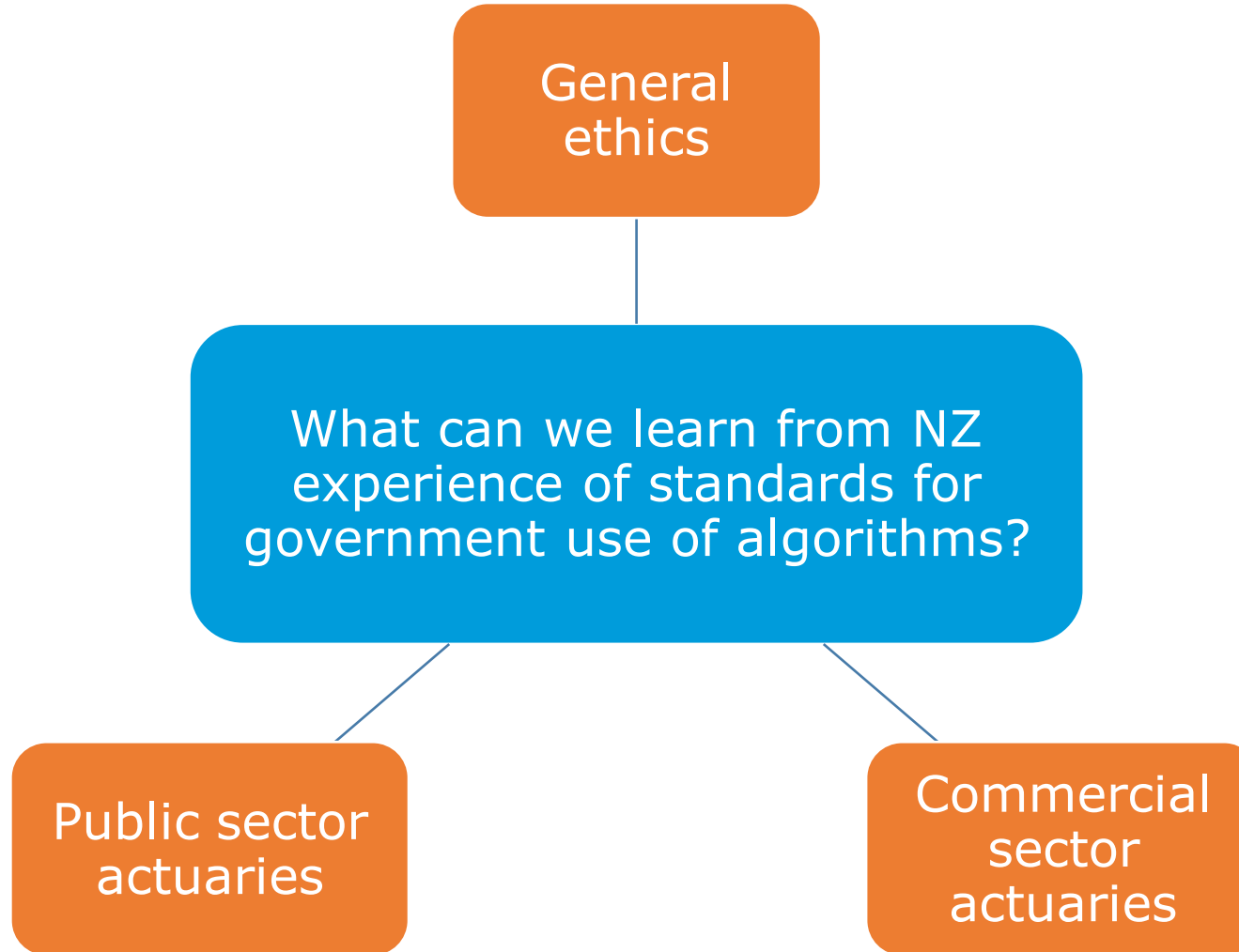


Agenda

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

1



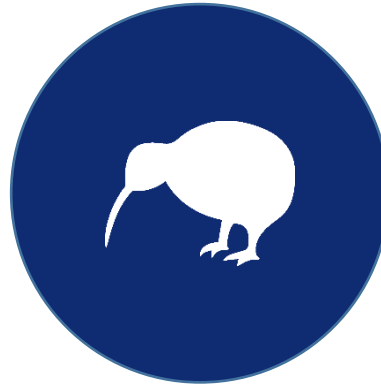
WHY NEW ZEALAND?



