



TE KĀHUI RARAUNGA

MĀORI AI GOVERNANCE

A Framework for Ethical Governance of AI in Aotearoa

Acknowledgement:

We acknowledge the imagery of the precious korowai and kahukura featured in this report and the hands that wove them. These korowai have been woven by Cori Marsters and their images generously shared for our use, to reaffirm our te ao Māori view of data and data governance and to depict the Vision of the Māori Data Governance Model: Tuia te korowai o Hine-Raraunga, from which this framework derives.



He kura ka huna,
he kura ka whākina,
e koropupū ana
te Wai Ora!

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To cite this publication

Cite both this report and the report it stems from.

Te Kāhui Raraunga (2025). Māori Artificial Intelligence Governance Framework. Contextualised advice for AI use, extending the Māori data governance model; Kukutai, T., Campbell-Kamariera, K., Mead, A., Mikaere, K., Moses, C., Whitehead, J. & Cormack, D. (2023). Māori data governance model. Te Kāhui Raraunga.

Executive Summary

Overview

This paper presents a comprehensive framework for Māori Artificial Intelligence (AI) governance that extends the Māori Data Governance Model *Tuia te korowai o Hine-Raraunga* to address the challenges and opportunities presented by AI systems. The document recognises that AI is fundamentally "Data-Driven Intelligence" and therefore requires culturally grounded governance approaches that protect Māori data sovereignty and uphold te Tiriti o Waitangi ('Tiriti' or 'te Tiriti') obligations. Without culturally grounded and Tiriti-anchored governance, there is a risk of systemic harm and extraction rather than partnership and benefit.

Critical context

The rapid adoption of AI technologies by the New Zealand government creates both unprecedented opportunities and significant risks for Māori communities.

The paper identifies that:

- AI systems are fuelled by large datasets and complex algorithms that can perpetuate or amplify existing biases.
- Current government systems lack adequate Māori representation in AI development and governance.
- Existing frameworks like the Algorithm Charter have limited effectiveness in implementing te Tiriti principles.
- There is a critical need to prevent BADDR (Blaming, Aggregate, Decontextualised, Deficit, and Restricted) practices in AI systems.

Key principles and frameworks

Māori data sovereignty in AI

The paper emphasises that Māori data sovereignty must extend to AI systems through:

- Free, Prior, and Informed Consent (FPIC) for all Māori data use
- Recognition of collective privacy rights beyond individual privacy protections
- Māori authority over data regardless of storage location or AI processing jurisdiction
- Prohibition of generative AI tools built on Māori data without Māori involvement.

Eight pou (pillars) framework

The AI model is structured around seven of the eight key pou from the Māori Data Governance model that together provide comprehensive guidance:

Pou 1: AI capacities and workforce development

- Emphasises anti-racist data and algorithmic practices
- Addresses the need for Māori-led AI development
- Calls for strategic investment in Māori AI expertise.

Pou 2: IT infrastructure

- Requires infrastructure that serves Māori purposes
- Demands transparency and auditability in AI systems
- Environmental impacts of AI infrastructure must be evaluated.

Pou 3: Data collection and generation

- Maintains FPIC standards for all data collection
- Prioritises Māori data needs
- Addresses concerns about synthetic data, its limitations and potential implications.

Pou 4: Data protection

- Extends privacy concepts to include collective Māori rights
- Agencies must protect against collective privacy breaches, especially where data enables population-level profiling.
- Addresses jurisdictional challenges with offshore data processing.

Pou 6: Data use and reuse for AI implementation

- Establishes consent requirements for AI applications
- Ensures AI addresses questions significant to Māori communities
- Provides frameworks for responsible and ethical algorithm design.

Pou 7: AI quality and system integrity

- Sets standards for Māori data in AI systems
- Establishes monitoring and accountability mechanisms
- Requires routine assessment of algorithmic harm.

Pou 8: Data classification

- Provides methods to identify Māori data in AI systems
- Reasserts classification processes must include considerations beyond "business as usual," such as cultural relevance and te Tiriti obligations.

Five critical recommendations

The paper concludes with five strategic recommendations that form the foundation for ethical AI governance:

1. Review the Algorithm Charter:

Complete overhaul to align with te Tiriti and Māori Data Governance (MDGov) principles.

2. Establish government algorithm register:

Create transparency through documentation of all government algorithms.

3. Develop whole-of-government AI policy:

Develop and enforce unified policies for trustworthy and responsible AI use, reflecting māori data governance principles, tikanga, and Māori-defined data standards.

4. Create an independent monitoring board:

Establish an independent Māori-led entity to oversee AI and algorithm use across the public sector, with monitoring, auditing, and accountability powers.

5. Invest in Māori AI development:

Fund iwi-led AI innovation, Māori digital workforce development, and the creation of local infrastructure that supports Māori Data Sovereignty and ethical AI use.

Unique considerations for Māori Data in AI

The document highlights several critical issues specific to Māori data:

- **Collective vs individual rights:** AI systems must recognise that Māori data often has collective dimensions that individual privacy laws don't address.
- **Cultural context:** Algorithms cannot understand historical social context without proper design considerations.
- **Synthetic data risks:** Artificially generated data fails to capture te ao Māori complexities and can amplify biases.
- **Jurisdictional sovereignty:** Offshore AI processing poses unique challenges to Māori data sovereignty.

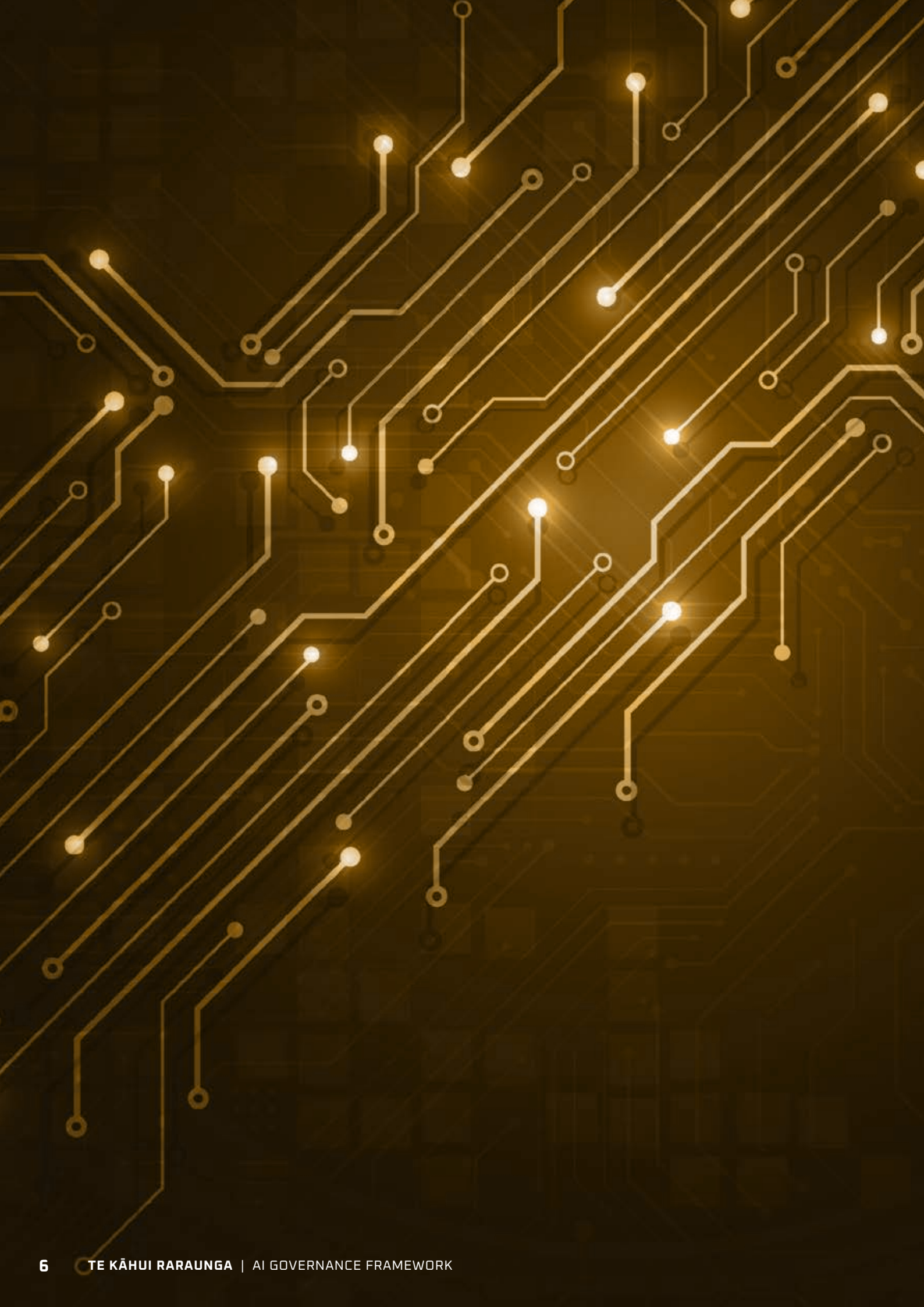
Implementation imperatives

The paper emphasises several key implementation requirements:

- Māori must be involved in all AI governance decisions affecting their data
- Agencies need to document algorithmic whakapapa (genealogy)
- Regular monitoring for potential and actual algorithmic harm is essential
- Clear accountability mechanisms must be established
- Investment in Māori AI capability is critical.

Conclusion

This framework model makes it clear: AI systems must not be implemented in Aotearoa without fully realising Māori authority over Māori data. The path to ethical, innovative, and socially just AI begins with honouring te Tiriti o Waitangi, embedding Māori leadership, and holding agencies accountable for safe and respectful data use. The transformative potential of AI is greatest when technological advancement aligns with ethical frameworks that prioritise transparency, fairness and shared decision-making authority. By implementing these frameworks and recommendations, government agencies can ensure that AI technologies serve the wellbeing of all, uphold Indigenous rights, and future-proof Aotearoa's digital landscape.



Introduction

Artificial Intelligence (AI) is the science of developing computer technologies that mimic human intelligence. In its simplest form, AI is a collection of technologies that utilise large datasets, advanced algorithms, and significant computing power.

The algorithms built using Machine Learning techniques and Deep Learning architectures are complex sets of instructions and rules that guide data analysis and decision making.

AI systems are fuelled by large datasets. This data is crucial for identifying patterns and making informed decisions, earning AI its common designation as Data-Driven Intelligence. This reality elevates the importance of robust data governance practices, including, in Aotearoa New Zealand's (Aotearoa) context, Māori data governance (MDGov).

Generative AI is a subset of AI that creates new content rather than just analysing existing data. These systems learn patterns from large datasets and use sophisticated algorithms to produce original text, images, audio, or other media that resembles human-created work. They transform input prompts into original outputs by predicting what combinations of elements would make sense in a given context.

AI technologies work at scale. They have the potential to accelerate significant good but also significant harm. Consequently, alongside considerations of MDGov, it is essential that models of Māori AI governance are developed and put into practice.

Throughout this document two types of technologies will be considered:

- Algorithmic Systems¹ – these operate on specific predetermined rules and procedures to produce an outcome that assists in predefined decision-making processes. They follow explicit instructions and generate consistent outputs when given the same inputs.
- Artificial Intelligence – these technologies learn patterns from data without explicit programming and can

improve its performance through experience. AI systems adapt their behaviour based on new information and can recognise complex patterns to make predictions or recommendations.

This document is provided as a guide to agencies in evaluating algorithmic systems and AI investments, providing frameworks to assess these technologies and implement appropriate safeguards that ensure their deployment remains both safe and ethical.

It provides contextualised questions and guidance to support intelligent, fair and just decision-making.

As a supplementary resource to the Māori Data Governance Model, *Tuia Te Korowai o Hine Raraunga*, this document outlines its advice in a similar format - under the relevant models pou (focus areas) and sub-focus areas.² It retains guidance that remains particularly relevant in an AI context.

The Māori Data Governance Model (MDGov Model)³ has been designed by Māori data experts for use across the Aotearoa public service. Māori data is a taonga that requires culturally grounded models of protection and care. The Model provides guidance for the system-wide governance of Māori data, consistent with the Government's responsibilities under te Tiriti o Waitangi. The Model is intended to assist all agencies to undertake MDGov in a way that is values-led, centred on Māori needs and priorities, and informed by research. This is important because existing government data processes and practices are failing to meet Māori informational needs.³

Following the government's planned investment in and adoption of artificial intelligence, Te Kāhui Raraunga recognised the necessity to offer contextualised guidance on algorithmic systems and AI, drawing from the MDGov Model. Recent work by O'Neale et al. (2025)⁴ has identified an urgent need to bridge the gap between high-level Indigenous data sovereignty principles and practical implementation in algorithmic systems.

AI is fuelled by data and driven by algorithmic systems. The guiding principles that inform effective MDGov can and should be extended to provide robust Māori AI governance frameworks, regardless of the users, applications, or contexts in which AI technologies are deployed.

¹ Algorithmic Systems: An iterative decision-making process that is driven by humans, data, and computational algorithms, as defined and described in Brown et al 2024.

² Note, where Pou or sub-focus areas/topics have been deemed not as relevant to the AI context, they have been omitted. Thus not all pou or topic numbers from the Māori Data Governance Model, *Tuia Te Korowai o Hine Raraunga* will appear in chronological order in this document.

³ Kukutai, T., Campbell-Kamariera, K., Mead, A., Mikaere, K., Moses, C., Whitehead, J. & Cormack, D. (2023). Māori Data Governance Model. Te Kāhui Raraunga.

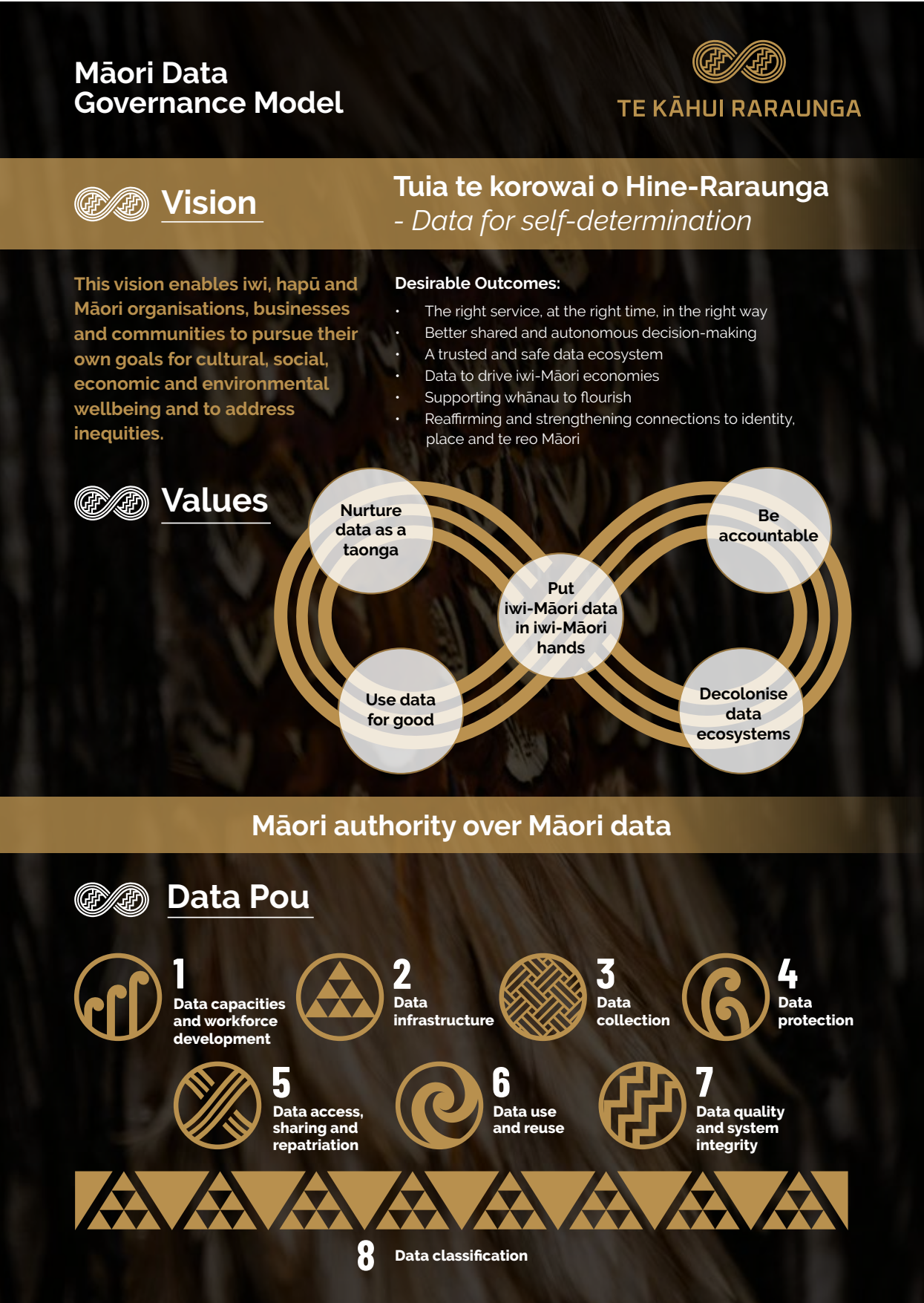


Image: Māori Data Governance Model Framework.⁴

⁴ Kukutai, T., Campbell-Kamariera, K., Mead, A., Mikaere, K., Moses, C., Whitehead, J. & Cormack, D. (2023). Māori data governance model. Te Kāhui Raraunga. (Page vii).



