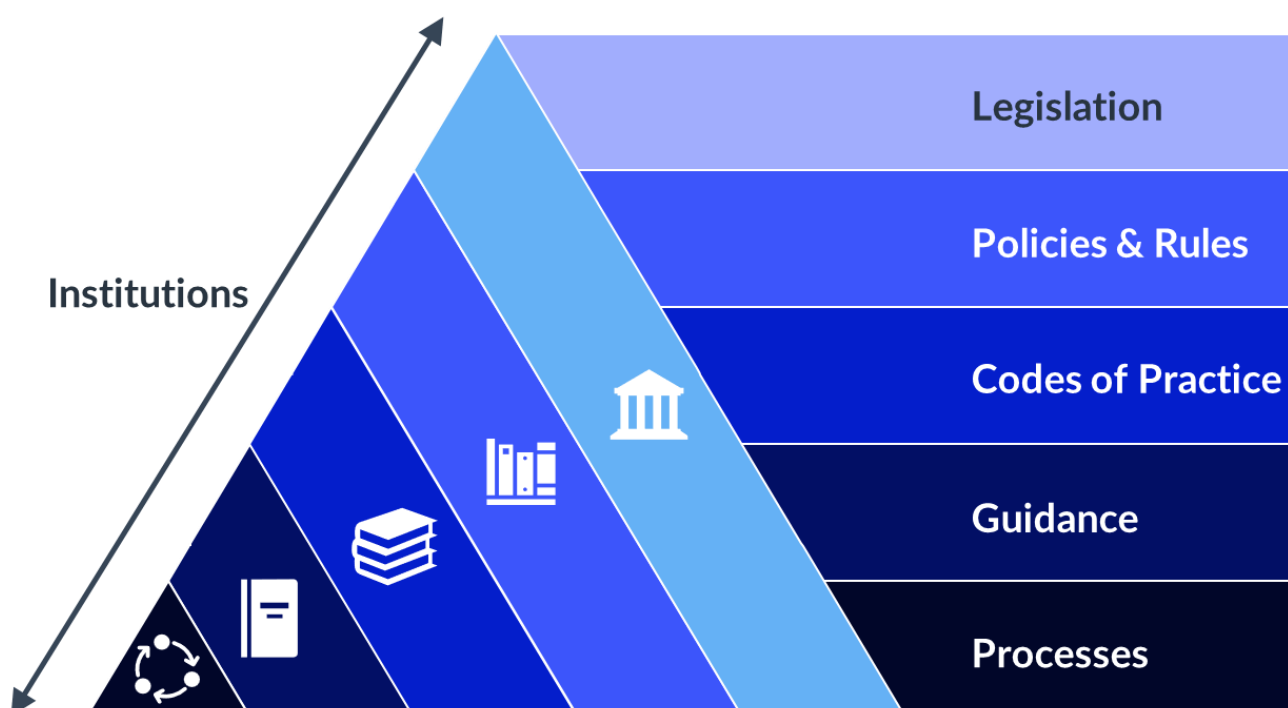
At the top it looks at whether and how the legislation supports the government’s vision and policy intent for data. Policies, rules and codes of practice are other important parts of this pillar. In some cases these may be underpinned by legislation.

Less formal yet important aspects of data management include guidance and business processes.

Data quality mechanisms may also be considered as a key part of this pillar supporting a government’s production and use of data.

The formal and the less formal aspects are all key parts of the data governance arrangements which support how the government is operationalising its vision for data.

FIGURE 3: PILLAR 2 – Data management policies, roles and institutions



PILLAR 3: Role of data custodians and data stewards

The third pillar looks at the role of data custodians and data stewards.

Data custodians are operational units or specific entities that provide the foundations of the overall data system. A data custodian performs specific data management roles.

Data custodians manage the data collection, data storage and data retrieval and ensure data quality

National statistical offices have a long history of playing a data custodian role for official statistics. The role of data custodian is a technical role covering the whole end to end process of data collection to data storage and retrieval as well as ensuring data quality. National statistical offices have important skills and experience - in managing sensitive data and maintaining confidentiality. They understand the importance of classifications, frameworks and standards - that promote coherence and comparability as well as experience in applying data quality assurance frameworks and mechanisms.

A data steward performs a professional function over and above the data production processes. The data steward assesses and promotes the usage of data, identifies shortcomings in the data system and strives to meet the needs and build the trust of users.

Data stewards take a longer term, strategic perspective to enhance the value of data

The data steward is like a business manager, ensuring good data are brought to the users. The data steward role requires technical skills to

enhance the functioning of a data ecosystem, regardless of its size and complexity but it also requires strategic skills to view data as an asset.

National statistical offices have traditionally taken the role of data custodian for a country's official statistics but many are now moving into the role of data steward for government data.

