

**Aide memoire to the Minister of Statistics:
Meeting with Professor Juliet Gerrard**

Date	4 June 2020	Note by	5 June 2020	Priority	M
Will be discussed at	Meeting on 5 June at XX Attendees: <ul style="list-style-type: none"> ▪ Professor Juliet Gerrard 				

Purpose and key issues

1. This document supports your discussion about the relationship between the Data Ethics Advisory Group (the Group) and the Digital Council for Aotearoa New Zealand (the Digital Council) with the Prime Minister’s Chief Science Advisor and Chair of the Group, Professor Juliet Gerrard.

Background

2. The Group was convened in 2019 by the Government Chief Data Steward to help maximise the opportunities and benefits from new and emerging uses of data, while responsibly managing potential risk and harms.
3. The Group’s purpose is to provide wider system and societal thinking about factors that affect new or emerging uses of data, including those issues which have the potential to affect the government data system, by:
 - providing fresh thinking and suggestions for how New Zealand’s current data system may be changed and improved;
 - encouraging the innovative and ethical use of data in government;
 - working in a constructive, collaborative, and open manner;
 - reflecting the principles of Te Tiriti o Waitangi; and
 - helping build consensus and support needed to bring about change.
4. In practice, government agencies bring specific work items and initiatives to seek advice from the group in relation to ethical consideration.
5. The group have held four meetings to date and thus far, the items brought have been relatively well progressed (for example, the Data Ventures Population Density tool and Education Equity Index proposal).

Interest in bringing submissions to the Group has been steady

6. Currently, the Group has a small backlog of submissions to work through and enquiries about meeting with the Group have increased lately, including by agencies that would not normally be seeking external advice around data ethics, such as the NZSIS and the New Zealand Police.
7. As the Group becomes more widely recognised and provides more guidance, we anticipate that demand for meeting with them will continue to grow.
8. The Group have also commissioned and will soon publish several papers reviewing the development of ethical frameworks and principles internationally. These papers are due to be published on data.govt.nz next week – week of 8th June.

A review of the Group will allow us to explore potential changes and improvements

9. A review of the Group’s operation is due to begin shortly, considering lessons learned from its first year of operation. The review will incorporate the perspectives of current Group members and seek the views of government agencies.

10. The review will also consider questions around the scope and authority of the Group, based on the feedback of a range of stakeholders relating to advice provided in the preceding year. This will likely consider whether a Treaty perspective is adequately reflected in the Group's current operating model and membership.
11. We understand that Professor Gerard may raise the Group's view that the advice they provide should be sent to Ministers, as well as officials, to support high-level decision making and to ensure the group has an appropriate level of mana.
12. s (9)(2)(g)(i) this option will be considered as part of the formal review process. In the event that this option is selected, a formal agreement by Cabinet may be needed to set the expectations across government and to secure the level of resources necessary to support the ongoing operation of the group.

The Group complements the new Digital Council

13. You and Minister Faafoi announced the Digital Council, chaired by Mitchell Pham, in early 2020.
14. The purpose of the Digital Council is to advise the Government on how to maximise the societal benefits of digital and data-driven technologies to increase equality and inclusivity, wellbeing and community resilience.
15. The Digital Council has chosen the topic of trust in the context of automated decision-making as its main deliverable for 2020.

There are opportunities for the Group and Digital Council to connect

16. It would be beneficial for both groups to stay connected and, as appropriate, collaborate on specific initiatives because the Group has significant subject matter expertise that will complement that on the Digital Council.
17. The Digital Council's first piece of advice on post-COVID-19 digital and data opportunities highlights the important role of the Group in preserving public confidence from a trust and privacy perspective.
18. Mitchell Pham has previously indicated a desire for the Digital Council and the Group to work closely together. How this could work in practical terms will need to be explored between the Chairs. Options could include:
 - the Group – or a subset of the Group – could serve as a reference group to test ideas as the Digital Council's main research deliverable progresses; and
 - workshopping the emerging findings and recommendations with the Group once the Digital Council's initial research and engagement is completed in September or October this year.
19. Moving forward, it would be beneficial for Professor Gerrard and Mitchell to meet to discuss the work of their respective groups and areas of mutual interest and potential collaboration.

**Aide memoire to the Minister of Statistics:
Meeting with Professor Juliet Gerrard**

Date	23 Nov 2020	Note by	24 Nov 2020	Priority	M
Will be discussed at	Meeting on 24 November at 6.30 pm with Professor Juliet Gerrard				

Purpose and key issues

1. This document supports your discussion with the Prime Minister's Chief Science Advisor and Chair of the Data Ethics Advisory Group, Professor Juliet Gerrard.
2. Professor Gerrard has requested this meeting and there is no confirmed agenda. This aide memoire provides information about two areas we believe Professor Gerrard will be interested in discussing: The Data Ethics Advisory Group and the Digital Council, and links between them.

The Data Ethics Advisory Group (the Group)

3. Professor Gerrard is the Chair of the Group and has issued her resignation effective end of December 2020. This has been done in the context of a planned review of the group after 12 months and creates space to respond to the recommendations of the review in the way that best fits the new government landscape.
4. The Group was convened in September 2019 by the Government Chief Data Steward (GCDS) to help maximise the opportunities and benefits from new and emerging uses of data, while responsibly managing potential risk and harms.
5. The Group's purpose is to provide wider system and societal thinking about factors that affect new or emerging uses of data, including those issues which have the potential to affect the government data system, by:
 - a) providing fresh thinking and suggestions for how New Zealand's current data system may be changed and improved;
 - b) encouraging the innovative and ethical use of data in government;
 - c) working in a constructive, collaborative, and open manner;
 - d) reflecting the principles of Te Tiriti o Waitangi; and
 - e) helping build consensus and support needed to bring about change.
6. In practice, government agencies bring specific work items and initiatives to seek advice from the Group in relation to ethical consideration.
7. The Group have held six meetings to date and thus far, the items brought have been relatively well progressed (for example, the Data Ventures Population Density tool and Education Equity Index proposal).
8. **s 9(2)(a)**

The planned review of the Group explores potential changes and improvements

9. The consultancy Martin Jenkins reviewed the Group's operations to ensure that the Group was achieving its aims and determine if any change was needed to its functions or membership. The final report was issued to the GCDS in November 2020.
10. The review proposed the following options for changing the focus areas for the Group:
 - a) Data ethics assurance focus: deepen the data ethics assurance role on behalf of Government.
 - b) Trusted advisor focus: strengthen the advisory role for government agencies.
 - c) System-level advisor focus: widen the role towards providing fresh thinking and insights.
 - d) Combined areas of focus: combine any or all the above areas of focus.

11. The GCDS is processing the recommendations of the review. You will receive a copy of the final report with a separate briefing on the future focus and operating model for the Group in due course.

Future vision for the Group

12. s 9(2)(a) [REDACTED] s (9)(2)(g)(i) [REDACTED]
13. Professor Gerrard may raise the Group's view that the advice they provide should be sent to Ministers, as well as officials, to support high-level decision making and to ensure the group has an appropriate level of mana. This view supports option d listed in paragraph 10.
14. s (9)(2)(g)(i) [REDACTED] If this option is selected a formal agreement by Cabinet may be needed to set expectations across government and to secure resources required to support this model.
15. The Chair and members' resignations provide the opportunity to increase Māori membership to at least two members – currently there is one representative. The group currently feels that it is not yet meeting the expectation of fully supporting the principles of te Tiriti o Waitangi.

The Digital Council

16. The formation of the Digital Council (the Council) was announced in early 2020. The purpose of the Council is to advise the Government on how to maximise the societal benefits of digital and data-driven technologies to increase equality and inclusivity, wellbeing and community resilience. Mitchell Pham chairs the Council and is known to Professor Gerrard.
17. The Council has chosen 'trust and automated decision-making' as its main deliverable for 2020 and will provide a draft report on this to you later this year.

There are opportunities for the Group and Digital Council to connect

18. It would be beneficial for both groups to stay connected and, as appropriate, collaborate on specific initiatives because the Group has significant subject matter expertise that will complement that on the Council.
19. The Council's first piece of advice on post-COVID-19 digital and data opportunities highlighted the important role of the Group in preserving public confidence from a trust and privacy perspective.
20. The Council presented at the 23 October meeting of the Group. In this meeting the Council Chair indicated a desire for the Digital Council and the Group to work closely together. It was noted that how this could work in practical terms will need to be explored between the Chairs. Options could include:
 - a) the Group – or a subset of the Group – could serve as a reference group to test ideas as the Digital Council's main research deliverable progresses; and
 - b) the Group to advise on ethical standards for the Digital Council's forthcoming report, particularly around community data sourcing, methodologies and inclusion on automatic decision making.
 - c) presenting emerging findings and recommendations from the Digital Council's Trust and automated decision-making report with the Group on 3 December (to be confirmed depending on agenda availability).
21. Moving forward, it would be beneficial for the future Chair of the Group and the Chair of the Digital Council to discuss the work of their respective groups, areas of mutual interest and potential collaboration.

Memorandum:
Examples of Algorithm Charter implementation

To: Hon Dr David Clark – Minister of Statistics
From: Gareth McGuinness, Senior Manager – Data Strategy and Policy
Date: 28 September 2021

Purpose

1. In August, you asked officials to provide you with six examples of agency implementation of the Algorithm Charter for Aotearoa New Zealand (the Charter) for your information.

Background

2. You requested six examples of agency implementation of the Charter, including from New Zealand Police (Police).
3. This aide memoire provides examples from:
 - Stats NZ
 - Police
 - Ministry of Business, Innovation and Employment
 - Ministry of Social Development
 - Inland Revenue
 - Ministry of Justice.

About the Algorithm Charter

4. The Charter, launched in July 2020 (attached as **Appendix 1**), provides New Zealanders with assurance that algorithms used by signatory agencies will meet commitments regarding transparency; partnership; people; data; privacy, ethics and human rights; and human oversight.
5. The Charter is voluntary and applies to the public sector only. There are currently 26 signatories to the Charter (listed in **Appendix 2**), and others have recently shown an interest in signing up to the Charter.
6. Since its inception, the Charter has increased awareness of algorithm use across government. Some signatory agencies, such as the larger producers and users of data, have well established algorithm use, mature internal resource capabilities, and have successfully embedded many aspects of the Charter into their practices. Other signatory agencies have less-established data and algorithm capabilities and are now thinking more deeply about how their algorithms may impact individuals or communities.
7. The Charter has had a positive impact across the spectrum – in terms of government agencies' levels of data maturity and algorithm use – because it has either increased or embedded the key commitments in an agency's algorithm practices. The six examples of implementation described in this paper also reflect how each agency's data maturity and Charter implementation needs are different.

Review of the Charter

8. When the Charter was launched, it included a commitment to review the Charter 12 months after coming into force. Stats NZ has secured an independent provider to review the Charter, which will be completed in November 2021.

9. While the information in this Aide Memoire provides a sample of actions being taken by some government agencies, the review will provide us with a more comprehensive understanding of agency implementation of the Charter.
10. The review will focus on helping us better understand the extent to which the Charter has improved algorithmic transparency among signatories, the successes and challenges faced by agencies in implementing the Charter, and potential barriers to agencies signing up to the Charter. The review does not focus on assessing the content of the Charter.
11. The different levels of data maturity across agencies mean different types and levels of support are required to implement the Charter. The review will help identify ways that Stats NZ can assist agencies with implementing the Charter to ensure they are adequately supported and the Charter's objectives are being met.
12. Once complete, we will share the outcome of the review with you.

Examples of agency implementation of the Algorithm Charter

13. The following outlines the actions six agencies have taken to implement commitments of the Charter.

Stats NZ

14. Stats NZ collects information from people and organisations through censuses, surveys and administrative data from third parties. It uses this information to publish insights and data about New Zealand, and supports government agencies, private individuals, and organisations to use the data. Stats NZ uses algorithms in some statistical production processes. For example, an algorithm is used in migration statistics to ensure their timely production.
15. Since signing the Charter, Stats NZ has begun work on a maturity assessment to understand what gaps and issues around algorithm use might exist relating to the Charter. When this is completed, options to address the gaps will be developed. Stats NZ intends to publish a report on its findings and solutions early next year to ensure transparency and to help agencies who are undertaking similar reviews.
16. While this work is not yet complete, early findings show that Stats NZ has several processes in place to support transparency. These include:
 - effective systems to ensure people can ask questions about our statistics and how they were calculated
 - the publishing of detailed descriptions of statistical methods for technical users of statistics.
17. Several gaps have also been identified, including a need to embed a te ao Māori lens in the way Stats NZ develops and administers algorithms and statistical methods.

Police

18. Technology is rapidly evolving and emergent technologies, including tools such as algorithms, have an important part to play in modern policing to enable more effective and efficient ways of working. Police uses algorithms to support a range of policing activities including prevention, investigation and enforcement – for example to identify suspicious financial activity, to assist with the prioritisation of investigations, and to support family violence risk assessments.
19. Police has undertaken a number of activities to support its implementation of the Charter. These include:
 - embedding a governance framework for algorithms
 - establishing a formal evaluation structure for algorithm developers
 - producing algorithm development and approval guidelines – including testing, monitoring and review processes

- setting up an Independent Expert Panel, whose role includes peer reviewing algorithms used by Police to ensure that privacy, human rights and ethics interests are appropriately safeguarded, and any unintended consequences are identified.
20. Last year, Police commissioned independent consultancy firm Taylor Fry to complete a stocktake of the algorithms they use, and to provide advice on best practice to ensure the safe and ethical development and use of algorithms. Following a review of the report by the Independent Expert Panel, Police has worked to implement the recommendations into its best practice guidelines.
21. To increase transparency with the public, Police has also created a public web page on its work on new technologies and use of algorithms. This page includes reports, Privacy Impact Assessments, a list of technologies used by Police and research.

Ministry of Business, Innovation and Employment (MBIE)

22. MBIE is implementing a range of supervised algorithms to enable effective service delivery and regulation, for example:
- Screening for risks at the border by Immigration New Zealand: using Advance Passenger Information and Passenger Name Record data to assess potential risks associated with travellers.
 - Advance Passenger Processing for Immigration New Zealand: the algorithm performs some validation matching, as well as some automated “border checks” (e.g. checking that the individual has a valid visa if one is needed, or matching the individual’s passport against a list of lost or stolen passports).
 - Predicting the likelihood that a company will experience liquidation: using the Companies Register and New Zealand Business Number data, a machine learning model trained on 2020/21 (post COVID-19 data) predicts the likelihood that a company will experience liquidation.
23. Immigration New Zealand has established a data science governance framework and review board that supports Charter commitments. More widely across MBIE, an environmental scan of algorithm use was conducted in 2021 and a draft policy has been developed on how the Charter commitments are to be applied. This includes the provision for an algorithm impact assessment process. This draft policy has been tested in a workshop with subject matter experts that included algorithm users, data science thought leaders, and a legal advisor. MBIE expects to roll out the policy early in 2022. Given the evolving nature of this area and the need to respond to emerging technologies, MBIE recognises that this policy may need to be reviewed in future.

Ministry of Social Development (MSD)

24. At present, the Youth Service model, which generates referrals for students with a high likelihood of needing assistance to transition from school, is the only algorithm being used at MSD. This algorithm was developed using MSD’s Model Development Lifecycle (MDL), which aligns with the Charter and was specifically created to support the development of operational algorithms. The MDL includes a governance framework for effective decision making and a separate Data Science guide for operations. The framework provides decision makers across MSD with assurance that the technical, legal, ethical and te ao Māori opportunities and risks have been well managed during the development of an operational algorithm. There are clear sign off phases and, if the work is particularly complex or sensitive, there is an option to seek external review. The MDL has been created as an open-source document to ensure other Government agencies can use and learn from this product.
25. Prior to the Charter, MSD had established a Privacy, Human Rights and Ethics Framework (the PHRaE) to help consider the privacy, human rights and ethical impacts of using personal information in its services. These are taken into account by asking the right questions while designing a service, process or system, so that risks can be identified early on and a mitigation plan put in place. The need to be transparent and responsible in the use of algorithms is also covered within the PHRaE and will be further supported by a proposed Automated Decision-

Making (ADM) standard, which also aligns with and references the Algorithm Charter. The proposed ADM standard is expected to be released for consultation in the near future and will include engagement with external stakeholders, such as Stats NZ, the Human Rights Commission and beneficiary advocates, amongst others.

26. This year, MSD also carried out a high-level stocktake of existing processes to identify which processes and systems use ADM (including where algorithms are used). The results of the stocktake indicated where further action may need to be taken to meet the ADM standard and commitments made under the Algorithm Charter.

Inland Revenue

27. The majority of algorithms implemented by Inland Revenue are in the form of business rules prescribed in legislation. While some of these business rules are automated to varying degrees, for example to calculate individual income tax assessments, other algorithms are used to identify potential tax non-compliance. In all cases, data is analysed to understand its suitability before being used in these algorithms.
28. Inland Revenue is currently refreshing its data and information governance. This includes incorporating the Charter into the principles, requirements, and roles and responsibilities in Inland Revenue's data and information policy and standards. The Charter commitments are also reflected in the mandates of the refreshed governance groups. This increases transparency, oversight, accountability and assurance of how the agency uses data and information.
29. As a part of the data and information governance refresh, staff are being supported in a variety of ways to do what is right for the data and information Inland Revenue stewards, including its use of algorithms. This includes new tools and guidance, new and updated processes, and formal communities of practice for data practitioners. Collectively, this results in staff at Inland Revenue applying necessary due diligence in the way they work with data and algorithms.

Ministry of Justice

30. The Ministry of Justice (MoJ) has identified three algorithms in operation. All three algorithms assist with the process of collecting outstanding fines, reparation or infringements, and have enabled MoJ to work more efficiently and effectively in these areas. Using the Charter's Risk Matrix, all three algorithms have been identified as low risk. To ensure information on algorithms is publicly available, MoJ has published information on the algorithms it uses on its website.
31. Technology initiatives at MoJ go through a governance process, including a Data Impact Assessment. To support this assessment, a question has been added related to the potential for an algorithm to be used – ensuring early identification of potential algorithm use.