Pou 1

AI capacities and workforce development

Aotearoa has a history of leading machine learning (ML) technology. With the rapid uptake of AI technologies there exist opportunities to also lead the world in the development of sovereign AI models; AI tools that are uniquely attuned to local contexts and concepts such as data sovereignty. However, these opportunities will only be realised if appropriate funding is allocated to drive this development, both in the government sector, and in Te Ao Māori.

The government IT system is far better resourced and supported than te ao Māori and thus has a broader range of skills and capacities. Even so, major knowledge and skills barriers exist, and these require a broader strategy than a narrow focus on building skills in using AI systems. Government IT departments should be aware that Māori have unique world views that if incorporated into AI models could lead to the development of AI systems that are not simply better suited for Māori but better suited to Aotearoa as a sovereign nation.

1.1 Implement anti-racist data practices and anti-racist algorithmic practices

As mentioned in the introduction, AI is Data Driven Intelligence. The nature of the AI tool that is developed is a reflection of the nature of the data, and the nature of the algorithmic systems that generates responses to that data.

The Blaming, Aggregate, Decontextualised, Deficit and Restricted (BADDR) principles⁵, developed for data, are also applicable to algorithmic systems. In this context AI tools should **not** be built that:

Blame Māori by directly or indirectly situating the dominant group as the ideal group, and/or Māori as being culpable for their poorer outcomes.

Aggregate data in ways that misrepresent or miss key aspects of Māori identities and world view.

Decontextualise data, by focusing on Māori individuals and families outside of their social and/or cultural contexts.

Deficit-based, implying that Māori are inherently deficient.

Restrict access to Māori data under the control of statistical agencies and official institutions.

While data is the fuel of AI, algorithmic systems can also create BADDR situations if developers are not fully cognisant of appropriate cultural safety standards. The lack of diversity within AI related fields means that most software developers and advisors who work on algorithms that affect Māori will not be Māori, nor have an understanding of te ao Māori. They will see algorithms as largely neutral and fail to recognise their own bias when implementing them. Using BADDR data to fuel culturally unsafe AI systems is a recipe for significant harm. Appropriate training and engagement with te Ao Māori can de-escalate these risks.

⁵ Walter et al. (2021).

1.2
Invest strategically in Māori AI expertise and leadership

Growing and accelerating Māori digital capacities and leadership, especially in the field of AI, is a key success factor for MDGov. The youthful Māori population, comprised of technical enthusiasts and early adopters, possesses awareness of climate and environmental issues while being comfortable with MDGov structures. This demographic reality makes developing an agile and adaptable Māori data and digital workforce a matter of national interest.

Rangatahi are skilled users and creators of technology. With support, they can lead digital initiatives and develop AI technologies by designing and participating in kaupapa (initiatives or projects) that matter to them. Both technical skills and knowledge are crucial, especially as machine learning and AI become more integrated into daily life. Industry reports show AI investment is accelerating rapidly. To maximise the potential of AI technologies, strategic investments must focus on training and developing those best positioned to build and implement these tools effectively.

Pou 1 key actions

- Review current IT practices at an organisational level and assess whether expectations of cultural safety in algorithmic system development and AI use are being met.
- Develop a plan to ensure employees who work with Māori data, or on algorithms that impact Māori, including the implementation of AI tools, receive adequate training to promote compliance with the MDGov Model.
- Identify opportunities to support the training of a diverse Māori digital workforce, either within the organisation or externally.

Guiding questions for agencies to ask themselves

1. What is the capability of this organisation to govern, manage, use and interpret Māori data in culturally safe ways? This capability could be assessed as new, proficient or expert.
2. What roles and responsibilities are needed to ensure culturally safe data and appropriate digital and AI practices are in place?
3. What BADDR data practices currently occur within this organisation? Are subsequent considerations given to algorithmic systems implementation and use?
4. What safeguards and governance frameworks should be implemented to prevent bias, algorithmic discrimination, and data rights violations in future data systems and AI technologies?
5. How can this organisation strategically foster and expedite the emergence of Māori digital leadership, particularly in the rapidly evolving field of artificial intelligence?



Pou 2
IT Infrastructure

AI will transform all workforces relying on digital technologies. The magnitude of this impact, adoption rates, and resulting productivity gains will largely depend on how effectively AI tools and algorithmic systems are integrated into the existing IT infrastructures across various agencies. Strategic implementation that accounts for organisational workflows, MDGov requirements, and staff capabilities will be critical in maximising the potential benefits while minimising disruption.

A hallmark of AI technologies is their unprecedented pace of advancement. To navigate this rapid development while serving diverse communities, infrastructure incorporating AI must be flexible, scalable, and interoperable. This infrastructure should respond to varying user needs while maintaining vigilance about AI-related risks and impacts, both within government operations and across broader society.

2.1
IT infrastructure that works for Māori

Government IT infrastructure must serve Māori purposes, not just agency priorities. As Tiriti partners, iwi Māori should participate in shared decision-making regarding government IT infrastructure development, including algorithmic system implementation and AI adoption that affects Māori communities. This partnership extends to decisions about ongoing investments, system changes, new applications, and the decommissioning of harmful technologies. Additionally, there are significant opportunities to invest in and support Māori and iwi-led IT infrastructure development, enabling rangatiratanga throughout the entire IT lifecycle.

2.2
Auditable and transparent

Artificial intelligence offers both benefits and harms that are often difficult to disentangle. Establishing a rigorous, transparent, and ethical approach is crucial, requiring the implementation of accountability

mechanisms to oversee machine learning communities, developers, and vendors. Without proper oversight, how can developers or users ensure their data contains appropriate ethical considerations? In the current and emerging landscape of algorithmic system deployment and AI use across government and our communities, this assurance is lacking. This underscores why posing critical questions is essential for safeguarding Aotearoa's data sovereignty and maintaining government services that are both effective and equitable for all citizens.

Data analysis and algorithmic design can be limited by the epistemic and ontological realities of algorithm designers and data generators. In short, AI rules resemble their creators in terms of their prioritisation of knowledge holders and sources, and their perspective of how the social and cultural world operates. In the vast majority of cases these are not Māori designers⁶

Directly related to our history as the colonised and dispossessed indigenous peoples of our lands, are

⁶ (Walter, M., Lovett, R., Maher, B., Williamson, B., Prehn, J., Bodkin-Andrews, G., & Lee, V. (2021).

the ongoing intergenerational impacts of social, cultural and political marginalisation. Algorithms do not understand historical social context⁷, thus it is important that they are transparent; they can be tracked and audited for accountability.

To trust a decision, we must understand how it was reached—if the algorithms behind the decision-making process remain hidden, then confidence and trust become impossible.

Algorithmic systems follow explicit instructions to generate consistent outputs, enabling a high degree of transparency in their operation and decision-making processes. In contrast, AI systems develop their responses through complex self-learning mechanisms rather than explicit programming. These systems continuously evolve based on data exposure and feedback loops, making their internal workings opaque and difficult to interpret. This self-learning nature makes achieving meaningful transparency in AI systems particularly challenging. This in turn places a higher level of priority and importance on ethical AI governance frameworks.

2.3 Sustainable and future focused

IT infrastructure must be both sustainable and future-proofed to accommodate the accelerating adoption and integration of algorithmic systems and AI. Critical infrastructure components should be designed with longevity in mind, ensuring they remain effective as technology evolves while maintaining quality through system upgrades and migrations.

Sustainability also refers to impacts of data infrastructure on te taiao (the natural environment). Infrastructure that supports the collection, storage, sharing and use of data ought not have an adverse environmental impact. Equally technologies like artificial intelligence should aim to reduce environmental impact, considerate of the high compute need of AI technology and the power draw that a high level of compute requires.

The massive energy demands of data warehouses, and AI compute-needs are well documented and therefore systems-level approaches to climate mitigation and adaptation strategies must be better employed. Aotearoa has the second highest rate of renewable energy as a portion of primary supply for

electricity (88 per cent⁸) in the OECD, providing ample options for green cloud architecture.

Pou 2 Key actions

- Establish collaborative decision-making partnerships with Māori regarding IT infrastructure, particularly for systems that implement algorithmic processes or utilise AI. This partnership model should extend across both strategic policy development and technical system design, ensuring Māori participation and authority at all levels of infrastructure governance.
- Provide resources, equitable funding and support for the development of Mana Motuhake systems of distributed and decentralised IT infrastructure for Māori, including infrastructure for the implementation of algorithmic systems and the development and deployment of AI.