The role of a government data steward - is an evolving role, often part of a government's broader data governance arrangements and a necessary part of data integration. As national statistical offices use more administrative data and national statistical systems become more decentralized this is pushing national statistical offices to shift from their traditional role as data custodian for official statistics into a broader more strategic role as a data steward. This enables them to take a more strategic perspective.

In Stats New Zealand, they have the mandate to act as a whole of Government Data Steward, driving the push for better data. In New Zealand, the Chief Executive of Stats NZ is both the Government Statistician and Government Chief Data Steward.

In Singapore, the role of the Government data steward is carried out by the Smart Nation and Digital Government Office who have the vision that services should be 'data-driven to the core'. The chief statistician plays a key role coordinating, advising and promoting statistical standards within this system.

In other countries no one single organization has the role of government data steward rather there is more of a collaboration where the national statistical office is one of many partners in data stewardship activities.

PILLAR 4: Data sharing, data accessibility and data integration

Pillar 4 considers how the national statistical system shares data, how data are made accessible and how they integrate data.

Many governments have been striving to provide a sound management framework for integrating, sharing, and accessing data. Data integration occurs when two or more data sources are linked by a common identity, with the data initially collected for different purposes. This could involve bringing data together into one integrated database or it might involve linking data sets which reside in different parts of government.

Governments are increasingly recognizing the huge opportunities that integrating data presents including:

- Bridging data gaps;
- Reducing response burden;
- Providing granular data on different population groups;
- Improving coverage;
- Improving timeliness;
- Improving frequency of data production; and
- Lowering costs of data collection.

However, integrating data presents a range of challenges including the need for:

- Quality data;
- Public approval to integrate data;
- Legal basis for the integration;
- Collaboration mechanisms; and
- Technical skills;
- Appropriate infrastructure; and
- Human capacity.

Many national statistical offices have faced similar challenges as they seek to integrate, share and access data to enhance the value of official statistics.

As data are integrated, national statistical offices will need to bear in mind the Fundamental Principles of Official Statistics to safeguard privacy, confidentiality and assure quality.

Many national statistical offices have arrangements or legislation which allows them to access administrative records. Some only have access to administrative data at aggregate levels. In any case, according to the Fundamental Principles, they can use the administrative data for statistical purposes only.

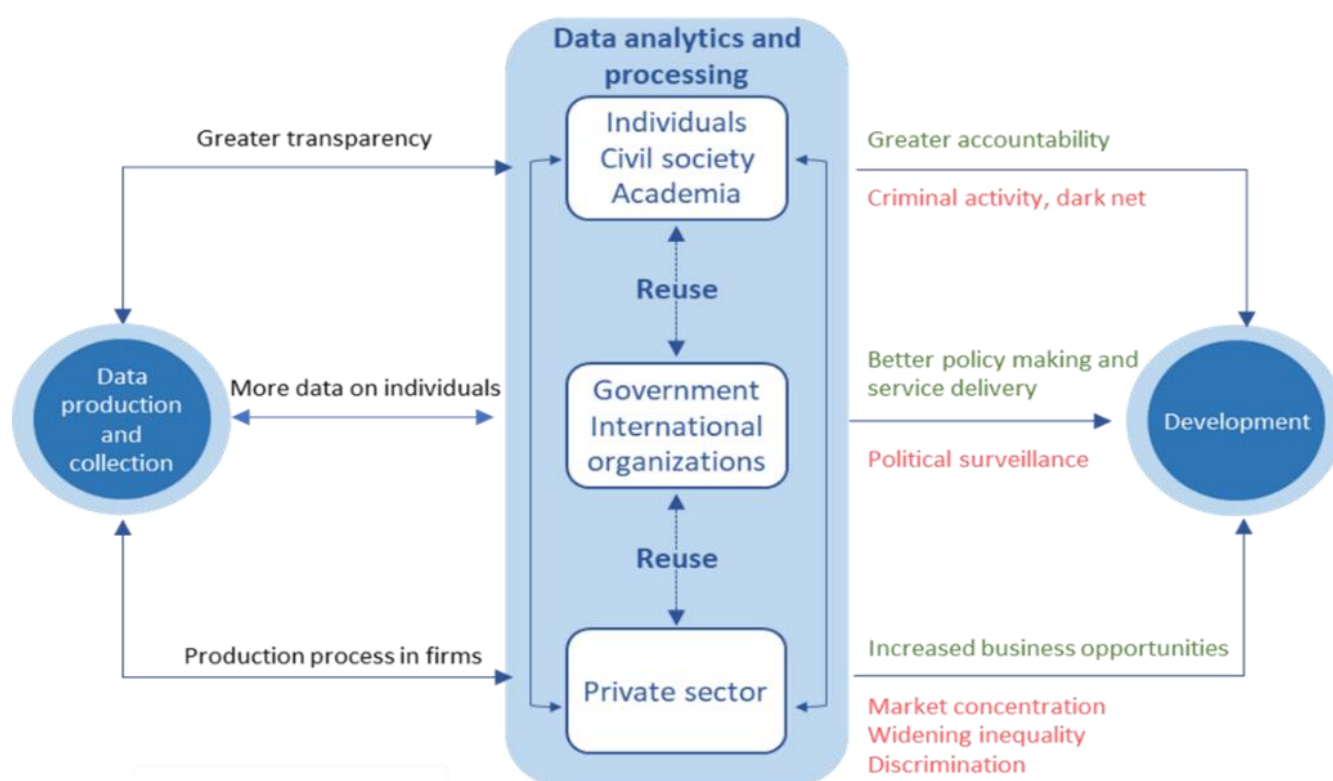
In some countries data can be integrated and used for broader research purposes subject to certain conditions and processes, such as in Georgia where GeoStat can approve access to anonymized data for research purposes. This type of arrangement for data sharing is underpinned by legislation and procedures to ensure data privacy.

