

Stats NZ's Long-term Insights Briefing:

**Data as a driver of national
competitive advantage – fostering
improved wellbeing and economic
growth**

Consultation document

November 2021





Proposed topic and purpose

This consultation document outlines the proposed topic for our long-term insights briefing, selected by Stats NZ Tataurangi Aotearoa in its capacity as the Government Chief Data Steward and as New Zealand's national statistics office. Our proposed topic is: **Data as a driver of national competitive advantage – fostering improved wellbeing and economic growth.**

In this paper we:

- provide an overview of the purpose of, and process for, developing a long-term insights briefing
- outline our proposed topic, focus areas, and scope.

We welcome your views on the topic, including whether this is a topic of interest and importance to you, and any feedback about particular areas of focus for our long-term insights briefing. Consultation closes 28 January 2021.

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Purpose of Long-term Insights Briefings

The Public Service Act 2020 requires agencies to develop a Long-term Insights Briefing (LTIB) at least once every three years. The requirement to publish a briefing is a statutory duty on departmental chief executives, independent of ministers. LTIBs differ from the advice that the public service provides ministers, or the accountability and planning documents prepared for Parliament.

The purpose of the LTIB is to make available into the public domain:

- information about medium and long-term trends, risks and opportunities that affect or may affect New Zealand and New Zealand society
- information and impartial analysis, including policy options, for responding to these matters.

These briefings form part of the stewardship role of public service agencies and provide a platform for identifying and exploring the issues that matter for the future wellbeing of the people of New Zealand.

Our role

Stats NZ Tatauranga Aotearoa is dedicated to improving the lives of New Zealanders today and for generations to come. We are New Zealand's leaders in data and statistical analysis. We support and facilitate the release of social, economic, and environmental data for Aotearoa. We deliver statistics, data, advice, insights, and expertise to our customers, decision-makers, and the general public.

Stats NZ is also the home of the Government Chief Data Steward – the system leader for data across government. The Government Chief Data Steward is responsible for:

- empowering agencies to use data more effectively while maintaining the trust and confidence of New Zealanders
- supporting the use of data as a resource across government to help deliver better services to New Zealanders.

In September of this year, the Government Chief Data Steward released a refreshed [Data Strategy and Roadmap](#) – providing a shared direction and plan for government agencies to realise the value of data. We also partnered with other agencies with a policy interest in the digital economy (the Ministry of Business, Innovation and Employment, Department of Internal Affairs, and Department of the Prime Minister and Cabinet) on a public discussion document to inform the development of a digital strategy for Aotearoa.

It is our role to build on this work further by understanding the drivers of change that will shape the future data system. Through our long-term insights briefing we hope to identify the future opportunities of data for wellbeing and economic growth, and generate new insights to help plan for our data-driven future.

Areas of focus

Our proposed topic is: **Data as a driver of national competitive advantage – fostering improved wellbeing and economic growth.**

The future of data

Data is growing exponentially

The world's capacity to generate and store data is growing at a rate faster than ever before. At the same time, our ability to analyse data to inform decision-making and create products and services has never been so sophisticated. The potential is limitless, and data is increasingly being viewed as a means of providing extraordinary public benefit, as an economic asset, and as a driver for greater productivity and innovation across all sectors of the economy.

Every two years, we create more data than was previously created through all of history.

Our hyper-connected world fuels this exponential increase in data – from wearable devices and smart appliances to electronic health records and autonomous vehicles.

- *The Davos Agenda 2021*
(World Economic Forum)

The acceleration in data growth has enabled the development of new technologies, including robotics, the internet of things, and artificial intelligence. These technologies have the ability to change lives. The global market for these technologies alone already represents \$US350 billion and has the potential to grow to \$US3.2 trillion in just a few short years¹. And this figure doesn't capture the value generated within industries that deploy these technologies.

Last year, Statistics Canada estimated the value of the country's data at between \$157 billion (Canadian) and \$218 billion², and the New Zealand Census alone generates \$NZ4 for every \$NZ1 spent – equating to \$NZ2.80 billion dollars³.

The ubiquitous nature of data has already led to some profound shifts – we can optimise processes and drive efficiencies across every single industry; people can receive highly customised and tailored service offerings; and we can innovate faster. These technologies are often referred to as 'disruptive innovation' – that is they have the power to disrupt our systems (our way of doing things) within government, the economy, and society.

"If there is one thing more important than vaccines in this pandemic, it's data: data about transmission dynamics of the novel coronavirus, about symptoms, testing results and hospital admissions." *Dr Ali Okhowat, Chief Executive Officer, mHealth Global, Canada | Co-Lead of the World Health Organization Innovation Hub in Geneva*⁴

As a nation, the extent to which data can fuel a national competitive advantage depends on our ability to create trustworthy flows of data.

¹ United Nations Conference on Trade and Development (2021). [Technology and Innovation Report 2021 \(unctad.org\)](https://unctad.org)

² The Economist – Special Report (20, February 2020). *A deluge of data is giving rise to a new economy.*

³ Acuo (2021). Value of New Zealand Census. [Value of the New Zealand census: August 2021 | Stats NZ](https://www.stats.govt.nz)

⁴ World Economic Forum (2021). Data-driven Economies: Foundations for Our Common Future. [WEF_WP_DCPI_2021.pdf \(weforum.org\)](https://www.weforum.org)

Combining data to create value

Data, as pieces of information, are often not valuable in themselves – rather, the value lies in the ability to combine and integrate data.

However, despite pockets of good practice where data are shared responsibly to generate benefits, we still have a culture in New Zealand of locking data into silos. As a result, we have data that is inaccessible to value-add activities such as integration – limiting potential to create new products or insights.

The power of data sharing is set to build in momentum. Data sharing is often heralded as the path forward in delivering on the UN's sustainable development goals⁵ and is considered by the Global Partnership on Artificial Intelligence (GPAI) as a key goal of future data stewardship.

“Being non-rivalrous and a non-exhaustible asset, access to data and the ability to use, re-use and share it in a rights-respecting environment has the potential to solve many social, economic and environmental problems, and create opportunities for innovation, whether in existing sectors or by creating new sectors altogether.” *World Economic Forum*⁶.

There is an opportunity for New Zealand to take a leadership role in facilitating and enhancing data access and sharing to ensure widespread benefits. Every OECD country already has initiatives in place to enhance access to, and sharing of, data within their economy⁷, but few have an extensive suite of policy and governance mechanisms in place to help build a national competitive advantage.

According to the OECD estimates, the social and economic benefits of public sector data access and sharing alone can range between 0.1% and 1.5% of GDP⁸.

Stats NZ is the home of the Integrated Data Infrastructure (IDI), which is a world-leading research infrastructure linking together our surveys, data from other government agencies, and non-governmental organisations. The IDI can be used to produce analysis and research about populations of interest.

Data, connected through the IDI, provides a powerful analytical tool, contributing to an understanding of what interventions work and their impact on peoples' life outcomes. It helps to identify the level of need or disadvantage in different populations and inform early interventions to be improved for particular populations with shared characteristics.

⁵ For example: Russo, M., Young, D., Feng, T., & Gerard, M. (2021). [Sharing Data to Address Our Biggest Societal Challenges | BCG](#) and [Global Partnership for Sustainable Development Data \(data4sdgs.org\)](#)

⁶ World Economic Forum (2021) – Levers for ensuring equitable access to the data economy: [3 levers for ensuring equitable access to the data economy | World Economic Forum \(weforum.org\)](#)

⁷ OECD Digital Economy Outlook 2020. [Chapter 5. Enhancing data access, sharing and re-use | OECD Digital Economy Outlook 2020 | OECD iLibrary \(oecd-ilibrary.org\)](#)

⁸ OECD (2019). Enhancing access to and sharing of data: [Enhancing Access to and Sharing of Data: Reconciling Risks and Benefits for Data Re-use across Societies | en | OECD](#)

As part of our LTIB we propose to cover:

- the **potential of data to drive social and economic value** – including key features the data economy and the value data can provide to wellbeing, inclusion and participation, and science and the environment
- the qualities of data that make it an asset including the **interconnectedness and dynamic nature of data** – and what this means for decision-making, innovation, and product and service development
- how New Zealand can best maintain and leverage the benefits of data, including the **policy and governance mechanisms** available to government to foster an environment for data sharing.

Importance of trust and transparency

Building an ethical and secure national data system

While the benefits of more productive uses of data are overwhelming, there is also the potential for harm. Increasingly greater access to, and use of, data creates a wide array of policy issues that arise when data is not used appropriately, including: the risk of discrimination and bias in decision-making; disempowering individuals or particular groups; and harms to dignity and autonomy (and their social effects).