Appendices

Appendix 1 – Algorithm Charter for Aotearoa New Zealand

Appendix 2 – List of all current Algorithm Charter signatories

JULY 2020

New Zealand Government

Stats NZ
Tātauranga Aotearoa

ALGORITHM CHARTER FOR AOTEAROA NEW ZEALAND

The value of algorithms

Government agencies use data to help inform, improve and deliver the services provided to people in New Zealand every day. Simple algorithms can be used to standardise business processes to ensure scarce resources are distributed equitably. More complex algorithms can be used to distil information from large or complex data sets to support human decision-making and reveal insights that could not easily be revealed by human analysis alone.

These algorithms can be used to help government better understand New Zealand and New Zealanders. This knowledge helps government make good decisions and deliver services that are more effective and efficient. The use of algorithms can mitigate the risk that human biases will enter into the administration of government services and result in real benefits for everyone.

However, the opportunities also bring fresh challenges. For example, human bias could be perpetuated, or even amplified by, algorithms that are not designed and operated in thoughtful ways. Transparency and accountability are critical to ensuring that the public can trust and support the government to use these tools in appropriate ways.

This Charter is a commitment by government agencies to carefully manage how algorithms will be used to strike the right balance between privacy and transparency, prevent unintended bias and reflect the principles of the Treaty of Waitangi.

Definitions

There are a wide range of advanced analytical tools that can fit under the term 'algorithm'. These range from less advanced techniques such as regression models and decision trees, which primarily support predictions and streamline business processes, through to more complex systems, such as neural networks and Bayesian models, which can take on properties of machine learning as they make advanced calculations and predictions.

A good discussion of the different types of predictive algorithms and the challenges of defining these is contained in 'Government Use of Artificial Intelligence in New Zealand' (New Zealand Law Foundation and Otago University, 2019).

The risks and benefits associated with algorithms are largely unrelated to the types of algorithms being used. Very simple algorithms could result in just as much benefit (or harm) as the most complex algorithms depending on the content, focus and intended recipients of the business processes at hand. As a consequence, this Charter does not specify a technical definition of an algorithm. It instead commits signatories to take a particular focus on those algorithms that have a high risk of unintended consequences and/or have a significant impact if things do go wrong, particularly for vulnerable communities.

Review

The Algorithm Charter for Aotearoa New Zealand is an evolving piece of work that needs to respond to emerging technologies and also be fit-for-purpose for government agencies. After twelve months a review of the Algorithm Charter will be conducted, to ensure it is achieving its intended purpose of improving government transparency and accountability without stifling innovation or causing undue compliance burden.

Foundations

The Algorithm Charter is part of a wider ecosystem and works together with existing tools, networks and research, including:

Principles for the Safe and Effective Use of Data and Analytics (Privacy Commissioner and Government Chief Data Steward, 2018)

Government Use of Artificial Intelligence in New Zealand (New Zealand Law Foundation and Otago University, 2019)

Trustworthy AI in Aotearoa – AI Principles (AI Forum New Zealand, 2020)

Open Government Partnership, an international agreement to increase transparency

Data Protection and Use Policy (Social Wellbeing Agency, 2020)

Privacy, Human Rights and Ethics Framework (Ministry of Social Development).

Assessing likelihood and impact

The Algorithm Assessment Report found that advanced analytics and data use are an essential part of delivering public services. Applying the Charter to every business rule and process would be impossible for agencies to comply with and not achieve the intended benefits of the Charter.

However, where algorithms are being employed by government agencies in a way that can significantly impact on the wellbeing of people, or there is a high likelihood

many people will suffer an unintended adverse impact, it is appropriate to apply the Charter.

Charter signatories will make an assessment of their algorithm decisions using the risk matrix below. This supports their evaluation, by quantifying the likelihood of an unintended adverse outcome against its relative level of impact to derive an overall level of risk.

The risk rating determines the application of the Charter.

Risk matrix

Likelihood

Probable Likely to occur often during standard operations			
Occasional Likely to occur some time during standard operations			
Improbable Unlikely but possible to occur during standard operations			
Impact	Low The impact of these decisions is isolated and/or their severity is not serious.	Moderate The impact of these decisions reaches a moderate amount of people and/or their severity is moderate.	High The impact of these decisions is widespread and/or their severity is serious.

Risk rating

Low The Algorithm Charter could be applied.	Moderate The Algorithm Charter should be applied.	High The Algorithm Charter must be applied.
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Application and Commitment

The Charter will apply differently to each signatory. The risk matrix approach means that signatories can focus first on decisions that have a high risk and exclude most of the many business rules that government agencies use every day to give effect to legislative requirements

and for business as usual activities. The intention is to focus on those uses of algorithms that have a high or critical risk of unintended harms for New Zealanders. This commitment will be reviewed in twelve months as part of the scope review.

ALGORITHM CHARTER FOR AOTEAROA NEW ZEALAND

This Charter demonstrates a commitment to ensuring New Zealanders have confidence in how government agencies use algorithms. This Charter is one of many ways that government is demonstrating transparency and accountability in the use of data. However, it cannot fully address important considerations, such as Māori Data Sovereignty, as these are complex and require separate consideration.

Commitment:

Our organisation understands that decisions made using algorithms impact people in New Zealand. We commit to making an assessment of the impact of decisions informed by our algorithms. We further commit to applying the Algorithm Charter commitments as guided by the identified risk rating.

Algorithm Charter Commitments:

TRANSPARENCY

Maintain transparency by clearly explaining how decisions are informed by algorithms. This may include:

- » Plain English documentation of the algorithm,
- » Making information about the data and processes available (unless a lawful restriction prevents this),
- » Publishing information about how data are collected, secured and stored.

PARTNERSHIP

- Deliver clear public benefit through Treaty commitments by:
 - » Embedding a Te Ao Māori perspective in the development and use of algorithms consistent with the principles of the Treaty of Waitangi.

PEOPLE

- Focus on people by:
 - » Identifying and actively engaging with people, communities and groups who have an interest in algorithms, and consulting with those impacted by their use.

DATA

- Make sure data is fit for purpose by:
 - » Understanding its limitations,
 - » Identifying and managing bias.

PRIVACY, ETHICS AND HUMAN RIGHTS

- Ensure that privacy, ethics and human rights are safeguarded by:
 - » Regularly peer reviewing algorithms to assess for unintended consequences and act on this information.

HUMAN OVERSIGHT

- Retain human oversight by:
 - » Nominating a point of contact for public inquiries about algorithms,
 - » Providing a channel for challenging or appealing of decisions informed by algorithms,
 - » Clearly explaining the role of humans in decisions informed by algorithms.

Signed

Chief Executive:

Chief Privacy Officer:

Senior Manager responsible for algorithms:

Organisation:

Date:

Appendix 2: List of all current Algorithm Charter signatories

Current signatories to the Algorithm Charter:

- Te Ara Poutama Aotearoa — The Department of Corrections
- Te Tāhuhu o Te Mātauranga — The Ministry of Education
- Te Manatū Mō Te Taiao — The Ministry for the Environment
- The Ministry of Housing and Urban Development
- Te Tari Taake — Inland Revenue Department
- Te Tāhū o te Ture — The Ministry of Justice
- Toitū Te Whenua — Land Information New Zealand
- Te Puni Kōkiri — The Ministry of Māori Development
- Oranga Tamariki - The Ministry for Children
- The Ministry for Pacific Peoples
- Te Manatū Whakahiato Ora — The Ministry of Social Development
- Te Tatauranga Aotearoa — Statistics New Zealand
- Te Manatū Waka — The Ministry of Transport
- Te Kāhui Whakamana Rua Tekau mā Iwa—Pike River Recovery Agency
- Te Minitatanga mō ngā Wāhine — The Ministry for Women
- Toi Hau Tāngata — Social Wellbeing Agency
- Te Ope Kātua o Aotearoa — New Zealand Defence Force
- Te Kaporeihana Āwhina Hunga Whara — Accident Compensation Corporation
- Te Tari Taiwhenua — Department of Internal Affairs
- Te Arawhiti — The Office for Māori Crown Relations
- Waka Kotahi — The New Zealand Transport Agency
- Te Tari Arotake Matauranga — The Education Review Office
- Hīkina Whakatutuki — The Ministry of Business, Innovation, and Employment
- Manatū Aorere — The Ministry of Foreign Affairs and Trade
- Manatū Hauora — The Ministry of Health
- Nga Pirihimana O Aotearoa — New Zealand Police

Joint briefing: Digital Economy and Communications and Statistics

Hon Dr David Clark
Minister for the Digital Economy and Communications
Minister of Statistics

Title: Options for consideration regarding trust and confidence in facial recognition technology

Date: 11 December 2020

Key issues

You met the Privacy Commissioner, John Edwards, on 7 December 2020 to discuss facial recognition technology use in New Zealand following the publication of the academic report *Facial Recognition Technology in New Zealand: Towards a Legal and Ethical Framework* (released 4 December 2020). This briefing identifies details regarding four options to progress in future. The Government Chief Privacy Officer and Government Chief Data Steward have identified two further options that you may also wish to consider.

This briefing is not an exhaustive analysis however it provides advice for your consideration, that officials would be happy to discuss with you at your convenience.

Action sought

Please **note** the contents of this briefing and **consider** consultation as an approach to inform your response to the report.

Please **consider** the options presented in this paper and discuss these options further with officials from the Digital Public Service branch of Internal Affairs, Stats NZ, and the Ministry of Justice.

Please **distribute** this paper to your Ministerial and Cabinet colleagues as you see fit.

Timeframe

At your convenience

Contact for telephone discussions (if required)

Name	Position	Direct phone line	After hours phone	Suggested 1 st contact
Ann-Marie Cavanagh	Deputy Government Chief Digital Officer	04 494 0620	s9(2)(a)	
Russell Cooke	Government Chief Privacy Officer	s 9(2)(a)	s9(2)(a)	✓
Dr Craig Jones	Deputy Government Statistician, Deputy Chief Executive, Data System Leadership, Stats NZ	04 931 4907	s9(2)(a)	

Return electronic document to: Daniel Anderson, Privacy Consultant, Daniel.Anderson@dia.govt.nz

[Redacted]

[Redacted]

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Purpose

1. The purpose of this briefing is to provide you with high-level advice on four options identified by the Privacy Commissioner to improve trust and confidence in the use of facial recognition technology (FRT) in the public service and private sector.
2. Officials from the Government Chief Privacy Officer (GCPO) and the Government Chief Data Steward (GCDS) have identified two further options for consideration.
3. This briefing provides material to support an initial discussion with GCPO, GCDS and Justice officials, and other interested Ministers, including the Minister of Justice.
4. Discussions you lead can set the direction for where officials should focus work to understand the risks posed by FRT and the gaps in existing regulation and practice.

Executive summary

5. The academic report titled *Facial Recognition Technology in New Zealand: Towards a Legal and Ethical Framework*¹ was released to the public on Friday 4 December 2020. You and the Privacy Commissioner, John Edwards, spoke to media on the day it was launched.
6. The report deals with how FRT interacts with several areas of law, including search and surveillance, law enforcement, evidence, human rights and privacy. This briefing focuses on privacy and data use.
7. You met the Privacy Commissioner on the afternoon of Monday 7 December 2020 to discuss options for responding to the recommendations in the report. In this meeting four options were raised:

7.1 s 9(2)(f)(iv)

7.2 s 9(2)(f)(iv)

7.3 s 9(2)(f)(iv)

7.4 s 9(2)(f)(iv)

8. Officials from the GCPO and GCDS have identified two further options:

8.1 s 9(2)(f)(iv)

8.2 s 9(2)(f)(iv)

9. Further work is needed on the report's findings and recommendations, including the risks posed by FRT and where the gaps are in existing regulation and practice. The briefing makes some initial observations on what may be involved for possible responses, such as:

¹ The lead author of this paper, Associate Professor Dr Nessa Lynch, is a member of the Data Ethics Advisory Group, convened by the GCDS.

- 9.1 What each of the options may look like and how to achieve it;
 - 9.2 What needs to be considered;
 - 9.3 Who needs to be consulted; and
 - 9.4 A realistic timeframe for how long each option may take.
10. Some options would involve changes to privacy policy, which falls within the responsibilities of the Minister of Justice. Other options focus more on behavioural change and improving practice within existing policy settings.
 11. We recommend that you discuss these options with officials from the GCPO, GCDS and the Ministry of Justice to inform next steps. We also recommend that you further discuss this matter with the Privacy Commissioner.

Facial recognition technology

Use and concerns in the public and private sector

12. FRT allows for the rapid identification of an individual. When used appropriately and responsibly, FRT can deliver significant benefit to New Zealand and New Zealanders, such as passports and border control.
13. Existing FRT use in the public service is controlled, monitored, and appropriate. We are not aware of any use of FRT in mass surveillance; expanded usage of the technology should require discussion with the Privacy Commissioner to ensure its use is proportionate and appropriate.
14. FRT use in the public service has brought cost savings, improved productivity, reduced fraud, and improved ease of access to services for citizens compared to previously-existing manual processes.
15. FRT services are embedded in some products such as using faces to unlock mobile phones. This use is separate to standalone FRT products and services used by the public service for a certain use case such as fraud detection, which is the focus of advice in this paper.
16. However, FRT also carries risk and is highly contentious. For example, there is the risk of identifying the wrong individual, and the Report highlighted use cases beyond New Zealand where FRT was used incorrectly and unethically.
17. For these reasons, and because FRT uptake will increase in the future, we must pay particular attention to the regulatory environment for FRT.
18. FRT use, especially in law enforcement, should be a tool to help a *human* make a decision, and not for FRT to be the ultimate decision-maker.

Work is underway to increase public trust and confidence in the government's use of personal data and new technologies

19. Public trust and confidence in government use of data and technology is an ongoing focus for system leads. The GCPO and GCDS are leading work to support this.
20. In 2018 the government undertook a review of how government agencies use algorithms to improve the lives of New Zealanders in the *Algorithm Assessment Report*. In response to recommendations from this report the GCDS has developed the Algorithm Charter, convened an independent Data Ethics Advisory Group, and begun

work to improve training and professional development for data analysts and decision-makers. Other work to increase integrity of data practices across government, for example Ngā Tikanga Paihere, contributes to public trust in government use of personal data.

21. The GCPO sets standards and issues guidance for agencies using personal information, and actively engages with public service departments and Crown Entities to uplift their privacy maturity. Good privacy maturity is important to improve public trust and confidence in the public service and is a foundational aspect of the Strategy for a Digital Public Service.
22. The private sector in New Zealand is also providing leadership in the responsible use of Artificial Intelligence (AI); s 9(2)(f)(iv) Private sector initiatives include the AI Forum of New Zealand releasing the *Trustworthy AI in Aotearoa, AI Principles* in March 2020.
23. There is an opportunity for work in this area to be further aligned and coordinated between agencies, Ministers and public stakeholders.
24. In addition, a new Privacy Act 2020 has just come into force. The Privacy Act applies to FRT as images of people are personal information. Any use of FRT or disclosure of facial images must comply with the Information Privacy Principles in the Act. If a public or private sector agency fails to comply with those principles in a way that harms an individual, that person can complain to the Privacy Commissioner.
25. The new Act strengthens privacy protections in New Zealand. The Act includes a new power for the Privacy Commissioner to issue compliance notices, which can require an agency (public or private) to do something to comply with the Act. Implementation of the Act has been supported with additional funding for the Office of the Privacy Commissioner to allow the Privacy Commissioner to take a more proactive approach.

What matters about FRT use in the public service?

26. From the academic report, officials have identified the following key things to consider in any work on FRT:
27. **Trust and confidence:** citizens must have trust and confidence that the public service is using FRT in a manner consistent with the law and society's expectations. Transparency is an important aspect to build trust and confidence.
28. **Assurance:** citizens must have appropriate assurance that the public service is using FRT only for the purposes the agency said it uses it for.
29. **Use and negating scope creep:** citizens must understand FRT's current use and its potential for the public service and the benefits it can produce. "Scope creep" must be controlled and prevented.
30. **Māoritanga:** Iwi Māori concerns about the use of FRT need to be understood and appropriate engagement with Māori treaty partners be undertaken. Moving too quickly with a response and without fully understanding the relevance and implications of FRT for Māori could create new issues including unintentionally embedding systemic inequalities.

31. **Direction of the digital economy:** FRT use can help facilitate progressing the growth of the digital economy, but the impact it can have must be better understood.

Next steps for building trust and confidence in FRT use

32. The release of the academic report creates an opportunity to build on existing system work. There is a clear role for government to be a leader in this space. Whether you wish to investigate regulatory or non-regulatory approaches further, it will be important that officials engage with the public. For example, a discussion document could be used as a vehicle for wider engagement, and this can include contributions from agencies that already use FRT.
33. It is important that the Government responds in a balanced and considered way, while maintaining momentum, as the capabilities of these new technologies will continue to advance. The impact of each option will not apply to government agencies equally.
34. The following section explores some options for a more detailed response. Some of the options respond directly or indirectly to recommendations from the academic report. Please note that the Minister of Justice is a key stakeholder for all of these options and we encourage discussion with the Minister and Ministry officials.

s 9(2)(f)(iv)

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40. s 9(2)(f)(iv)

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41. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

42. s 9(2)(f)(iv) [Redacted]

43. s 9(2)(f)(iv) [Redacted]

44. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

45. s 9(2)(f)(iv) [Redacted]

46. s 9(2)(f)(iv) [Redacted]

47. s 9(2)(f)(iv) [Redacted]

48. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

49. s 9(2)(f)(iv) [Redacted]

50. s 9(2)(f)(iv) [Redacted]

51. s 9(2)(f)(iv) [Redacted]

52. s 9(2)(f)(iv) [Redacted]

² *Ministers and Crown Entities*, section 3.35, Cabinet Manual 2017

53. s 9(2)(f)(iv) [Redacted]
[Redacted]
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s 9(2)(f)(iv) [Redacted]

54. s 9(2)(f)(iv) [Redacted]
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56. s 9(2)(f)(iv) [Redacted]
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57. s 9(2)(f)(iv) [Redacted]
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s 9(2)(f)(iv) [Redacted]

58. s 9(2)(f)(iv) [Redacted]
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59. s 9(2)(f)(iv) [Redacted]
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60. s 9(2)(f)(iv) [Redacted]
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61. s 9(2)(f)(iv) [Redacted]
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s 9(2)(f)(iv) [Redacted]

