Stats NZ
Tatauranga Aotearoa

Report to the Minister of Statistics:
Releasing the Algorithm Charter

Date	9 July 2020	Priority	Medium	Ref number	MM1970

Timeline and next steps

Decision or action required by:	13 July 2020
Will be discussed at:	Officials' meeting on 13 July 2020.
Purpose	▪ The purpose of this briefing is to provide an update on the development of a voluntary algorithm Charter (the Charter) and seek your agreement for it to be released during Techweek 2020 (27 July-2 August).
Linkages	▪ The Charter is part of the wider algorithm transparency work that also includes a workforce capability initiative. ▪ This work delivers on our Open Government Partnership commitment to increase the transparency and accountability of how government uses algorithms.
Publicity	▪ A draft communications plan is attached outlining our proposed approach to publicity regarding the Charter. ▪ If appropriate, this briefing will be proactively published on the Stats NZ website as per standard practice.

Recommended action

It is recommended that you:

1. **Note** that Stats NZ has revised the Charter to include a risk-based approach to prioritising which algorithms are focused on by agencies. This responds to the key issue of scope raised both through public consultation and in discussions with agencies

NOTED

2. **Note** that while Stats NZ believe this flexible approach will achieve the aim of signalling a public commitment to the responsible use of algorithms, a small number of government agencies and some members of the public are likely to believe more specificity is required

NOTED

3. **Note** that Stats NZ intend to review whether the Charter is achieving its intended aims one year after it takes effect

NOTED

4. **Agree** to release the Charter during Techweek 2020 (27 July-2 August)

AGREE / DISAGREE

5. **Note** the appended draft communications plan to support the release of the Charter.

NOTED

6. **Agree** to share this briefing with all Ministers.

AGREE / DISAGREE

Dr. Craig Jones
Deputy Government Statistician and Deputy Chief Executive - Data System Leadership
Stats NZ

Hon James Shaw
Minister of Statistics
Date:

Background

1. The development of an algorithm Charter was endorsed by Data and Digital Ministers in June 2019. Officials have since consulted with the public and other government officials on a draft Charter, and made updates in response to a wide range of feedback [MM1859, MM1882 and MM1933 refer].
2. This work was delayed due to the COVID 19 lockdown and the necessity of focussing on a cross-government pandemic response. Following the lockdown, we have again been able to progress discussions across government on releasing the Charter.

A risk-based approach to the Charter responds to concern about definitions

3. A key issue raised both through public consultation and in discussions with agencies has been the definition of what would be within the scope of the Algorithm Charter, based on the definition of 'algorithms.' To acknowledge the complexity of this issue, we have included a brief discussion as part of the front page of the Charter, referencing other sources.
4. A number of public submissions are concerned that creating an artificial definition, such as 'operational algorithms' used for the algorithm assessment report, could suggest that agencies are not extending good practice to all of their advanced data processes.
5. Many government agencies are concerned that adopting too broad a scope would incur significant compliance costs for signatories and stifle innovation in the use of technology to deliver public services.
6. As we discussed with you on 15 June 2020, we have now developed a final version of the Charter which strikes a balance between these concerns, through the application of a risk matrix. This enables agencies to make a self-assessment for each algorithm, or group of algorithms, based on the probability of a negative impact occurring, and the severity of the impact. Based on this assessment the Charter provisions either could, should, or must be applied.
7. We believe this flexible approach responds to most of the concerns that have been raised in relation to scope and allows agencies to focus on those algorithms assessed to pose significant risks of unintended harms on New Zealanders.
8. Most of the agencies that we have been working with support this approach and many have indicated their willingness to sign the Charter when it is released.

Some concerns remain about risk matrix definitions

9. While most of the agencies we have been working with support the Charter text, a small number of agencies have raised concerns about the definition of the terms used in the risk matrix, how they will be applied, and how the impact of the Charter will be measured. We understand these agencies are seeking detailed definitions of each category in order to implement the Charter.
10. The Charter is not designed to be a technical document. It is a public commitment to good practice, and we believe that it's reasonable for agencies to make their own assessments about likelihood and risk and how this should be applied to their work.
11. To further alleviate these concerns we are creating an implementation support document. This includes several worked examples of algorithms supplied by agencies to illustrate the application of the risk matrix Charter. However, we also acknowledge that we will need to learn as we go, and we anticipate updating this document based on Charter implementation across government.
12. The risk matrix portion of the Charter may also be criticised by some civil society representatives for not going far enough, by allowing agencies to make an independent assessment of risk. Through our experience of working closely with agencies through this process, we know that they have the best interests of the public in mind and have the most subject matter expertise to make effective judgements about risk of harm to New Zealanders.
13. We have also introduced a one-year review period to enable the Government Chief Data Steward to make an assessment of how well the self-assessment process is working. This

review will consider whether the Charter is meeting it's intended aims and consider the impact of the Charter, based on the feedback of both government agencies and civil society representatives.

14. We believe these mitigations are appropriate to address the concerns of both agencies and some civil society representatives, and accordingly, we propose to proceed with releasing the Charter, noting the possibility that some agencies may be unwilling to sign it.

Release of the Charter

15. The final Algorithm Charter is attached to this paper as Appendix One. We propose that you release the Charter via an announcement made during Techweek 2020 (27 July - 2 August). The Government Chief Data Steward will support your announcement through a range of activities that week, including seeking to publish an editorial, and discussing the Charter at Techweek events.

Next Steps

16. On 9 July, the Government Chief Data Steward wrote to agencies formally inviting them to be a signatory of the Charter.

17. A draft communications plan for the release of the Charter is attached to this paper as Appendix Two. We will work closely with your office ahead of Techweek 2020 to finalise release details and the list of inaugural Charter signatories.

Appendix One: Final Algorithm Charter

New Zealand Government

Stats NZ
Tatauranga 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.

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 be adversely impacted, 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 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.

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.

New Zealand Government

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: