

Applying Ethical Standards in Practice – Insights from New Zealand

EAA e-Conference on Data Science & Data Ethics

12 May 2022

Gráinne McGuire Taylor Fry





ETHICAL STANDARDS IN NEW ZEALAND

Agenda

- 1. Introduction
- 2. The path to the Algorithm Charter in New Zealand
- 3. The Algorithm Charter
- 4. Bringing Europe into the picture
- 5. Conclusion
- 6. References

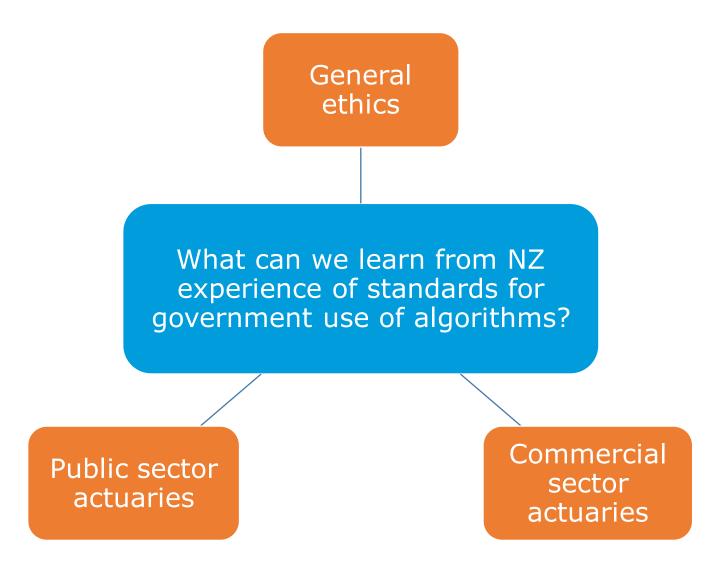
INTRODUCTION

















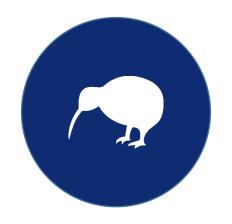


5.1M Population



Approx.

26M sheep



Unique ecosystem



Technophiles



Use of data at heart of government services





ALGORITHM CHARTER

JULY 2020

New Zealand Government



ALGORITHM CHARTER FOR AOTEAROA NEW ZEALAND

28 JULY 2020

New Algorithm Charter a world-first

Hon James Shaw

Statistics

This Government has today become the first in the world to outline a set of standards to guide the use of algorithms by public agencies.

The Minister for Statistics, James Shaw, today launched the Algorithm Charter for Aotearoa New Zealand to give New Zealanders confidence that data is being used safely and effectively across government.

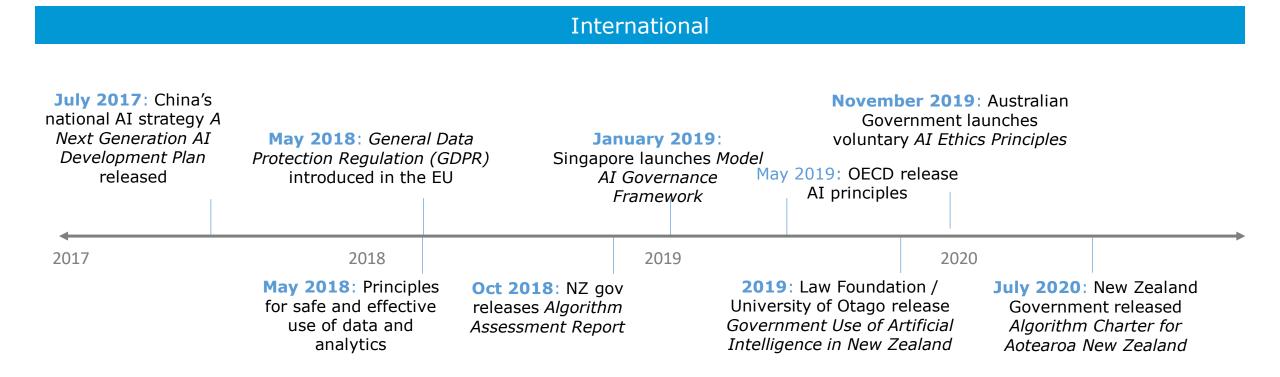
https://www.beehive.govt.nz/release/new-algorithm-charter-world-first

PATH TO THE ALGORITHM CHARTER





(PARTIAL) PATHWAY TO CHARTER



Domestic





2018 - PRINCIPLES FOR DATA USE

Deliver clear public benefit

Maintain transparency

Understand the limitations

Retain human oversight

Data is fit for purpose

Focus on people

Principles for safe and effective use of data and analytics

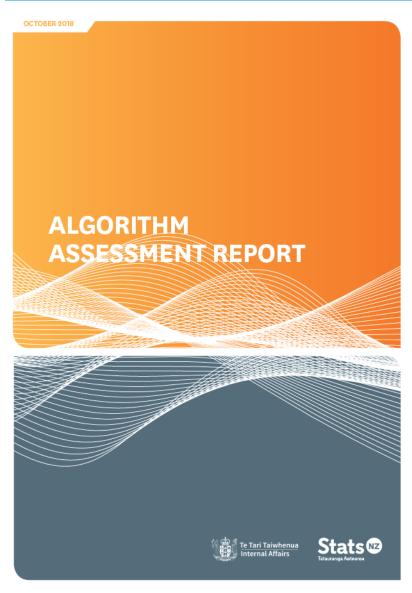
Government Chief Data Steward and Privacy Commissioner

P9 2018 Algorithm report





2018 - ALGORITHM STOCKTAKE



Referred to here as 2018 Algorithm report





INSIGHTS - DISCUSSION IN 2018 ALGORITHM REPORT

Operational algorithms

- Significant impacts on individuals or groups
- Lead to or inform decisions
- May use personal information

Policy development and research

- Analytical tools to support policy development
- No direct impact on service delivery

Business rules

- Rules to constrain or define a business activity
- Limited application of discretion

2018 Algorithm report, P7





2019 - LAW FOUNDATION AND OTAGO UNI

GOVERNMENT USE OF ARTIFICIAL INTELLIGENCE IN NEW ZEALAND

- What is an algorithm?
- What types should we focus on?
- Concerns around their use
- Regulatory and governance strategies

Referred to as 2019 report here







DO ALL ALGORITHMS USE ML?

CASE STUDY 1 - EXTENDING SCOPE BEYOND ML

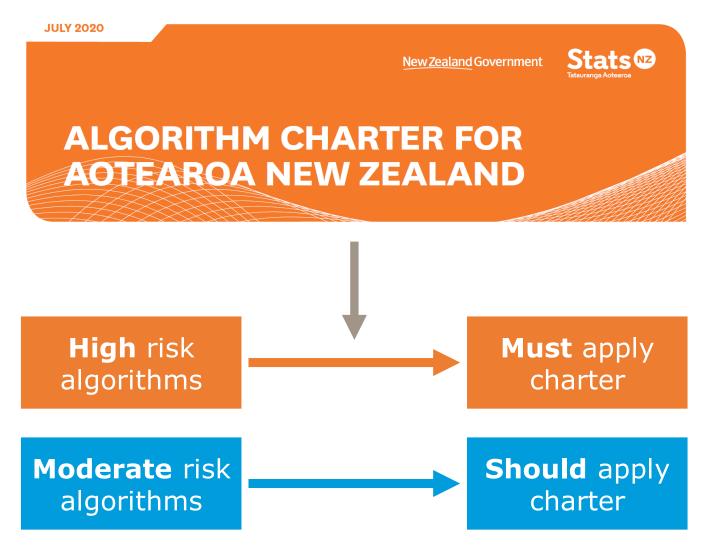
Case Study: Youth Offending Risk Screening Tool (YORST)

- Used by NZ Police since 2007 to assess risk of re-apprehension
- Questionnaire about education, living situation, offending history, parental offending history, produces a score which is then used to inform developing a plan for the youth offender
- No automated machine learning
- But carries significant risks





JULY 2020 - ALGORITHM CHARTER



ALGORITHM CHARTER

3





ALGORITHM CHARTER

JULY 2020 New Zealand Government **ALGORITHM CHARTER** FOR AOTEAROA NEW ZEALAND This Charter demonstrates a commitment to ensuring New Zealanders have confidence in how governmen 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. 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. 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. · 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 Focus on people by: Identifying and actively engaging with people, communities and groups who have an interest algorithms, and consulting with those impacted by their use. · Make sure data is fit for purpose by: » Understanding its limitations, » Identifying and managing bias. . Ensure that privacy, ethics and human rights are safeguarded by: » Regularly peer reviewing algorithms to assess for unintended consequences and act on this information 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 Privacy Officer:

Senior Manager responsible for algorithms:

Partnership
People
Data
Privacy, ethics and human rights
Human oversight

Chief Executive:

Organisation

Date:





ALGORITHM 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.





Case study 2: NZ Police



- Independent Stocktake
- Review by expert panel
- Published on <u>website</u>





Case study 3: Ministry of Justice



- Dedicated <u>webpage</u>
- List of algorithms used
- Information about the algorithm why, what, who?

BRINGING EUROPE INTO THE PICTURE

4





JUST ANOTHER STANDARD?

HOW STANDARDS PROLIFERATE: (SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC.)

SITUATION: THERE ARE 14 COMPETING STANDARDS.



SITUATION: THERE ARE 15 COMPETING STANDARDS.

https://xkcd.com/927/





SIMILARITIES IN PRINCIPLES

CHARTER VS EIOPA PROPOSED GOVERNANCE PRINCIPLES

Governance principles (EIOPA)	Algorithm Charter
Proportionality	Risk assessment; what is an algorithm
Fairness and non-discrimination	Privacy, Ethics and Human Rights, Data
Transparency and explainability	Transparency
Human Oversight	Human oversight
Data governance and record keeping	Data
Robustness and performance	People, partnership

Artificial Intelligence Governance Principles: Towards Ethical and Trustworthy Artificial Intelligence in the European Insurance Sector A report from EIOPA's Consultative Expert Group on Digital Ethics in insurance





HUMAN RIGHT AND ETHICS, DATA

EIOPA GOVERNANCE PRINCIPLE - FAIRNESS AND NON-DISCRIMINATION

Case study 5: NZ Police



- In early stages of development by NZ Police at time of stocktake conducted by Taylor Fry
 - Possible final product to be an app to help officers deal with speeding offences – predict risk of driver being involved in serious road incident in next 3 years
- Significant concerns raised around bias reinforcement, right to redress, legal issues
- NZ Police subsequently made the decision not to proceed further with this algorithm

Some algorithms should not be developed





EIOPA GOVERNANCE PRINCIPLE - HUMAN OVERSIGHT

Insights: Considerations around human oversight

- Legal delegation and fettering
- Control problem
- Inappropriate reliance on results
- Loss of benefits of algorithm
- Right of redress process
- Regular review and monitoring processes

PEOPLE AND PARTNERSHIP

EIOPA GOVERNANCE PRINCIPLE - ROBUSTNESS AND PERFORMANCE

Insights: Involving stakeholders

- 2018 report found no consistent approach to capture stakeholder views
 - Recommended formalising the approach to working with stakeholders for new services or significant changes to existing ones
 - Called out the need to consider perspectives across the community
- Approaches to this may evolve since it is part of the Charter commitments

CONCLUSION

4





- While there are many ethical standards in the AI/ML arena, there are commonalities between them
- We can look to learn from other jurisdictions and sectors
- A review of the Algorithm Charter was carried out after its first 12 months of operation
 when published there may be useful insights in this report.







References

- Algorithm Assessment report, 2018
- Government Use of Artificial Intelligence in New Zealand, 2019
- 2020 Algorithm Charter for Aotearoa New Zealand
- NZ Police algorithm stocktake documents
- <u>Artificial Intelligence Governance Principles: Towards Ethical and Trustworthy Artificial Intelligence in the European Insurance Sector</u>

I am a director at Taylor Fry, an analytics and actuarial company based in Australia and New Zealand.

Throughout my actuarial career I have specialised in using statistical modelling and data science methods in non-life reserving, pricing and for work with injury schemes.

I have also worked in government analytics, particularly in New Zealand where I've worked for many years on a lifetime modelling approach for managing and better targeting social welfare, housing and supports to improve well-being.



Gráinne McGuire

TAYLOR FRY



Thank you for listening

EAA e-Conference on Data Science & Data Ethics

12 May 2022

Contact

Gráinne McGuire

www.taylorfry.com.au

Grainne.McGuire@taylorfry.com.au

LinkedIn