62. s 9(2)(f)(iv) [Redacted]
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63. s 9(2)(f)(iv) [Redacted]
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s 9(2)(f)(iv) [Redacted]

64. s 9(2)(f)(iv) [Redacted]

65. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

66. s 9(2)(f)(iv) [Redacted]

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- [Redacted]
- [Redacted]
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67. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

68. s 9(2)(f)(iv) [Redacted]

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69. s 9(2)(f)(iv) [Redacted]

70. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

71. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

72. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

73. s 9(2)(f)(iv) [Redacted]

74. s 9(2)(f)(iv) [Redacted]

75. s 9(2)(f)(iv) [Redacted]

76. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

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77. s 9(2)(f)(iv) [Redacted]

78. s 9(2)(f)(iv) [Redacted]

79. s 9(2)(f)(iv) [Redacted]

80. s 9(2)(f)(iv) [Redacted]

81. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

82. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

83. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv)

[Redacted text block containing multiple paragraphs of information, all obscured by grey bars.]

s 9(2)(f)(iv)

106. s 9(2)(f)(iv)

107. s 9(2)(f)(iv)

s 9(2)(f)(iv)

108. s 9(2)(f)(iv)

Next steps

- 109. Officials from the Digital Public Service branch including the GCPO and from Stats NZ including the GCDS would like to meet with you to discuss these options further.
- 110. Officials are able to meet with you at your convenience.

Recommendations

111. We recommend that you:

- a) **note** the contents of this briefing **Yes/No**
- b) **consider** consultation as an approach to inform your response to the report **Yes/No**
- c) **consider** the options presented in this paper and discuss these options further with officials from the Digital Public Service branch of Internal Affairs, Stats NZ, and the Ministry of Justice **Yes/No**
- d) **distribute** this paper to your Ministerial and Cabinet colleagues as you see fit **Yes/No**



Ann-Marie Cavanagh

Deputy Government Chief Digital Officer, Digital Public Service, Department of Internal Affairs



Dr Craig Jones

Deputy Government Statistician, Deputy Chief Executive, Data System Leadership, Stats NZ

Hon Dr David Clark
Minister for the Digital Economy and
Communications
Minister of Statistics

_____/_____/_____

Appendix A: Comparison table of the six identified options

#	§ 9(2)(f)(iv)				
1	§ 9(2)(f)(iv)				
2	§ 9(2)(f)(iv)				
3	§ 9(2)(f)(iv)				
4	§ 9(2)(f)(iv)				
5	§ 9(2)(f)(iv)				
6	§ 9(2)(f)(iv)				

Briefing to the Minister of Statistics: Fostering public trust and confidence in new and emerging uses of data and digital technology

Date	5 May 2021	Priority	Medium	Ref number	MM2043
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Timeline and next steps

Decision or action required by:	14 May 2021
Will be discussed at:	Meeting with Stats NZ officials on 4 May 2021
Purpose	<p>This briefing provides an update on the recent review of the Data Ethics Advisory Group, and proposes a suite of recommendations focussed on:</p> <ul style="list-style-type: none"> ▪ fostering increased public trust and confidence in the way government uses data and digital technology; ▪ positively influencing the level of trust in institutions more generally, including within the private sector; and ▪ championing the value of data and emerging technology
Linkages	<ul style="list-style-type: none"> ▪ Digital Strategy for Aotearoa ▪ Data Ethics ▪ Algorithm Charter ▪ MM1987 Supplementary Briefing to the Incoming Minister of Statistics: Data System Leadership initiatives
Publicity	<ul style="list-style-type: none"> ▪ If appropriate, this briefing will be proactively published on Stats NZ's website as per standard practice

Recommended action

Stats NZ recommends that you:

1. **Agree** in principle to:

a. s 9(2)(f)(iv) [Redacted]

AGREE / DISAGREE

b. s 9(2)(f)(iv) [Redacted]

AGREE / DISAGREE

c. s 9(2)(f)(iv) [Redacted]

AGREE / DISAGREE

d. s 9(2)(f)(iv)

AGREE / DISAGREE



Dr Craig Jones
**Deputy Government Statistician &
Deputy Chief Executive - Data System
Leadership, Stats NZ**

Hon Dr David Clark
**Minister for the Digital Economy &
Communications, Minister of
Statistics**
Date:

Growing awareness about the critical nature of trust

2. Public trust in the way that data and new technology are being used is becoming an increasingly important consideration for many governments and institutions. A high level of trust is considered critical to the development and uptake of digital technology, and the limitations that a lack of trust can place on innovation are widely acknowledged.
3. Awareness about the critical nature of trust is continuing to build. Late last year, the ten Digital Nation member states (of which New Zealand is one) signed the updated Digital Nations Charter – committing to a set of principles for the design, development and deployment of digital technology, particularly in the use of data and artificial intelligence. The principles include a commitment to ensure:
 - that adequate and necessary safeguards are in place to uphold public trust and protect personal data; and
 - that work is guided and underpinned by effective ethical, legal, and human rights frameworks.
4. Two recent research reports, *‘Facial Recognition Technology in New Zealand: Towards a Legal and Ethical Framework’*¹ and *‘Towards Trusted Automated Decision-Making’*² have further highlighted the need to foster trust in the way that we use technology, and to provide New Zealanders with greater assurances and protections.
5. Since the publication of these reports, there has been coverage within the media of biometric technology and its uses, including the potential use of emerging technologies by the New Zealand Police. The wider context involves international media coverage highlighting the risks of, and potential harms resulting from, cyber security events, inappropriate surveillance, misuse of personal data, misinformation, algorithmic bias, and a lack of transparency.
6. Stats NZ’s recent exploratory work on the lessons learned from COVID-19 has also identified the need to provide strengthened support for government agencies to navigate ethical issues when it comes to data sourcing and use.
7. In addition to wider community interests in the safe and ethical use of data, there is growing awareness among government agencies of the data needs and aspirations of tangata whenua. Stats NZ and the Data Iwi Leaders Group have initiated a co-design process to establish a Māori Data Governance model. This will enable iwi and Māori to have greater decision-making over how their data are collected and used. This will be underpinned by processes and structures that establish trust between parties.

Your portfolio responsibilities for the ethical use of data

8. The Government Chief Data Steward (GCDS) leads the government data system, empowering government agencies to use data more effectively while maintaining the trust and confidence of New Zealanders. The trust element has become a recent focus for the GCDS as new and emerging uses of data become more commonplace. As per your appointment letter from the Prime Minister, the GCDS’s functions form part of your portfolio responsibilities.

¹ The Law Foundation New Zealand - November 2020. Nessa Lynch, Liz Campbell, Joe Purshouse, Marcin Betkier

² Digital Council for Aotearoa - Report | 2021-04-16 |. Mitchell Pham (Chair), Colin Gavaghan, Kendall Flutey, Marianne Elliott, Nikora Ngaropo, Rachel Kelly and Roger Dennis

9. Your Statistics portfolio includes responsibility for overseeing the stewardship of data held on behalf of New Zealanders. This includes championing data as a strategic asset, and taking a strategic view of how data is collected, used and re-used across New Zealand – with a focus on trusted use. Trusted use involves providing others, both within and outside government, with confidence to share and use data in such a way that upholds social licence.

Review of the Data Ethics Advisory Group

10. The Data Ethics Advisory Group was established in September 2019 by the GCDS to enable government agencies to test ideas, policy, and proposals related to new and emerging uses of data.
11. At the time of establishment, it was determined that the operation and membership of the Group should be reviewed after one year to ensure that the Group was achieving its aims.
12. An external review of the group was completed late last year and concluded that a revised focus was needed, given the relatively low uptake by agencies to seek or implement the group's advice.
13. s 9(2)(f)(iv)

Regulatory landscape for the use of data and emerging technology

14. Cross-agency work has been undertaken to understand the legislative and regulatory framework that applies to emerging technology and the use of data – both within and outside of government.
15. The current legislative and regulatory framework is considered sufficient by many in regard to the protections and redress it provides within the areas of:
 - individual privacy and data protection;
 - human rights and the conduct of government;
 - interpersonal and criminal harms; and
 - copyright.
16. s (9)(2)(g)(i). Beyond the Data Ethics Advisory Group, there are a series of frameworks to guide best practice, including the Privacy, Human Rights and Ethics Framework (developed by the Ministry for Social Development); the Algorithm Charter for Aotearoa, and Ngā Tikanga Paihere – providing guidance on safe, responsible, and culturally appropriate use of data (developed by Stats NZ); and the Data Protection and Use Policy (developed by the Social Wellbeing Agency).
17. Outside of government, there are pockets of good practice, but many large firms that are considered critical to growth within the digital economy still have not embedded ethical principles into their data operations and decision-making. There is also a lack of acknowledgment that a loss in trust and confidence in one organisation's data practice will limit progress and innovation across the board.
18. There is no suggestion that agencies or businesses routinely use data in unethical ways but there have been instances where social licence boundaries have been breached. It will be important for the regulatory environment to keep pace as data and digital technologies continue to proliferate.