In order to seize the benefits of data-driven technology, it will be important to foster trust and create trustworthy and reliable systems. A high level of trust is considered critical to the development and uptake of digital technology, a free-flowing data system, and a thriving information/data economy.

“Trusted AI can be a significant competitive advantage. Ethics and business must go hand in hand, since without trust, citizens will not go for the new technology.” *Mariya Gabriel, European Commissioner for the Digital Economy and Society*⁹

The fear of data misuse and the potential for harm can lead people to opt out of data collection or avoid using services. The following components will play an increasingly prominent role in fostering trust and ensuring fairness.

Transparency	The improved visibility of which data is used, and how it is used, in decision-making about individuals.
Inclusivity	When data is representative of the population it serves, ensuring no one is invisible in the data that is fed into technology (which can perpetuate bias and impact society and individual rights).
Governance	Good data governance with clear roles and responsibilities is emerging as a critical component of responsible data stewardship.

⁹ Castro, D., (2019) - Center for Data Innovation. [Bad News, Europe: Consumers Do Not Want to Buy an “Ethical” Smart Toaster – Center for Data Innovation](#)

Māori data sovereignty	When Māori data is subject to Māori governance, supporting tribal sovereignty and the realisation of Māori and Iwi aspirations ¹⁰ .
Data ethics	The ability to factor ethical considerations into the way data is managed and used to avoid harmful impacts.

“If Aotearoa is to be a world leader in the trusted and ethical use of data, transparency and genuine engagement in decision-making is crucial¹¹.” *Te Mana Rarararaunga*

As part of our LTIB we propose to cover:

- the **impact of data and data-driven technologies gaining prominence within society**
- the risk of **exceptional intrusiveness** (with personal data held on multiple databases)
- potential **harms associated with automated decisions**
- **issues important to Māori** and to other population groups (for example, potentially including how responsibilities are defined, new digital divides, and inclusivity in data)
- the **role of trusted data sources** at a time where dis/misinformation is increasingly undermining trust.

Potential role of government to support the use of data to drive social and economic wellbeing

It is important to explore how government might utilise data to drive social and economic wellbeing, including which tools government has to drive systemic and strategic transformation to unlock the power of data. This includes the convening power, regulatory power, and purchasing power of government.

Convening power is often only held by few parties in society. Convening power of government can be used to bring together diverse parties to encourage collaboration and/or alignment about data issues for the benefit of society.

The **purchasing power** of government is a powerful tool. Government is often a substantial procurer of goods and services, which can have a significant influence on market behaviours.

Government also has a role through its legislative and **regulatory power** to set the rules of the game for responsible data use and ensure the distribution of value – something that the market alone cannot do.

¹⁰ West, K., Wilson, D., Thompson, A., & Hudson, M. (2020). [Maori-Perspectives-on-Trust-and-Automated-Decision-Making-13-Nov-2020-1.pdf \(digitalcouncil.govt.nz\)](#)

¹¹ West, K., Wilson, D., Thompson, A., & Hudson, M. (2020). [Maori-Perspectives-on-Trust-and-Automated-Decision-Making-13-Nov-2020-1.pdf \(digitalcouncil.govt.nz\)](#)

As part of our LTIB we propose to cover:

- the **levers of government that can be used to effect change**
- how government can **lead by example**.

Seeking your input

We would like your feedback on the proposed content of our LTIB.

- Is the proposed topic: *Data as a driver of national competitive advantage – fostering improved well-being and economic growth*, a valuable issue to consider?
- Are the proposed focus areas the most important to explore further?
- Are there other opportunities or implications that we should consider?
- Are there any topics you would like Stats NZ to consider for future briefings?

Opportunities to engage on Stats NZ's LTIB

There will be two opportunities for you to provide feedback on the LTIB.

The first opportunity is on the scope and structure of the topic Stats NZ has selected (this consultation document).

In 2022, we will again seek your feedback, but this time on a draft of the full LTIB.

How to send us your thoughts

Submissions must be lodged by 5pm on **Friday 28 January 2022** and can be:

- emailed to datalead@stats.govt.nz
- posted to LTIB Consultation, Stats NZ, PO Box 2922, Wellington 6011