5.1M
Population



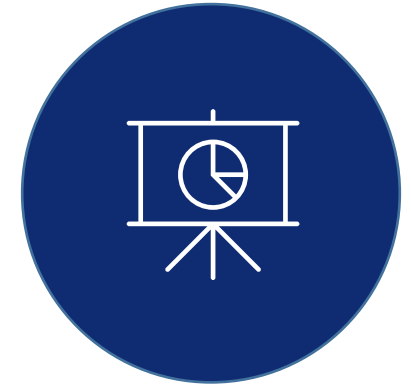
Approx.
26M sheep



Unique eco-
system



Technophiles



Use of data at
heart of
government
services

JULY 2020

New Zealand Government

Stats NZ
Tātauranga Aotearoa

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

2

(PARTIAL) PATHWAY TO CHARTER

International

July 2017: China's national AI strategy A *Next Generation AI Development Plan* released

May 2018: *General Data Protection Regulation (GDPR)* introduced in the EU

January 2019: Singapore launches *Model AI Governance Framework*

May 2019: OECD release AI principles

November 2019: Australian Government launches voluntary *AI Ethics Principles*



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



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

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



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**

Refer to 2019 report for more discussion of this

JULY 2020 – ALGORITHM CHARTER

JULY 2020

New Zealand Government

Stats NZ
Tatauranga Aotearoa

ALGORITHM CHARTER FOR AOTEAROA NEW ZEALAND

High risk
algorithms

Must apply
charter

Moderate risk
algorithms

Should apply
charter

ALGORITHM CHARTER

3



Transparency

Partnership

People

Data

Privacy, ethics and human rights

Human oversight

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 [website](#)

Case study 3: Ministry of Justice

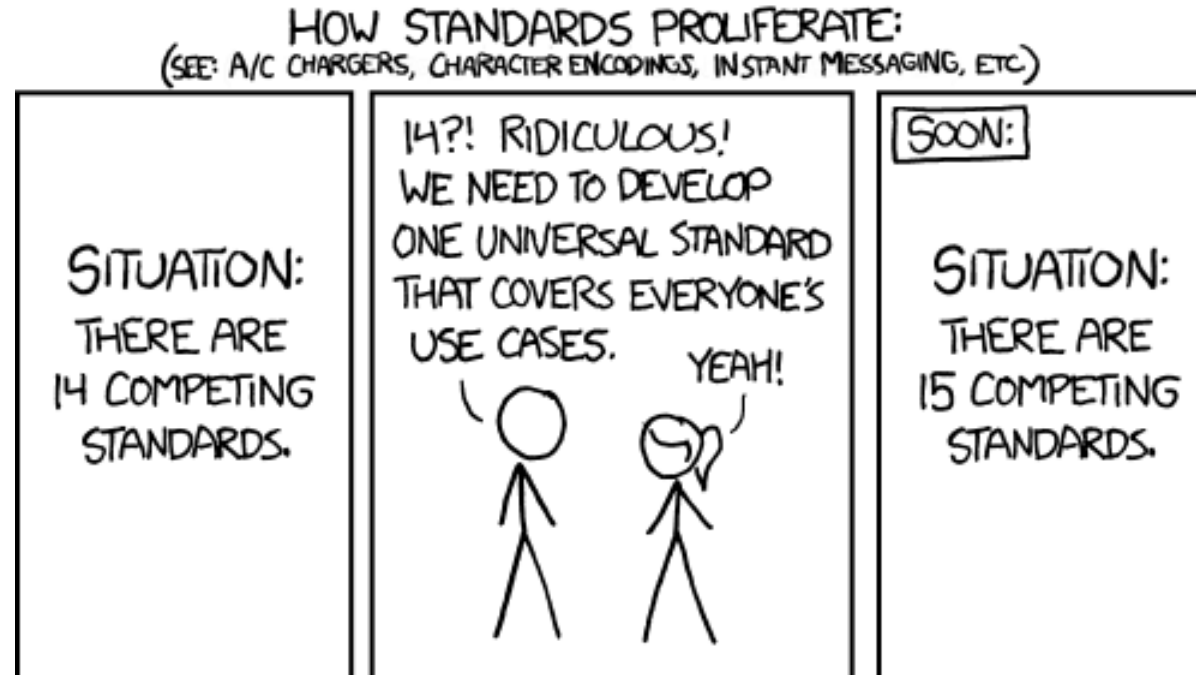


- Dedicated [webpage](#)
- List of algorithms used
- Information about the algorithm – why, what, who?

BRINGING EUROPE INTO THE PICTURE

4

JUST ANOTHER STANDARD?



<https://xkcd.com/927/>

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

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

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](#)
- [Artificial Intelligence Governance Principles: Towards Ethical and Trustworthy Artificial Intelligence in the European Insurance Sector](#)

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





EAA e-Conference on
Data Science & Data Ethics

12 May 2022

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Thank you for listening

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