PILLAR 5: Data sharing risks and mitigation

Pillar 5 looks at practices for risk mitigation when data are shared and integrated. As national statistical offices take on new roles and new responsibilities particularly related to data sharing then the associated risks will increase. This topic

was addressed in the World Bank's 2021 World Development Report: Data for Better Lives. In this report they illustrated how data can contribute to development through multiple pathways (see Figure 4).

FIGURE 4: PILLAR 5 – Data sharing, data integration and related risks



Note: Positive impacts are shown in green; negative impacts are shown in red

“Although use, reuse, and repurposing of data offer great prospects for fostering development, they simultaneously pose significant risks that must be managed to avoid negative development impacts⁵”

One example of how a country is managing the risks around data sharing is Stats NZ which uses the ‘five safes framework⁶’ and Ngā Tikanaga Paihere to protect privacy and guide ethical use of data. Before data are made available to

approved researchers, all identifiers are removed or encrypted to ensure the data records are not associated with named individuals or companies. The Ngā Tikanaga Paihere framework uses Māori concepts to guide the ethical and culturally appropriate use of data.

Access is only provided if all the ‘five safes’ conditions are met: safe people, safe projects, safe settings, safe data, and safe output.

Other countries are looking to develop similar frameworks which seek to mitigate risks associated with data sharing.

5 World Development Report 2021: Better data for better lives.

6 <https://www.stats.govt.nz/integrated-data/how-we-keep-integrated-data-safe/#five>

III. Uses of the data governance framework

The data governance framework has been used to compile a series of one page data governance profiles for a range of countries across the Asia and Pacific region. Annex 1 shows one such data governance profile for New Zealand.

The profiles are designed to give a summary of the data governance arrangements within a country. They are not designed to cover all details rather they are designed to present highlights with links to original documents where users can find more information.

The one page profiles have been used in a series of Asia-Pacific Stats Cafés where data governance was explored in more depth. The recordings of these events are available⁷ and have been used in the development of this paper.

The discussions during the Stats Cafés highlighted several emerging lessons:

- Data governance arrangements are context specific and there is no one size fits all. The arrangements vary depending on the structure of government, such as the level of devolution;
- Developing new data governance arrangements takes time. As there are a lot of stakeholders involved and the context can be complex it takes time to develop and then to implement changes in the data governance arrangements. Some countries may choose to use interim arrangements, like the use of data sharing agreements in advance of legislative changes.
- Multi agency data integration projects focussed on informing pressing policy issues have proven to be useful in providing evidence of the value of data integration and practical experience in the governance challenges involved. Such projects may foster momentum and inform implementation of new arrangements.

- National statistical offices need to carefully consider potential changes to their data governance arrangements and role. National statistical offices have experience and expertise to offer to other parts of government in terms of managing data and ensuring data quality; however, if they are changing their role to encompass more aspects of data stewardship which go beyond their traditional role they should navigate this carefully, being mindful of the resource implications of assuming new mandates.
- National statistical offices may want to consider if they have the mandate, capacity and skills to take on an expanded role or they prefer to support others who are taking on the government data stewardship role. There is a need to be mindful of not overstretching their capacity which might also lead to an erosion of trust in their official statistics.
- How other government agencies use data - particularly data about individuals at a detailed level - will potentially impact community trust in confidentiality arrangements. National statistical offices need to be alert as to how microdata is being used by government for policy and research purposes, and they need to be involved in the governance discussions, contributing their ideas and experience around the management of the risks involved.
- There is a need to build some flexibility into existing and new governance arrangements to ensure they are agile to respond to the rapidly changing context in which national statistical offices are working. It is likely that country level data governance arrangements will need to continue to evolve.

Finally, building new data governance arrangements is as much about culture change as it is about legislation and processes.

⁷ <https://www.unescap.org/events/2024/asia-pacific-stats-cafe-series-data-governance-across-asia-and-pacific>

References

Data governance in a changing world, Economic and Social Commission for Asia and the Pacific, Eighth Committee on Statistics, ESCAP/CST/2022/6

International Journal of Information Management, Volume 49, December 2019, Pages 424-438, Data governance: A conceptual framework, structured review, and research agenda.

How we keep integrated data safe, Stats New Zealand web page, 23 August 2022, <https://www.stats.govt.nz/integrated-data/how-we-keep-integrated-data-safe/#five>

Managing an Evolving Data Ecosystem, SIAP Management Seminar paper, December 2022 (unpublished paper)

Report of the Committee on Statistics on its eighth session, Economic and Social Commission for Asia and the Pacific, Eighth Committee on Statistics, ESCAP/CST/2022/8

What is the Five Safes Framework? UK Data Service, <https://ukdataservice.ac.uk/help/secure-lab/what-is-the-five-safes-framework/>

World Development Report 2021: Better data for better lives, 2021, World Bank.

Annex 1: New Zealand Data Governance Profile

New Zealand: Data governance profile



1. Vision and policy intent

[Stats NZ](#) is New Zealand's lead agency for government-held data. Its [goal](#) is to provide quality, trustworthy data and statistics with which New Zealanders can make evidence-based decisions. At the heart of this work is transparency, trust, and integrity around the use of data the government holds.

The nation's highly decentralized government model grants agencies autonomy separate from the Executive Branch.

Stats NZ sees success as a data system that is both inclusive and integrated. A system where anyone who wants to base their decisions on credible information can do so with ease. A system that generates the deepest insights and the best services, at the least effort to the people and organisations behind the data.

2. Data Management: policies, rules & institutions

New Zealand's most important official statistics, classified as 'Tier 1,' are produced by Stats NZ and 15 other government bodies. They adhere to a framework of [principles and protocols](#) based on the UN Fundamental Principles of Official Statistics. The framework was written in 2007 and is currently under review.

In 2017, the [Government Chief Data Steward](#) (GCDS) role was established, held by Stats NZ's Chief Executive, to drive data's value realization across government. The GCDS leads efforts, as highlighted by the 2021 [Government Data Strategy and Roadmap](#). This includes:

- A Data Investment Plan;
- An Open Data Charter Plan to ensure data is open, inclusive, accessible, and findable
- A Data System Maturity Assessment; and
- An updated approach to mandating and managing standards.

A new [Data and Statistics Act 2022](#) strengthened the role of the GCDS to make the best use of data collected and held by govt while ensuring private and confidential information is held securely and used appropriately.

3. Data custodians and data stewardship

Data stewardship is defined in a 2018 [policy document](#), as follows:

- a) to create a safe, high-trust data environment supported by public confidence;
- b) to improve availability and accessibility of govt data;
- c) to establish sustainable data capability across govt; and
- d) to establish partnerships to innovate with data and solve complex problems.

Two key governance bodies support the role of the GCDS:

- The [Information Group](#), the key advisory body for the GCDS;
- The [Digital Government Leadership Group](#) which supports the GCDS and the [Government Chief Digital Officer](#) to develop and improve digital and data systems and ensure they are aligned with the [Government Data Strategy and Roadmap](#) and the [Strategy for a Digital Public Service](#).

The GCDS has developed a [data stewardship framework and toolkit](#) to help govts to better manage and safely access data and to ensure that data is managed as a valuable asset and used ethically. Agencies will often appoint a data custodian

4. Data sharing, accessibility and integration

Sharing across government occurs through Information Sharing Agreements ([Privacy Act 2020](#)) and other specific arrangements. The [Government Chief Privacy Officer](#) is establishing an information sharing centre of excellence. Sharing is regulated by the [Privacy Commission](#).

Stats NZ provides two large collections of integrated administrative and survey data:

- The [Integrated Data Infrastructure](#) (IDI) holds integrated microdata about people and households. Researchers use the IDI to conduct cross-sectoral research on complex social and economic issues.
- The [Longitudinal Business Database](#) (LBD) holds de-identified microdata about businesses. Data comes from a range of Stats NZ surveys and government agencies. Researchers use the LBD to evaluate policies and analyse business performance.

5. Data sharing, risks & mitigation

Stats NZ uses a '[five safes framework](#)' and Ngā Tikanaga Paihere to protect privacy and guide ethical use of data. Before data is made available to approved researchers, all personal identifiers are removed or encrypted to ensure the data records are not associated with named individuals.

The Ngā Tikanaga Paihere framework uses Māori concepts to guide the ethical and culturally appropriate use of data.

Access is only provided if all the 'five safes' conditions are met: safe people, safe projects, safe settings, safe data, and safe output.

The GCDS supports a Data Ethics Advisory Group available to all government agencies



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