Guiding questions for agencies to ask themselves

6. What elements constitute our agency's IT infrastructure, and how effectively does this technical foundation address Māori needs and priorities? Do the current systems facilitate or present barriers to achieving the collaborative governance objectives outlined in the MDGov model?
7. How can we involve Māori in setting policy, investment strategy, and commissioning (or decommissioning) approaches that incorporate algorithmic systems and AI in our IT infrastructure?
8. Do we know which algorithmic systems and AI tools are in use? Are we aware how much generative AI is being used, including the circumstances of where it has been red-flagged as an issue?
9. Do we have a mechanism that audits the algorithms we use?
10. Is our IT infrastructure fit for purpose and sustainable? Does our infrastructure enable future generations of Māori to access and use Māori data? Does our infrastructure enable Māori to govern Māori data that we hold?
11. Does our IT infrastructure damage the environment through intensive energy use or through large physical footprints? Do we evaluate the ecological footprint of the algorithmic systems and AI tools that we implement? If we do, are the results ethical?
12. How can our procurement practice better take into account our responsibilities to Māori data and Māori-preferred infrastructure that supports ethical AI development and use?



Pou 3

Data collection and generation

Data powering algorithmic systems is primarily collected and managed by the agencies themselves, making the considerations, key actions, and guiding questions established in Pou 3 of the Māori Data Governance Model directly applicable. However, the landscape changes significantly with Large Language Models and generative AI, which are typically trained on vast datasets harvested from internet sources, including social media platforms.

This widespread data collection occurs without explicit user consent, raising substantial concerns regarding intellectual property protection. For Māori data – encompassing te reo Māori and mātauranga – this collection methodology fundamentally contradicts Māori data sovereignty principles. The use of Generative AI tools built on Māori data but not built by Māori **should be prohibited!**

3.1 Prioritise Māori data needs

Prior to collecting data, agencies should carefully consider how any data collection will benefit Māori, as well as any potential risks or harms. Currently, the data landscape is still heavily weighted to government information needs. Sometimes agencies seek input from Māori subject matter experts (e.g. academics) or an external advisory group, but too often that becomes the endpoint rather than the starting point. Iwi and communities should also have meaningful input into the types of data that are collected and accessed, how that data is defined and classified, the development and deployment of the algorithmic systems that use that data, and opportunities to interrogate subsequent decision making of the algorithmic system. High-quality data that meets Māori requirements is crucial to support trusted algorithmic system and AI use. Such data should accurately capture the nuanced, diverse contexts of Māori communities and permit flexible and meaningful forms of data disaggregation.

3.2 How data is collected matters

In addition to considerations of what and why data is collected, it is critical that how Māori data is collected aligns with MDGov values.

Data collection should be undertaken in ways that strengthen, or at a minimum maintain, Māori rights in relation to data. This includes recognising rights to full, prior and informed consent (FPIC)⁹, and data collection practices that uphold peoples' dignity (see Data Pou 6). FPIC is a specific collective right that pertains to Indigenous Peoples, allowing them to give or withhold consent to a project that may affect them or their territories. In short, consent should be sought before any project, plan or action takes place (prior), it should be independently decided upon (free) and based on accurate, timely and sufficient information provided in a culturally appropriate way (informed) for it to be considered a valid result or outcome of a collective decision-making process¹⁰.

⁷ Bornstein 2017

⁸ <https://www.nzte.govt.nz/page/renewable-energy>

⁹ United Nations. (2007). United Nations Declaration on the Rights of Indigenous Peoples. Article 32. Resolution adopted by the General Assembly, 61/295. Retrieved from https://www.un.org/esa/socdev/unpfi/documents/DRIPS_en.pdf

¹⁰ Food and Agriculture Organization of the United Nations. (2016). The State of Food and Agriculture 2016: Climate change, agriculture and food security. Rome: FAO. Retrieved from <https://openknowledge.fao.org/server/api/core/bitstreams/07bc7c6e-72e5-488d-b2f7-3c1499d098fb/content>

Passive and implicit forms of data collection are increasingly common (e.g., web analytics and tracking cookies), because of changing technologies as well as the shift to web-based interactions with government services. This form of passive data collection intensifies with the use of AI.

Where FPIC is not possible, data collection should be as explicit and transparent as possible, and there must be strong governance and ethical use provisions in place in relation to any use or reuse of Māori data. Operating on the basis of presumed social licence is not a robust strategy for building a trustworthy, resilient data system.¹¹

3.3 Synthetic data cannot account for the complexity of te ao Māori

Synthetic data is information that is artificially generated rather than produced by real-world events. Typically created using algorithms, synthetic data can be deployed to validate mathematical models and to train machine learning models. One of the major risks with this approach, is that if the synthetic data was modelled off unethical data in the first place, then the model is being trained to perform harm, often to minorities who are underrepresented in the original data used by the machine to learn. It can be difficult to assure a user of AI trained on synthetic data that it accurately represents the statistical properties of the original real-world data that it was trying to mimic. Synthetic data may fail to capture all the nuances of the original dataset, leading to potential inaccuracies in representation. This can result in discrepancies in distributions and correlations, which are crucial for maintaining the integrity of data-driven research and investment.¹²

"One potential problem with synthetic data that can result even if the data set was created correctly is bias, which can easily creep into AI models that have been trained on human-created data sets that contain inherent, historical biases. Synthetic data can be used to generate data sets that conform to a pre-agreed definition of fairness. If a company doesn't make complex adjustments to AI models to account for bias and simply copies the pattern of the original,

the synthetic data will have all the same biases — and, in some cases, could even amplify those biases."¹³ If the synthetic data does not accurately reflect the complexities of the real world, like the histories of Aotearoa and te Tiriti o Waitangi then it is unlikely to produce responsive results for iwi Māori. In fact, it is more likely that a machine that learns on synthetic data will overlearn what the synthetic data is advising it to do, which negatively impacts the model's performance when it comes to having to make decisions on actual real-world data and events.

Pou 3 Key actions

- Ensure that the collection of any new Māori data aligns to at least one of the MDGov Model's Desired Outcomes.
- Ensure that the collection of any new Māori data has Māori input and guidance around data definition and data classification.
- Check that the Māori identifiers used in any given data collection allow for data disaggregation that is flexible and meaningful to Māori.
- Clearly establish definitions for how Māori data is utilised within algorithmic systems and AI models.
- Ensure that the use of Māori data in algorithmic systems or training AI models, especially to support decision making systems, will benefit Māori and not induce harm or risk.
- Articulate the provenance of all Māori data used. If the data is sourced from multiple locations, identify what restrictions/obligations there are to the various locations.
- Do not support the use of generative AI systems that are built using Māori data that do not conform to the principles of FPIC.

Guiding questions for agencies to ask themselves

- 13. Does our agency's approach to data collection strengthen relationships with whānau, hapū, iwi and other Māori collectives? Do our approaches enhance individual mana, and reaffirm and strengthen Māori individual and collective rights in relation to data?
- 14. Do we collect the data that these collectives need to address their priorities?
- 15. Does our agency's data collection practice uphold FPIC? Do we collect data in respectful ways that uphold people's dignity?
- 16. What processes does our agency have for monitoring our own data collection practices? Do we use synthetic data in training our AI systems?
- 17. How will we know when we are collecting data in ways that strengthen relationships with Māori collectives, that enhance individual mana, and that reaffirm and strengthen Māori individual and collective rights in relation to data?
- 18. What actions can we take to improve the ways that we collect data, in particular for use in AI?
- 19. Is the data that we collect essential to achieving our wider objectives? Are there other sources of similar information already available for our AI model?
- 20. How long will our AI hold collected data?
- 21. Do we keep provenance records of the data we collect?
- 22. Do we use algorithmic systems or AI tools that are built on data we didn't collect? Can we confirm that this data was collected in a manner that supports MDGov principles and adhered to FPIC?

¹¹ Social licence describes an organisation's or project's legitimacy, credibility and trust in the eyes of the public or key stakeholders.
¹² Milette M, Sariyer M, Challenges of Using Synthetic Data Generation Methods, Special Issue Development and Application of Data Privacy Protection in Healthcare. 2024.
¹³ <https://sloanreview.mit.edu/article/the-real-deal-about-synthetic-data/>



Pou 4 Data Protection

Principles articulated in Pou 4 Data protection of the MDGov Model are especially significant given algorithmic systems' and AI tools' fundamental reliance on data. This intrinsic dependency has led to their widespread characterisation as data-driven technologies, emphasising how deeply their functioning and outputs are shaped by the data they consume and process.