Proposal to establish a new suite of measures to uphold public trust

Aim

19. The public service is at the centre of concerns about data and technology ethics in two ways: Government holds a significant amount of data about New Zealanders; it also regulates the use of data both within, and outside, government.
20. The proposals in this paper are aimed towards:
 - increasing public trust and confidence in the way government uses data and emerging technology;
 - positively influencing the level of trust in institutions more generally, including within the private sector; and
 - fostering an environment where the value of data and emerging technology can be realised.

Proposals

21. A multi-tiered approach is considered the most effective way to escalate the importance of, and embed, ethical practice.

22. s 9(2)(f)(iv)

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- [Redacted]
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- [Redacted]

Links with the Digital Strategy for Aotearoa

23. You may wish to consider whether these proposals could form a key initiative under the trust theme of the Digital Strategy for Aotearoa, in addition to delivering on the GCDS's trust work programme.

24. s 9(2)(f)(iv)

[Redacted]

25. To strengthen the suite of initiatives, early discussions are also underway between relevant agencies to consider:

- s(9)(2)(f)(iv)

[Redacted]

- s(9)(2)(f)(iv)
- s(9)(2)(f)(iv)

An overview of the type of ethical issues arising

In scope of proposals – a focus on data

The ethical use of data

- Algorithmic bias in decision making and the potential for discrimination
- Lack of explainability about how data is used to inform decisions
- Governance of the data collected and how it's used
- Māori data governance and genuine alignment with Te Tiriti principles
- Consent and mass collection of data
- Problematic AI and data use
- Technology that presents concerns around accuracy, bias, data retention and sharing (i.e. FRT uses algorithms to assess similarities between faces)
- Hyper-personalised risk assessments using predictive modelling
- New forms of nudging

Out of scope of proposals

- Smart technology*
- Autonomous vehicles

- Harmful digital content*
- The dissemination of fake news
 - Social media regulation
 - The sharing of deep fakes
 - Data driven tools to target social media content, news, and marketing.

- Inclusivity*
- Software development and design for inclusion

26. s 9(2)(f)(iv)

s 9(2)(f)(iv)

27. s 9(2)(f)(iv)

s 9(2)(f)(iv)

28. s 9(2)(f)(iv)

- s 9(2)(f)(iv) [Redacted]
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s 9(2)(f)(iv) [Redacted]

29. s 9(2)(f)(iv) [Redacted]

30. s 9(2)(f)(iv) [Redacted]

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31. s 9(2)(f)(iv) [Redacted]

32. s 9(2)(f)(iv) [Redacted]

s 9(2)(f)(iv) [Redacted]

33. s 9(2)(f)(iv) [Redacted]

34. s 9(2)(f)(iv) [Redacted]

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35. s 9(2)(f)(iv)

36. s 9(2)(f)(iv)

s 9(2)(f)(iv)

37. s 9(2)(f)(iv)

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38. s 9(2)(f)(iv)

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- [Redacted]

s 9(2)(f)(iv)

39. s 9(2)(f)(iv)

s 9(2)(f)(iv)

40. s 9(2)(f)(iv)

Operationalising the Algorithm Charter

41. Twenty-six public sector agencies are signatories to the Algorithm Charter and we are aware of some significant shifts in practice since the Charter was introduced. However, we are also aware that some agencies have struggled to work through what practical changes need to be made to give effect to the Charter's purpose. We will be formally reviewing Charter implementation in July 2021 and it is likely that some practical guidelines for implementing the Algorithm Charter will be required to further embed practice.
42. A practice manual could be developed which provides practical tools, articulates best practice from around the globe, provides a framework for operationalisation, cites case studies, and sets indicators for success. There may be other shifts required and these will be investigated as part of the review of the Charter.
43. This work will be undertaken within Stats NZ's baseline.

s 9(2)(f)(iv)

s 9(2)(f)(iv)

s 9(2)(f)(iv)

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- | [Redacted]

Consultation

48. Consultation on this paper has been carried out with members of the cross-government Tier 2 Analytics Group, the cross-agency Information Group, the Office of the Government Chief Digital Officer, the Government Chief Privacy Officer, and the inter-agency group working on the Digital Strategy for Aotearoa.
49. After discussion with you, consultation is planned with the Prime Minister's Chief Science Advisor and a wider set of government agencies.

Next steps

50. Stats NZ officials are available to discuss these proposals further with you at the Officials meeting of 11 May.

Report to the Minister of Statistics
Long-term Insights Briefing: The exponential growth of data and data-driven technologies

Date	25 August 2021	Priority	Medium	Ref number	MM2087
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Timeline and next steps

Decision or action required by:	No decision required
Purpose	<p>This briefing:</p> <ul style="list-style-type: none"> • provides an overview of the legislative requirements for public service departments to publish a Long-term Insights Briefing (the Briefing); • outlines the purpose of, and features required from, the Briefing; • provides a high-level overview of Stats NZ's chosen Briefing topic; and • sets out the process Stats NZ will follow to deliver its first Briefing next year.
Publicity	This briefing will be proactively released on the Stats NZ website

Recommended action

It is recommended that you:

1. **Note** that Stats NZ intends to publish a Long-term Insights Briefing on the exponential growth of data and data-driven technologies, fulfilling the department's obligations under Schedule 6 of the Public Service Act 2020. **NOTED**
2. **Note** that Stats NZ intends to publicly consult on the topic and scope of the briefing during September, subject to advice on undertaking consultation during Level 4 lockdown. **NOTED**
3. **Note** that a completed briefing will be provided to you in June 2022 ahead of select committee consideration, however updates on progress can be provided across different stages of development if you wish. **NOTED**

4. **Forward** this briefing to the Associate Minister of Statistics, Hon Meka Whaitiri

YES / NO



Dr Craig Jones
**Deputy Government Statistician &
Deputy Chief Executive - Data System
Leadership, Stats NZ**

Hon Dr David Clark
Minister of Statistics

Date:

Hon Meka Whaitiri
Associate Minister of Statistics

Date:

Legislative requirements to publish a Long-term Insights Briefing

1. Long-term Insights Briefings are a new requirement for departments under the Public Service Act 2020, and are part of the public sector's duty of stewardship to look at future challenges and opportunities for New Zealand.

Briefing purpose

2. The purpose of the Briefings is to make available in the public domain:
 - information about medium and long-term trends, risks and opportunities that affect or may affect New Zealand and New Zealand society; and
 - information and impartial analysis, including policy options for responding to these matters.
3. The Briefing provides a platform for identifying and exploring the issues that matter for the future wellbeing of the people of New Zealand. DPMC describes the Briefings as an opportunity to enhance public debate on long-term issues and usefully contribute to future decision making – not only by government but also by Māori, business, academia, not-for-profit organisations, and the wider public.
4. The Act requires departments to publish a Briefing once every three years, with the first suite of Briefings due next year.

Briefing development is independent of Ministers

5. The requirement to publish a Briefing is a statutory duty placed on departmental chief executives, and is independent of Ministers. The Briefings are think-pieces on the future, not government policy, and therefore differ from the advice that the public service provides Ministers, or the accountability and planning documents prepared for Parliament. The Briefing will not indicate a preference for a particular policy option.

Overview of Briefing topic: Growth in data and data-driven technologies

Growth in data is considered a strong candidate for exploration as a long-term trend

6. Data and data-driven technology is increasingly being used in new and emerging ways – often attributable to the decline in the cost of data collection, storage and processing, leading to the generation and use of huge volumes of data (commonly referred to as “big data”).
7. While this technology has the potential to drive social and economic value, there is also the potential for misuse. As you are already aware, an essential consideration for governments, businesses and civil society is how these technologies are harnessed and regulated to accelerate growth, encourage innovation and build resilience.
8. These Briefings provide a good platform for complex issues with high levels of ambiguity and change, and where there are active champions willing to challenge assumptions and influence the policy area. This describes the data system - where technology development is fast-paced, innovative and in some cases revolutionary, and where some aspects - such as artificial intelligence, do not easily fit into existing regulatory frameworks.

The focus for the briefing is on horizon scanning with a view to long-term benefits for society

9. There is a connection between this Briefing topic and the work commissioned on advisory and redress options for data ethics. It is important to note that this Briefing covers a broader subject area and is focussed on the drivers of change over the next ten years, including exploring the implications of future change for decision-making today. The objective is to help inform strategic priorities for future policy agendas. However, any

relevant and topical insights generated through consultation on the Briefing, can be fed through and inform policy work on data ethics if desired.

Proposed subject areas

10. The intended scope for the Briefing includes:

- the expected changes in society and the economy of an increasingly sophisticated data landscape (potentially using the pandemic as an example of acceleration in this space) and considering aspects such as:
 - the growing pervasiveness of modern technology – and what this means for society; and
 - the interconnectedness and dynamic nature of data – and what this means for our knowledge economy i.e., science and innovation;
- how New Zealand can best maintain and leverage the benefits of data – focusing on the role of data in:
 - innovation and growth, and the role of large datasets as economic assets which foster new industries, processes and products – creating significant competitive advantages;
 - well-being and social connectivity;
 - democratic activity and government policymaking; and
 - employment and delivering greater value via the use of data to automate and optimise processes, and to deliver innovative solutions;
- the risks of data and data-driven technologies gaining prominence within society, including:
 - the risk of exceptional intrusiveness (with personal data held on multiple databases);
 - potential harms associated with automated decisions– including discrimination and bias, disempowering individuals or particular groups, and harms to dignity and autonomy and the associated social effects;
 - the role of trusted data sources at a time where dis/mis-information is increasingly undermining trust and democracy;
- a focus on issues important to Māori and other population groups (e.g., potentially including how ownership and responsibilities are defined, new digital divides, and inclusivity in data).