All aspects of data protection, including privacy, security and jurisdiction, need to be considered when utilising algorithmic systems and AI tools. When evaluating storage options for Māori data, significant jurisdictional considerations arise when data physically located in Aotearoa is transferred to offshore storage solutions or processed through internationally-owned AI systems. These cross-border data flows present governance challenges, including critical concerns regarding privacy protections, security frameworks, and the potential application of foreign legal requirements to culturally significant information.

4.1 Privacy

Privacy is considered a cornerstone issue in relation to freedom and democracy. As a concept, privacy is founded on notions of a division between the public and private spheres of an individual's life. Information privacy laws are the most common form of modern privacy legislation. Such laws focus on personal data protection through conferring on individuals a measure of control over how their personal information is collected, used, disclosed, transferred, stored and secured or otherwise handled. This includes the interactions between personal data and AI.

Big Data technologies practices pose challenges and risks to individual and collective privacy. For Māori, the right to privacy includes collective rights that cannot be reduced to individual privacies. This is particularly evident in situations where the use or disclosure of the data has the potential to result in collective risk or harm (e.g. population profiling), or where the data being used has a collective element (e.g. whakapapa). This is true for where data is used by AI models too, which more often than not are owned and built by big overseas data tech companies.

The Privacy Act 2020 governs how organisations and businesses can collect, store, use and share personal information, defined as information about an identifiable individual. The purpose of the Act is to promote and protect individual privacy. Underpinned by 13 information privacy principles (IPPs), the Act sets out the rules for protecting personal information and the responsibilities of agencies and organisations across the public and private sectors.

The MDGov Model's focus on FPIC as the basis for Māori data collection, use, sharing and disclosure is more stringent than the consent requirements under the Privacy Act.

A major challenge for Māori privacy protection is that the Privacy Act does not include specific te Tiriti, tikanga or Māori privacy considerations. The lack of explicit Māori data privacy requirements or guidance means that agencies may have a poor understanding of what information privacy means for Māori. Agencies must clearly recognise their specific responsibilities for safeguarding Māori data privacy, particularly when deploying or engaging with artificial intelligence technologies that interact with this culturally significant data.

Synthetic Data

A common misconception with synthetic data is that it is inherently private. This is not the case. Synthetic data has the capacity to leak information about the data it was derived from and is vulnerable to privacy attacks.

The growing use of synthetic data for training machine learning models and AI systems presents legitimate concerns. While this practice accelerates model development, Crown agencies adopting AI tools that utilise synthetic data must rigorously verify true anonymisation. Though some promote synthetic data as a privacy workaround, this perspective is dangerously simplistic. Special care must be taken with outliers and rare events in real data, as these are difficult to include in synthetic datasets while preserving privacy. Their statistical uniqueness makes them both valuable for training and potentially identifiable when synthesised.

Collective privacy matters

The boundaries between personal and collective privacy are more nuanced than regulatory frameworks recognise.

Despite there being no word in te reo Māori for privacy, there are well-defined tikanga that are central to a Māori concept of data privacy and that determine when, how and by whom information can or should be shared (Kukutai et al., 2023). Because the focus of data privacy regulation is on personal data, issues relating to collective ownership and collective privacy are rarely addressed.

However, a narrow focus on personal data privacy can only ever offer partial protection for Māori data. An approach that respects collective privacy is one that recognises and upholds collective rights over information. There are many kinds of Māori data that do not fit the narrow definition of personal data but are valuable and require protection. Some data – such as whakapapa, genetic and genomic data – are both personal and collective. Such data can be aggregated to 'represent' a collective and inferences are made about the group that can have material consequences for its members, without collective consent or regard for group privacy. The collection, sharing, use and disclosure of such information thus requires considerations that extend beyond individual privacy.

The Kaitiakitanga License developed by Te Hiku media to protect te reo data accessed through the *Whare Kōrero* app provides an international example of Indigenous Peoples' retention of mana over their collective data.

4.2 Security

Data security refers to the protection of digital information from unauthorised access, corruption, or theft using tools and practices such as data encryption, erasure and masking.

Data classified as Māori data needs to be subject to proper data security procedures that should be built into all agency practices and guided by Māori leadership and expertise in this space. As a result of the government's Cloud First policy, which requires agencies to adopt cloud services, most agencies have moved to offshoring at least some of their data, including Māori data. This then extends focus of AI models training or making decisions on that off-shored data. It further makes it easier for agencies to resort to AI models that are based off-shore, that come with, or that have seamless access to the cloud storage systems.

In relation to data storage, the Special Rapporteur on the right to privacy (2019, p. 27) states: Indigenous Peoples have the right to ensure that the physical and virtual storage and archiving of Indigenous data enhances control for current and future generations of Indigenous Peoples. Whenever possible, Indigenous data shall be stored in the country or countries where the Indigenous People to whom the data relates consider their traditional land to be.

When evaluating the risks and benefits of using AI models that are based offshore, it is important to not only consider data storage, but also broader issues related to offshore data processing. Agencies making decisions about AI applications involving Māori data should recognise that engaging with AI providers – whether domestic or international – typically extends beyond mere data storage considerations, encompassing broader implications of Māori data sovereignty (MDSov), Māori data residency, personal and collective privacy, and security.

4.3 Jurisdiction

The mainstream concept of data sovereignty is about maintaining control and authority of data within jurisdictional boundaries. This is distinct from Indigenous concepts of data sovereignty which assert Indigenous authority over Indigenous data, regardless of where the data is stored.

The ability of Māori to exercise authority over Māori data is compromised when that data is stored in a foreign jurisdiction. This is also true where that data is being used, processed and accessed by AI models or to train AI models in foreign jurisdictions.

There are several jurisdictional risks. For example, Australia's Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018 makes it mandatory for any organisation whose website or data is hosted in Australia to give authorities access to their IT system if requested.

There are also risks involved when data, being used by AI, is stored onshore using a global cloud service provider. In most instances¹⁴, its staff in various jurisdictions abroad will be able to access the data, network and storage configuration details, and have hypervisor access. Both the USA and China assert jurisdiction over data stored by companies headquartered in their respective countries.

The United States Clarifying Lawful Overseas Use of Data Act (CLOUD Act), for example, allows federal law enforcement to compel U.S.A.-based technology companies to provide requested data stored on their servers, even when the data is stored on foreign (e.g. Aotearoa) soil.

In the first half of 2021, there were 27,809 legal demands to Microsoft for access to its consumer data, of which 21,417 sought data that was stored outside of the USA. Offshoring Māori data, and/or onshoring Māori data using providers subject to other jurisdictions, is often justified on the purported basis of greater security, sector maturity and reduced cost. However, these decisions also circumvent the authority and control that Māori can exercise.

The lack of detailed information around system and agency decision-making in relation to AI also makes it very difficult for Māori, as Tiriti partners, to properly assess risk and influence decisions about the offshoring of Māori data through the use of AI.

Pou 4 Key actions

- Identify data and data sets being fed or used in the AI models, that have a collective privacy dimension so that rights and risks can be assessed and addressed.
- Develop tools to assess MDSov risks when Māori data is being processed, used and stored offshore, or onshore using a global AI provider. Agencies with system leadership responsibilities should have an ongoing monitoring function.
- Be ready to explain any use of synthetic data.

Guiding questions

23. How can the data that we hold be used to identify a Māori collective? Does that collective have a say in how that data is aggregated, accessed, shared, used or disclosed?
24. What would constitute a collective privacy violation? How might we avoid such violations when using algorithmic systems and AI tools?
25. What does our agency do to protect collective privacy when using algorithmic systems and AI tools, and what more could be done?
26. What processes does our agency have in place to ensure that Māori make decisions about what Māori data is stored, destroyed or used in algorithmic systems and AI tools?
27. How is MDSov incorporated into procurement policies and practices in relation to AI services?
28. What processes does our agency have to ensure the security of Māori data when using algorithmic systems and AI tools?

¹⁴ Most of this section is a summary of a more comprehensive analysis of Māori data sovereignty and offshoring Māori data that was commissioned by Te Kāhui Raraunga. https://www.kahuiraraunga.io/_files/ugd/b8e45c_c035c550c8244c70a1025c-d90a97298e.pdf



Pou 6

Data use and reuse for AI implementation

Algorithmic systems and AI tools can transform government agencies by streamlining operations, enhancing data analysis capabilities, and enabling more personalised service delivery to citizens. When developed collaboratively with Māori perspectives integrated into their design, these tools can address historical inequities in service delivery while respecting cultural values and supporting MDGov. The transformative potential of these tools is greatest when their technological advancement aligns with ethical frameworks that prioritise transparency, fairness, and shared decision-making authority.

Using artificial intelligence effectively requires agencies to properly address consent processes, realign data analysis frameworks to reflect Māori priorities, and exercise rigorous care throughout algorithm development and deployment. Critical to this process is documenting the whakapapa (genealogy) of algorithms, tracing their lineage to their foundational data sources, including any synthetic datasets and their relationship to original information. This transparent documentation of algorithmic whakapapa establishes a foundation for robust AI governance practices and clear accountability mechanisms.

6.1 Consent

The principle of FPIC free, prior and informed consent (FPIC) is essential to the ethical use of Māori data in algorithmic systems and AI technologies. This is a higher standard than assumed implicit consent or social licence. Consent must be sought and provided before any Māori data is used or shared. Individuals and collectives must have actively agreed to allow their data to be used or disclosed for additional purposes or shared with different organisations. When data is provided with an understanding that it will not be shared with other organisations, or integrated into other data sets, then that data should not be shared, this includes feeding or using it in algorithmic systems or AI technologies.

Government agencies implementing algorithmic systems face critical challenges around data reuse, including questions of whether original consent extends to new AI applications, how derived benefits should be distributed, and how to maintain transparency as data flows through various systems.

These issues are compounded by concerns about data quality and contextual integrity when information collected under different circumstances is repurposed for algorithmic decision-making.

For Māori, these challenges carry significant implications. Government AI systems risk undermining data sovereignty by distancing information from community control, potentially exposing cultural knowledge to inappropriate use, reinforcing historical biases in decision-making, and creating economic inequities where value generated from Māori data fails to benefit Māori communities. Without meaningful Māori partnership in AI governance, these technologies may extract value without reciprocity and undermine principles of tino rangatiratanga and te Tiriti o Waitangi.

6.2
Ask the right questions

Māori research priorities and analytical frameworks should guide the implementation of algorithmic systems and AI technologies, ensuring these tools address questions of genuine significance to Māori communities and aspirations.

This is crucial because even sophisticated AI systems can perpetuate harm when applied to inappropriate research questions. Rather than reinforcing deficit narratives or statistical patterns, data utilisation should actively contribute to Māori aspirations. This means directing analytical inquiries toward supporting thriving whānau and taiao (families and environments), enhancing services for Māori communities, facilitating service devolution to Māori-led organisations, strengthening connections to cultural identity and place, and fostering improved decision-making processes between Tiriti partners.

Often, this requires a fundamental shift from positioning Māori merely as subjects of research, typically framed through deficit perspectives, to recognising Māori as rightful data architects and research designers. This transformation may necessitate agencies critically examining their own institutional limitations while investigating how transferring service delivery responsibilities to Māori organisations can enhance outcomes. The scope of inquiry should extend beyond current operational constraints to envision more ambitious possibilities, particularly in the context of AI use and governance.

6.3
Algorithms

There exists a wide spectrum of algorithmic systems and artificial intelligence technologies, varying in complexity and capability.¹⁵ However, at their foundation, algorithms serve as the essential driving force. These algorithms enable machines to learn patterns and allow artificial intelligence to perform actions. It is not magic; these systems are fundamentally built on code - structured programming instructions. Algorithms represent the

most significant control mechanism and integrity safeguard for machine learning systems and artificial intelligence applications that make decisions or act as human proxies.

Algorithms are widely used across the public service to support operational decision-making, with 27 agencies¹⁶ signing up to the government's Algorithm Charter¹⁷ (Stats NZ, 2020b)¹⁸. The only explicit reference to Māori in the Charter is the partnership principle which states that a te ao Māori perspective should be embedded in the development and use of algorithms consistent with te Tiriti. While acknowledging that no singular te ao Māori perspective exists, the Charter provides no clarity on how these diverse worldviews should be operationalised and what specific compliance measures should be implemented.

A review of the Charter's operation in its first year found many of the signatory agencies lacked clarity about how to turn the Charter's high-level principles into concrete practice (Taylor Fry, 2021), indicating a likely implementation gap. This presents an urgent opportunity to improve the Charter to guide the growing use of AI tools and algorithmic systems by government across their services.

Elsewhere, there have been concerns about the disconnect between the source of the data, those developing the algorithm, and those who are most likely to be adversely affected (Ministry of Health, 2019). Few agencies have formal governance groups to provide oversight on data use, including the use of algorithms. The Data Ethics Advisory Group was set up in 2019 to assist the government to "maximise opportunities and benefits from new and emerging uses of data, while responsibly managing potential risks and harms" (Weber et al., 2020, p. 3). However, an independent review identified several issues with purpose, membership, te Tiriti and function (Weber et al., 2020).

While the Charter is a welcome initiative, responsible algorithm design and implementation requires governance, frameworks and organisation that go further than any particular algorithm, model or

architecture. Working with communities is an essential aspect of responsible algorithm design because it provides pathways to improve systems when something goes wrong. It reflects the need for any data system to be self-reflective and responsive to both its users and to those who provide the data.

Currently there are few readily available options for people to challenge decisions made about them by public sector algorithms. At a minimum, Māori should have the right under MDGov to:

- Know whether their data is being used to develop and/or train algorithmic systems or AI technologies
- Be free from data practices that are deceptive, manipulative, coercive, discriminatory and that cause harm to individuals or groups, whether that harm is intended or not
- Interrogate and influence data practices and processes that affect them, including operational algorithmic systems.

One effective approach to meeting these requirements would be establishing a comprehensive government-wide registry that catalogues algorithms with potential adverse impacts on Māori, documenting their core mechanisms, applications, and implications.

The description should avoid technical language, be readily understood by diverse communities, and be located on a website that is easy to find and navigate.¹⁹ Research and development should proactively identify and mitigate potential data risks and harms to Māori at the outset of a proposal and monitor risk as part of best practice.

For some problems, it may be the case that no intervention is better than a bad intervention. The misuse of algorithms, and AI more broadly, can cause real-world harms to those who are subjected to them; for example, false arrests, health care discrimination and punitive social welfare measures. Rigorous testing and maintaining strong connections with affected communities are essential for verifying that services achieve their intended outcomes. This validation process becomes increasingly critical as algorithmic systems and AI technologies become more prevalent throughout the public sector.

This then identifies a new need – to increase resources dedicated to monitoring and evaluating algorithmic use and implementation across government services.

Pou 6 Key actions

- Use and share data ethically. Aim for FPIC, and at minimum, do not share data that has been provided with an explicit understanding that it will not be shared or integrated into other data sets.
- Ask the right questions of Māori data. Use Māori data to address questions that support progress towards MDGov and the desired outcomes of the MDGov Model.
- Assess how data reuse generates value and evaluate whether the resulting benefits are distributed equitably among all stakeholders, including original data contributors.
- Create structures to improve the responsible design and implementation of algorithmic systems and AI technologies.

Guiding questions

- 29. Do we have free, informed and prior consent for the particular data use? What actions can we take to develop negotiated and ongoing consent throughout the use and reuse of data?
- 30. Is more data analysis needed? Do we have permission to share this data with an AI model? What jurisdictions will the AI system utilise for data storage and processing operations?
- 31. Have I done my due diligence to understand what analysis has already been undertaken by my agency (and ideally other agencies) in relation to algorithmic systemic harm? Is there a clear and demonstratable link between proposed use/ reuse of data in algorithmic systems or AI technologies and a beneficial outcome for Māori? Are we applying the appropriate analytical framework to evaluate the data that informs the algorithm, and the algorithmic outputs?
- 32. Have any algorithms been tested, critiqued and retested? What will the impact of an algorithm be on Māori?
- 33. What biases will be coded within the algorithm? What will the impact of algorithmic decision-making be on Māori?
- 34. Are there derived benefits from the re-use of Māori data and have these benefits been distributed equitably to the appropriate groups/ communities?
- 35. Is our agency already committed to the Algorithm Charter? If so, how well have we implemented it so far?

15 https://www.ibm.com/think/topics/artificial-intelligence-types
16 For a list of agencies, see https://data.govt.nz/toolkit/data-ethics/government-algorithm-transparency-and-accountability/ algorithm-charter/
17 Operational algorithms interpret or evaluate information that results in, or materially informs, decisions that have a significant impact on individuals or groups.
18 The Charter is a commitment by agencies to manage how algorithms are deployed in order to balance privacy and transparency and prevent unintended bias. Agencies use a simple risk matrix to assess the likelihood of an algorithm's unintended adverse outcome against its relative impact. Agencies that commit to the Charter are obliged to publicly report any of their algorithms in use that present either a high or moderate risk of an adverse outcome.

19 Data cataloguing and lineage tools could partially automate this documentation process, facilitating the collection of current information while improving efficiency. Implementing a Māori data classification framework would significantly enhance the effectiveness of these tools.