Process

11. While Briefings are to be developed independently to Ministers, departments are required to keep Ministers informed and work to the ‘no surprises’ convention.
12. As Minister of Statistics, you are required to present the Briefing in the House as soon as reasonably practicable after receiving it from Stats NZ. The following summary outlines the proposed timeframes for the Briefing:

Action	Timing
Public consultation on topic and proposed scope	September 2021
Publication of consultation summary and response (on topic/scope)	October 2021
Draft briefing to be provided to your Offices	March 2022
Public consultation on Briefing	April – May 2022
Publication of consultation summary and response (on Briefing)	June / July 2022
Present Briefing to the Minister of Statistics	June 2022

13. Advice is currently being sought to determine any requirements for consultation undertaken during Level 4 lockdown. This may impact timeframes.
14. Consultation on the content of the Briefing will be undertaken extensively with Māori and with the Data Iwi Leaders Group during the public consultation planned for April and May 2022. The views of the Data Iwi Leaders Group on the topic and scope will be sought next month.
15. Once consultation on the topic and scope is complete. Stats NZ will report to a dedicated public sector leadership group with any changes.

Next steps

16. Officials are developing the scoping document to publicly consult on. A copy will be provided to your Offices ahead of consultation.

Briefing to the Minister of Statistics:

Strengthening public confidence in the ethical use of data

Date	16 September 2021	Priority	Medium	Ref number	MM2096
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Timeline and next steps

Will be discussed at:	DEC Officials meeting of 20 September 2021 (closed item).
Purpose	<p>This briefing provides advice about strengthening data ethics and innovation capability in New Zealand, with a focus on strategic policy, assurance, and advice.</p> <p>This paper follows the previous briefing: <i>Establishing a Data Ethics Commissioner Function</i> (Ref 2073), dated 4 August, and responds to your request for advice about progressing a model similar to the Centre for Data Ethics and Innovation in the United Kingdom.</p>

Recommended action

Stats NZ recommends that you:

- Note** that issues in relation to data use and data-driven technology are novel, complex, fast moving and far reaching, and there is a need to strengthen strategic policy, assurance and advisory functions to keep pace with rapidly developing technologies. **NOTED**
- Note** this briefing provides options for your consideration which build on previous discussions and aim to instil public confidence in the use of data. **NOTED**
- Agree** to a set of options focused on strengthening data ethics and innovation capability in New Zealand, including:
 - s 9(2)(f)(iv) [REDACTED] AND/OR **AGREE/DISAGREE**
 - working to improve public sector capability by strengthening the mandate of the Government Chief Data Steward; AND/OR **AGREE/DISAGREE**
 - reviewing current institutional arrangements to consider whether there is benefit in coordinating different levers and programmes from across government. **AGREE/DISAGREE**

PP 

Dr Craig Jones
Deputy Chief Executive Data System
Leadership
Stats NZ

Hon Dr David Clark
Minister of Statistics
Date:

Background

1. Over the last six months, we have undertaken work to explore different options for establishing new settings and capability mechanisms for the ethical use of data.
2. This paper follows previous briefings that have covered:
 - s(9)(2)(f)(iv) [redacted]
 - s(9)(2)(f)(iv) [redacted]
 - s(9)(2)(f)(iv) [redacted]
 - s(9)(2)(f)(iv) [redacted]
 - s(9)(2)(f)(iv) [redacted]
3. The last of these papers was discussed at the Officials meeting of 9 August. s 9(2)(f)(iv) [redacted]
[redacted] At this meeting you sought further information and advice about a model akin to the Centre for Data Ethics and Innovation (CDEI) in the United Kingdom.

The Centre for Data Ethics and Innovation in the United Kingdom

4. In response to the shift towards an increasingly data driven economy, the Centre for Data Ethics and Innovation (CDEI) was established in the UK in 2018. The need to build trust arose through the rapidly evolving and unfamiliar ethical issues that came with new data uses, which were posing a risk to public and business confidence in innovation.
5. The CDEI is tasked with:
 - providing advice on the ethical and innovative deployment of data and AI;
 - identifying measures needed to strengthen and improve the way data and AI are used and regulated (including articulating best practice and advising on how to address potential gaps in regulation); and
 - convening communities and expertise to provide an overview of, and insight about, opportunities and risks.
6. A key characteristic of the CDEI is the expectation that it appropriately balances objectives for both ethical and innovative uses of data to ensure they deliver the greatest benefit for society and the economy.
7. While not established by statute, the UK Government has committed to putting the CDEI on an “independent statutory footing” as it demonstrates its value over the years, and as the opportunities and ethical challenges posed by digital technologies emerge further. The CDEI does not have a role in regulating the use of data and AI - its role is to help ensure that those who govern and regulate the use of data across sectors do so effectively.

8. The CDEI model operates as its own office with approximately 50 staff and is government funded.

What functions are needed in New Zealand?

Current context – roles and responsibilities

9. Responsibilities for fostering the ethical and innovative use of data are spread across several roles including:
 - the Government Chief Data Steward (Stats NZ), who is responsible for empowering government agencies to use data more effectively while maintaining the trust and confidence of New Zealanders;
 - the Government Chief Privacy Officer (DIA), who is responsible for improving privacy maturity and capability across the public sector;
 - the Privacy Commissioner (Independent Crown Entity, administered by the Ministry of Justice) who is responsible for a wide range of functions specified in the Privacy Act 2020, which include public statements on matters affecting privacy; investigating complaints about privacy breaches; and promoting an understanding of the privacy principles; and
 - MBIE's role in, and work programme focused on, supporting the uptake and smart use of ICT across the economy through trust-focused policy initiatives, such as **s 9(2)(f)(iv)** and work to establish a Consumer Data Right.
10. Each of these agencies have significant work programmes in place which aim to deliver improved ethical use of data. A description of these initiatives is included in Appendix One, but notable programmes include: the Algorithm Charter for Aotearoa New Zealand; the Cross-government Biometrics Group; the Consumer Data Right legislative framework, **s 9(2)(f)(iv)**.

There is a need to strengthen functions to keep pace with rapidly developing technologies

11. While we have the benefit of well-established protections for the privacy of personal data, there is still inconsistency in data ethics practice across the public and private sectors, and there is no one home that is responsible for balancing ethics and innovation goals.

Objectives

12. Issues in relation to data use and data-driven technology are novel, complex, fast moving and far reaching. This advice is formed around the objectives and functionality you described at the Officials meeting of 9 August. The overriding objective you provided is to set a regime which instils public confidence. To do this, it is important that any work in this area:
 - has public visibility through a strong identity – with well-known and accepted ethics and innovation goals and expertise;
 - provides assurance and protections against unethical use;
 - champions mutually reinforcing ethical and innovative goals for data use; and
 - can be scaled towards regulatory functions over time.

Functions

13. The functions needed to deliver on these goals are outlined in the table over the page.

Function	Description
Articulating best practice	<p><i>Support to maximise the benefits of data in an ethical way</i></p> <p>Advice on best practice including issuing ethical principles, codes of conduct, and ethics frameworks.</p> <p>Building capability through communities of practice, training, and issuing tools for improving skills and awareness.</p> <p>Expert advice on request.</p>
Advising on areas where action is needed	<p><i>Providing the public with a high degree of assurance that issues are being appropriately canvassed</i></p> <p>Advice to Ministers and regulators on the implications of data uses and areas of potential harm as they are emerging.</p> <p>Identifying guidance and regulation gaps to ensure practice keeps pace with developments in data-driven technologies.</p>
Embedding te ao Māori perspectives into the way data is managed	<p><i>Strengthening the way te ao Māori needs and interests are reflected in data and data-driven technology</i></p> <p>Embedding te Tiriti and te ao Māori principles in approaches to data ethics issues.</p> <p>Acting as a champion for the consideration of Māori perspectives and ensuring that conversations about data ethics are accessible from a te ao Māori lens.</p> <p>Advice on how to develop systems in a way that incorporates te ao Māori, respects Māori data sovereignty and empowers Māori as kaitiaki of their own data.</p>
Engagement to build the profile of ethical innovation	<p><i>Creating an environment for ethical innovation to grow</i></p> <p>Championing the value of data and data-driven technology, increasing awareness and promoting an understanding of the potential impacts and benefits.</p> <p>Facilitating discussion with industry and civil society about data ethics as an enabler of positive innovation.</p>
Assurance	<p><i>Highlighting public expectations to industry and engaging with the public about the trustworthiness of data and data-driven systems</i></p> <p>Engaging closely with the public to understand the broader societal attitudes towards data and AI use and the public values that our governance measures should promote and protect.</p> <p>Providing comment on how safe and ethical data use can be facilitated further.</p>

Options for delivering functions that support ethics and innovation

14. In addition to **s 9(2)(f)(iv)**, other measures are outlined below which, when combined, would provide for a concentrated and significant effort across both the public and private sector, and deliver to the goals set out above. This set of options includes:

s 9(2)(f)(iv)

[Redacted]

Option two:

Strengthening the mandate of the Government Chief Data Steward to improve public sector capability in data ethics and innovation.

s 9(2)(f)(iv)

[Redacted]

15. Together these options will signal the government's commitment as a leader in creating an environment for ethical innovation to thrive.

s 9(2)(f)(iv)

s 9(2)(f)(iv)

[Redacted]

18. s 9(2)(f)(iv)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

19. s 9(2)(f)(iv)

[Redacted]

20. s 9(2)(f)(iv)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Next steps

26. We will commence work on your preferred option, including undertaking detailed costing work, developing a business case for investment and working through how the preferred option connects with existing roles.

27. s(9)(2)(f)(iv) [Redacted]

28. s(9)(2)(f)(iv) [Redacted]

Appendix One – Work underway

Item	Description	Lead
Algorithm Charter for Aotearoa New Zealand	The Algorithm Charter aims to increase transparency and accountability of government agencies when using algorithms. Twenty-six public sector agencies are signatories to the Charter and significant shifts in practice have occurred since the Charter was introduced in 2020.	Stats NZ
s 9(2)(f)(iv)	[Redacted]	
s 9(2)(f)(iv)	[Redacted]	
Ngā Tikanga Paihere Guidelines	These guidelines draw on te ao Māori concepts to guide and inform the way goals, boundaries, and principles are set when it comes to data practice.	Stats NZ
Māori Data Governance	Work is underway to co-design a model for data governance which embeds te ao Māori needs and interests in data.	Stats NZ
Consumer Data Right	Introduction of a Consumer Data Right will give individuals and businesses greater choice and control over their data, by implementing a new legislative framework that allows consumers to securely share their data.	MBIE
s 9(2)(f)(iv)	[Redacted]	
Digital Identify Trust Framework	This framework will provide for the development of secure, trusted, and people-centred digital identity services.	DIA
s 9(2)(f)(iv)	[Redacted]	
World Economic Forum Playbook for large scale engagement	This playbook provides a framework and guidance on how to run a national, widespread conversation with all stakeholders, seeking social licence and building trust in the process.	MBIE

**Memorandum to the Minister of Statistics:
Update on the Royal Commission of Inquiry into the Terrorist Attack on
Christchurch Masjidain Recommendation 32**

Date	17/11/2021	Priority	L	Reference	2144
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Purpose

To update you on Stats NZ's progress and next steps on responding to Recommendation 32 of the Royal Commission of Inquiry into the Terrorist Attack on Christchurch Masjidain (Royal Commission).

Background

1. On 24 November, Hon Andrew Little, the Lead Coordination Minister for the Government's Response to the Royal Commission of Inquiry into the Terrorist Attack on Christchurch Masjidain, will update the Cabinet Social Wellbeing Committee (SWC) on the progress the Government has made in response to the Royal Commission recommendations.
2. Since the last report back to Cabinet in March 2021, considerable cross-government progress has been made towards short term priorities. This report back focuses on medium- to long- term programmes of work. It is seeking Cabinet's agreement that the 44 recommendations of the Report be either implemented or part of an agencies' ongoing activities by 2023.
3. Stats NZ is the lead agency responding to Recommendation 32 of the Royal Commission, in partnership with the Ministry for Ethnic Communities. Recommendation 32 states:
"Require Public sector agencies to prioritise the collection of data on ethnic and religious demographics to support analysis and advice on the implications of New Zealand's rapidly changing society, inform better policy making and enhance policy evaluation".
4. This recommendation is only briefly mentioned in an attachment to the Cabinet paper, so is unlikely to be the focus of Cabinet discussion. Notwithstanding, it is timely to provide you with an update on Stats NZ's progress towards implementing the Recommendation.

Progress on Recommendation 32

5. As set out below, Stats NZ is taking a separate approach to the ethnic demographic data and religious demographic data elements of the Recommendation.

Work underway to prioritise the collection of ethnic demographic data

6. Information on ethnicity is already collected widely across the public sector. However, it is not collected, managed, or used across government in a consistent manner. This inconsistency limits the quality of the data, constraining the data's value and impacting policy analysis. To address this, Stats NZ is in the process of developing a new mandated ethnicity standard which will require agencies to collect data in a consistent way, making the data more useful.
7. Work is underway to scope a review of the existing Stats NZ ethnicity standard. The scoping of the review will be completed next month and the review itself will begin in early-2022 and is expected to take a year to complete. By the end of the year, Stats NZ will have worked with other agencies to determine whether an updated version of this standard will become the mandated standard, or whether an entirely different standard is needed. The updated standard is intended to provide better guidance to the data system and more accurately reflect the diverse ethnicities in New Zealand.

Work underway to prioritise the collection of religious demographic data

8. There are two parts to responding to the religious demographic data component of the recommendation. Firstly, Stats NZ has work underway to determine what specific religious affiliation data would be helpful to inform evidence-based policy analysis and decision making. Secondly, Stats NZ must carefully manage the sensitivities associated with any new collection, use and storage of religious data.

Establishing the government need

9. Information on religion is not widely collected across government. Religious affiliation data is collected in the five-yearly Census of Population and Dwellings (on an opt-in basis). Religious information does not appear elsewhere in the Integrated Data Infrastructure or in any other major datasets held by other agencies.
10. Initial discussions across the government data system did not fully establish where government agencies would use more religious data to inform policy making, or the regularity of data collection that they would require. Therefore, before proceeding to public consultation, Stats NZ is undertaking further consultation with the policy functions in over 50 government agencies to seek these answers. This will provide a clear picture of why government would collect religious demographic data, what type of data government agencies would find useful, and how this data would be used to inform better policy making. This consultation will be completed by the end of November.

Community consultation and managing the sensitive nature of this data

11. In December, Stats NZ, with guidance from the Ministry for Ethnic Communities, will consider the most appropriate mechanism to engage with individuals and communities on this issue, in line with the results of the agency consultation. Given the sensitivities involved in collecting, storing, and using religious data, any public consultation would test whether communities feel comfortable about the government collecting more religious demographic data; the type of information that they would be comfortable providing, and the circumstances; and how they think the government could use religious data to inform better policy making.
12. Given the sensitive nature of this work, Stats NZ may engage with academics or a consultant to design an appropriate consultation mechanism in early-2022.

Next steps

13. Following November's Cabinet SWC meeting, Minister Little plans to report back to Cabinet again in the first half of 2022 with proposals for a monitoring and evaluation framework to track the Government's response progress, and again by the end of 2022 with an update on the implementation of the response. We will keep you informed on our progress towards responding to Recommendation 32 alongside these Cabinet updates.

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 Tatauranga 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 19 December 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 \(unctad.org\)](#)

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](#)

⁴ World Economic Forum (2021). Data-driven Economies: Foundations for Our Common Future. [WEF WP DCPI 2021.pdf \(weforum.org\)](#)

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 **Sunday 19 December 2021** and can be:

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

**Aide memoire to the Minister of Statistics:
Update on the Long-term Insights Briefing: Data as a driver of national competitive advantage**

Date	25 November 2021	Reference number	MM 2152	Priority	M
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Purpose

1. Attached to this aide-memoire is a copy of the consultation document for Stats NZ's proposed Long-term Insights Briefing (LTIB) topic, for your information.

Background

2. Long-term Insights Briefings are a new requirement for departments under the Public Service Act 2020 (the Act), and form part of the public sector's duty of stewardship to identify and look at future challenges and opportunities for New Zealand.
3. We previously briefed you on our intended topic and high-level overview of the focus areas in August 2021. At the time you asked to be kept abreast of progress.
4. We are now undertaking public consultation (as required by the Act) on our proposed LTIB topic, "*Data as a driver of national competitive advantage – fostering improved well-being and economic growth*". Through consultation, feedback is being sought on:
 - the proposed topic and focus areas, including whether these are issues the public would consider valuable for further exploration
 - whether there are any additional focus areas, opportunities, or implications that should be considered.

Proposed focus areas of the LTIB

5. The following areas of focus form the structure and proposed content of the LTIB consultation document:
 - *The future of data*
Under this focus area we will explore how data is increasingly being viewed as an asset – both as a driver of public benefit and economic growth. We will also explore how data powers the development and adoption of new technologies, such as Artificial Intelligence.
 - *Combining data to create value*
This focus area will look at the power of integrated and linked data to create greater insight; enabling both social and economic value and helping to drive real competitive advantage for the New Zealand economy.
 - *The importance of trust and transparency*
Under this focus area we explore how trust and transparency are critical foundations underpinning technology acceptance and adoption. Without this ethical basis, the benefits of data driven innovation, powered by a free-flowing data system, cannot be fully realised. Māori data sovereignty will also be explored as a key component of trust.
 - *The potential role of government to support the use of data to drive social and economic wellbeing*
This focus area will explore how the levers of government can be used to effect greater change and unlock the power of data, including how government can lead by example.

Next steps

6. The consultation period closes on 19 December 2021. Submissions will then be reviewed and fed into the process for developing the full LTIB.
7. We will provide you with a progress update in early 2022.
8. A copy of this aide-memoire and the consultation document for Stats NZ's proposed LTIB topic has also been provided to the Associate Minister of Statistics.