Pou 7

AI quality and system integrity

Data quality serves as the foundation for accurate, informed decision-making processes. Similarly, high-quality data is essential for ensuring the precision and reliability of algorithmic systems and AI implementation.

Increasing volumes of data and the introduction of new technologies make it challenging to avoid mistakes and maintain quality. While data quality was previously equated primarily with accuracy, contemporary understanding has shifted toward evaluating it based on fitness for purpose from the user's perspective.

In addition to accuracy, data quality includes dimensions such as relevance, accessibility, timeliness and consistency. There is no single route to achieving an acceptable level of data quality that relies on decisions informed by a mix of knowledge, experience, assessment, consultation and judgement (Statistics New Zealand, 2007). Developing high-quality Māori data and consequently reliable algorithmic systems and AI requires establishing appropriate frameworks alongside engaging people with relevant cultural knowledge and expertise. Standards, auditing, monitoring and compliance are key tools for ensuring data quality, quality algorithms and system integrity.

7.1 Setting standards

Data standards are documented agreements pertaining to some aspect of data quality. Data standards help to reduce information gaps that are caused by siloed data residing within different systems with different quality controls and data definitions. A standardised approach can help generate greater value from data through improved interoperability. This makes it easier to combine, compare and analyse data from different sources.

Māori-defined data standards are important to establish a common approach to the collection, management and use of Māori data across the public service.

Māori data and algorithm standards should be developed in partnership with Māori and take account of tikanga. In the first instance, this would involve the identification of areas that might benefit from standardisation. Māori data and

algorithmic system standards would also assist iwi and Māori organisations to share data, and AI use, where mutually beneficial, and to integrate data from external sources. Implementation of robust Māori data and algorithm standards requires clear identification of success factors before development begins. This process naturally intersects with the government's Algorithm Charter (see Pou 6) and highlights the necessity of its much-needed review.

7.2 Monitoring

Monitoring is an important part of measuring system integrity. Elsewhere, the MDGov Model addresses the need for the right data to monitor Māori wellbeing over time, along with the impacts of government policies, decisions, actions and inactions. However, it is also important that data systems are routinely monitored for quality and performance. This encompasses monitoring how data quality and performance vary across different government systems, which

subsequently improves the reliability and effectiveness of algorithms developed using this carefully evaluated information.

A clear example of this is the ongoing issues with the quality of ethnicity data in the health system. While mandatory collection of ethnicity data has been in place since the mid-1990s, and there have been ethnicity data protocols for the health and disability sector since 2004, significant issues with ethnicity data quality for Māori remain (Harris et al., 2022). This means that analysis, algorithmic systems or reporting that use this data are less reliable for Māori.

Quality assurance processes should routinely and explicitly monitor the quality of data for Māori, so that at a minimum, the biases in the data can be understood, and more importantly, so that action can be taken to address quality issues when that data is to be used in algorithmic systems or AI technologies.

Monitoring should also involve routine monitoring for both potential and actual data and algorithmic harm. Algorithms in operational use should be systematically catalogued in a registry. All modifications should be documented and version histories maintained, ensuring these systems remain transparent and subject to effective auditing.

7.3 Accountability

A key precept of the Model is that MDGov should be a requirement – not a voluntary option – for any agency that interacts with Māori data. Organisations collecting, storing, or utilising Māori data must be held accountable for implementing culturally appropriate data governance frameworks, including private contractors working with government agencies. This accountability becomes especially critical when such data is used in algorithmic systems for decision making or incorporated into AI model training.

As O'Neale et al. (2025) emphasise, 'Document your code; state your assumptions; show your working' is essential for maintaining algorithmic whakapapa and supporting kaitiakitanga.

Pou 7 Key actions

- Monitor, register and report for potential and actual data harms.
- Be ready and able to demonstrate the measures taken to collect, use, disclose and share Māori data in ways that are technically and culturally safe.
- Be ready to explain the algorithm systems in use.

Guiding questions

36. How do we currently monitor the quality and performance of our data systems in relation to MDGov? What do we need to do to effectively monitor our data systems and how they influence algorithmic creation and/or use in AI across the public sector?
37. How do we currently monitor the potential and actual harm caused by our data practices? What steps could we take to improve the monitoring of data harms? What steps could we take to improve the monitoring of algorithmic harms?
38. Who in our organisation is responsible for maintaining the security of Māori data, and ensuring that the collection, storage, use/reuse and sharing of Māori data is culturally safe? What support do they need?
39. What are our internal processes for ensuring accountability for data misuse or data harm? What are our internal processes for ensuring accountability for AI misuse or AI harm?
40. Internally, what are the consequences for addressing breaches of MDGov, including the misuse of Māori data? And the misuse of AI?
41. What remediation processes does our organisation have established to address situations where: data breaches harm Māori, Māori data is misused, AI applications cause harm to Māori through improper implementation, or other violations of MDGov principles occur?
42. What influence does our agency have with regards to how private organisations use Māori data in the use of AI?



Pou 8

Data Classification

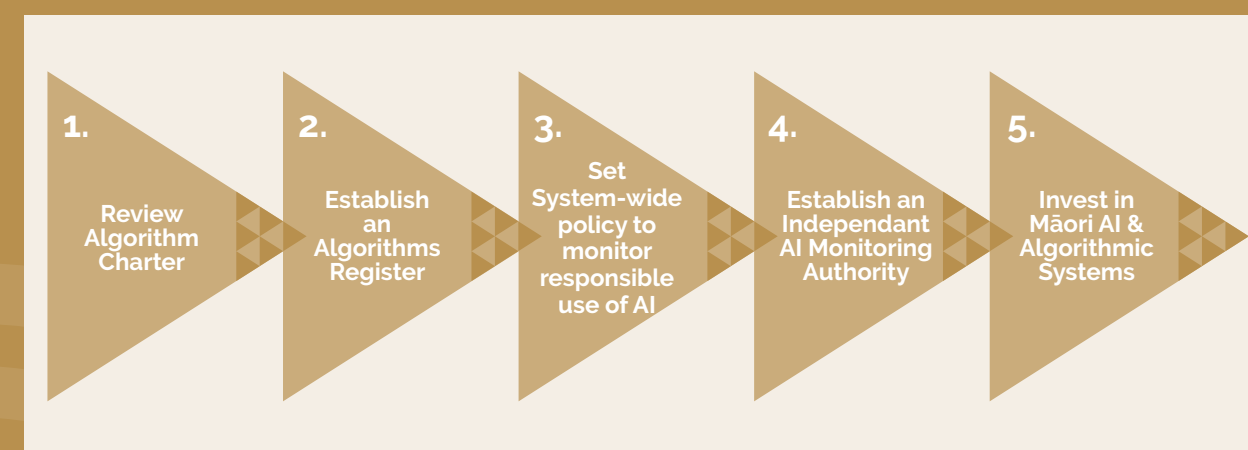
The importance of incorporating this Pou centres on the identification and classification of Māori data. It is essential to examine the data utilised by any algorithmic system or AI technology to determine whether it contains Māori data.

Guiding questions

43. Does this organisation have a process to identify Māori data? Does this organisation have treatment protocols for Māori data?
44. What definitions and protocols are used to identify Māori data? Is there a way we can identify Māori data in use by algorithmic systems or AI technologies we may be implementing?
45. Are there any special considerations (beyond business as usual) that are given to data that is identified as Māori data? Are we monitoring Māori data in use by the AI tools we own or subscribe to?

Recommendations

These five recommendations should be applied consistently across all areas of government to ensure the fair and responsible governance of data used, reused, or accessed within algorithmic and AI systems. They provide a foundational framework to support robust governance—covering infrastructure, policy, technical system design, and architecture—throughout the implementation and operation of AI across the public sector. As a nation committed to the wellbeing of all people and to building a resilient, inclusive digital economy these recommendations represent an essential starting point for future-ready and equitable AI governance.



Recommendation 1

Review the government's Algorithm Charter currently managed by Statistics NZ, to provide better guidance in accordance with te Tiriti o Waitangi and the MDGov Model, *Tuia te korowai o Hine-Raraunga*.

Algorithms represent the most significant control mechanism and integrity safeguard for machine learning systems and AI applications. Whilst 27 agencies signed up to the governments' Algorithm Charter, it is widely known that implementation of the Charter has been fraught. The only explicit reference to Māori in the Charter is the partnership principle which states that a te ao Māori perspective should be embedded in the development and use of algorithms consistent with te Tiriti. While acknowledging that no singular te ao Māori perspective exists, the Charter provides no clarity on how these diverse worldviews should be operationalised and what specific compliance measures should be implemented. A Review of the Algorithm Charter cognisant of the other four recommendations of this paper is therefore not only timely, but urgent!

Recommendation 2

Establish an open and transparent register of algorithms in use by the government. Make it publicly available to view.

Using artificial intelligence effectively requires agencies to properly address consent processes, realign data analysis frameworks to reflect Māori priorities, and exercise rigorous care throughout algorithm development and deployment. Critical to this process is documenting the whakapapa (genealogy) of algorithms, tracing their lineage to their foundational data sources, including any synthetic datasets and their relationship to original information. Establishing transparent documentation, like a public algorithms register provides a foundation for robust AI governance practices and clear accountability mechanisms.

Recommendation 3

Set policy and standards for all of government that ensures trustworthy and responsible use of AI by government guided by this document and its parent document the MDGov Model, *Tuia te Korowai o Hineraraunga*. Ensure the policy and standards outline the expectations, accountabilities and consequences of breaches of the policy.

Implementation of robust Māori data and algorithm standards requires clear identification of success factors before development begins. Māori-defined data standards are important to establish a common approach to the collection, management and use of Māori data across the public service. Māori data and algorithm standards should be developed in partnership with Māori and take account of tikanga.

Recommendation 4

Establish an independent authority to monitor the use of algorithmic systems and AI across all of government, implementing requirements of the policy and standards in recommendation 3.

Quality assurance processes should routinely and explicitly monitor the quality of data for Māori, so that at a minimum, the biases in the data can be understood, and more importantly, so that action can be taken to address quality issues when that data is to be used in algorithmic systems or AI technologies.

Monitoring by the independent authority should also involve routine monitoring for both potential and actual data and algorithmic harm. Algorithms in operational use should be systematically catalogued in a registry (see recommendation 2). All modifications should be documented and version histories maintained, ensuring these systems remain transparent and subject to effective auditing.

Recommendation 5

Invest in Māori development of Māori AI and algorithmic systems, including investment in iwi Māori infrastructure and iwi Māori AI workforce development.

The most sensible action to address the concerns and leverage off the opportunities this paper presents is to invest directly into iwi Māori developed AI and algorithmic systems. This includes the investment in required local infrastructure that would address jurisdictional and security issues. It also includes investment in architectural and standards design that would naturally adhere to FPIC, Te Tiriti and strong ethical governance arrangements as outlined in the MDGov Model, *Tuia te Korowai o Hineraraunga*.

Appendix - Consolidated Question Table

POU 1 - AI DATA CAPACITIES AND WORKFORCE DEVELOPMENT

- 1. What is the capability of this organisation to govern, manage, use and interpret Māori data in culturally safe ways? This capability could be assessed as new, proficient or expert.
- 2. What roles and responsibilities are needed to ensure culturally safe data and appropriate digital and AI practices are in place?
- 3. What BADDR data practices currently occur within this organisation? Are subsequent considerations given to algorithmic systems implementation and use?
- 4. What safeguards and governance frameworks should be implemented to prevent bias, algorithmic discrimination, and data rights violations in future data systems and AI technologies?
- 5. How can this organisation strategically foster and expedite the emergence of Māori digital leadership, particularly in the rapidly evolving field of artificial intelligence?

POU 2 - IT INFRASTRUCTURE

- 6. What elements constitute our agency's IT infrastructure, and how effectively does this technical foundation address Māori needs and priorities? Do the current systems facilitate or present barriers to achieving the collaborative governance objectives outlined in the MDGov model?
- 7. How can we involve Māori in setting policy, investment strategy, and commissioning (or decommissioning) approaches that incorporate algorithmic systems and AI in our IT infrastructure?
- 8. Do we know which algorithmic systems and AI tools are in use? Are we aware how much generative AI is being used, including the circumstances of where it has been banned?
- 9. Do we have a mechanism that audits the algorithms we use?
- 10. Is our IT infrastructure fit for purpose and sustainable? Does our infrastructure enable future generations of Māori to access and use Māori data?
- 11. Does our IT infrastructure damage the environment through intensive energy use or through large physical footprints? Do we evaluate the ecological footprint of the algorithmic systems and AI tools that we implement? If we do, are the results ethical?
- 12. How can our procurement practice better take into account our responsibilities to Māori data and Māori-preferred infrastructure that supports AI development and use?

POU 3 - DATA COLLECTION AND GENERATION

13. Does our agency's approach to data collection strengthen relationships with whānau, hapū, iwi and other Māori collectives? Do our approaches enhance individual mana, and reaffirm and strengthen Māori individual and collective rights in relation to data?
14. Do we collect the data that these collectives need to address their priorities?
15. Does our agency's data collection practice uphold FPIC? Do we collect data in respectful ways that uphold people's dignity?
16. What processes does our agency have for monitoring our own data collection practices? Do we use synthetic data in training our AI systems?
17. How will we know when we are collecting data in ways that strengthen relationships with Māori collectives, that enhance individual mana, and that reaffirm and strengthen Māori individual and collective rights in relation to data?
18. What actions can we take to improve the ways that we collect data (for use in AI)?
19. Is the data that we collect essential to achieving our wider objectives? Are there other sources of similar information already available for our AI model? What analysis has already been done in this area, and do we already know what actions are required to achieve our wider objectives?
20. How long will our AI hold collected data?
21. Do we keep provenance records of the data we collect?
22. Do we use algorithmic systems or AI tools that are built on data we didn't collect? Can we confirm that this data was collected in a manner that supports MDGov principles and adhered to FPIC?

POU 4 - DATA PROTECTION

23. How can the data that we hold be used to identify a Māori collective? Does that collective have a say in how that data is aggregated, accessed, shared, used or disclosed?
24. What would constitute a collective privacy violation? How might we avoid such violations when using algorithmic systems and AI tools?
25. What does our agency do to protect collective privacy when using algorithmic systems and AI tools, and what more could be done?
26. What processes does our agency have in place to ensure that Māori make decisions about what Māori data is stored, destroyed or used in algorithmic systems and AI tools?
27. How is MDGov incorporated into procurement policies and practices in relation to AI services?
28. What processes does our agency have to ensure the security of Māori data when using algorithmic systems and AI tools?

POU 6 - DATA USE AND REUSE FOR AI IMPLEMENTATION

29. Do we have free, informed and prior consent for the particular data use? What actions can we take to develop negotiated and ongoing consent throughout the use and reuse of data?

30. Is more data analysis needed? Do we have permission to share this data with an AI model? What jurisdictions will the AI system utilise for data storage and processing operations?
31. Have I done my due diligence to understand what analysis has already been undertaken by my agency (and ideally other agencies) in relation to algorithmic systemic harm? Is there a clear and demonstrable link between proposed use/reuse of data in algorithmic systems or AI technologies and a beneficial outcome for Māori? Are we applying the appropriate analytical framework to evaluate the data that informs the algorithm, and the algorithmic outputs?
32. Have any algorithms been tested, critiqued and retested? What will the impact of an algorithm be on Māori?
33. What biases will be coded within the algorithm? What will the impact of algorithmic decision-making be on Māori?
34. Are there derived benefits from the re-use of Māori data and have these benefits been distributed equitably to the appropriate groups/communities?
35. Is our agency already committed to the Algorithm Charter? If so, how well have we implemented it so far?

POU 7 - AI QUALITY AND SYSTEM INTEGRITY

36. How do we currently monitor the quality and performance of our data systems in relation to MDGov? What do we need to do to effectively monitor our data systems and how they influence algorithmic creation and/or use in AI across the public sector?
37. How do we currently monitor the potential and actual harm caused by our data practices? What steps could we take to improve the monitoring of data harms? What steps could we take to improve the monitoring of algorithmic harms?
38. Who in our organisation is responsible for maintaining the security of Māori data, and ensuring that the collection, storage, use/reuse and sharing of Māori data is culturally safe? What support do they need?
39. What are our internal processes for ensuring accountability for data misuse or data harm? What are our internal processes for ensuring accountability for AI misuse or AI harm?
40. Internally, what are the consequences for addressing breaches of MDGov, including the misuse of Māori data? And the misuse of AI?
41. What remediation processes does our organisation have established to address situations where: data breaches harm Māori, Māori data is misused, AI applications cause harm to Māori through improper implementation, or other violations of MDGov principles occur?
42. What influence does our agency have with regards to how private organisations use Māori data in the use of AI?

POU 8 - AI QUALITY AND SYSTEM INTEGRITY

43. Does this organisation have a process to identify Māori data? Does this organisation have treatment protocols for Māori data?
44. What definitions and protocols are used to identify Māori data? Is there a way we can identify Māori data in use by algorithmic systems or AI technologies we may be implementing?
45. Are there any special considerations (beyond business as usual) that are given to data that is identified as Māori data? Are we monitoring Māori data in use by the AI tools we own or subscribe to?

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