

TE AO MATIHIKO | DIGITAL WORLD

Whakatakinga | Introduction

This paper considers the application of the Tiaki Taonga framework to artificial intelligence and the digital world; it is part of a two-paper series that follows the development of an implementation plan for the Tiaki Taonga framework to bioprospecting (as the Crown currently works through bioprospecting policy reform). The other paper developed alongside this looks at the application of Tiaki Taonga to climate change adaptation. These two papers are slightly shorter in form, as unlike the bioprospecting paper, they have been developed in advance of the input of a subject matter expert.

The purpose of this paper is to demonstrate how the Tiaki Taonga framework can better inform policy settings to ensure that the regulation of activities in artificial intelligence and the digital world addresses issues raised in the claim.

This paper is structured in the following way:

1. Defining the digital world and AI and the connection to the Wai 262 claim.

2. Setting out the existing Crown policy and regulation of the digital world and AI, including identifying where mātauranga Māori has already been recognised as critical for policy development.

3. Demonstrating the application of the Tiaki Taonga framework to the digital world and AI.

4. Providing current case studies on the digital world and AI activities that assess how people are meeting, or not meeting the standard set out in an improved regulatory regime, which is based on the Tiaki Taonga framework.

Kaupapa | Digital and Artificial Intelligence (AI)

Digital refers to the interconnected space created by digital technologies that allow for the creation, storage, exchange, and consumption of information in digital form. It includes **artificial intelligence** (AI), virtual and augmented reality, blockchain technologies and digital identities.

Connection of Digital World and AI to Wai 262 Kaupapa

The digital world is rapidly evolving, most recently through the growing use of AI. The unregulated nature of many of the digital/artificial intelligence activities being undertaken raises issues for how the digital world interacts with our *taonga* and *mātauranga*. This is particularly important given the inequity experienced by Māori in accessing the digital world and building digital literacy (the digital divide). The digital divide includes access, but also the Crown's inequitable approach to building literacy through education (STEM).

The Iwi Leaders Group (ILG) on Māori data – Te Kāhui Raraunga developed a report on the back of engagement in 2020 which “presents a Māori-Crown co-design continuum as an analytical framework which can provide guidance for co-design in other Māori and Indigenous contexts.”[1]

Currently, the fastest-growing space in the digital world is AI. A strong concern of many Māori in the early development and use of AI is the homogenisation of knowledge inherent in AI, which runs counter to the *te ao Māori* perspective which sees knowledge grounded in, and flowing from our environment. For the reason above, AI also does not easily grapple with the *te ao Māori* concept of the *whakapapa* of knowledge, or the concept that knowledge should be carefully imparted, through a proper process; AI risks severing the role between a *tohunga* (as a knowledge-holder) and a *pia / taura* (as the student).

Commonly known as the "flora and fauna" claim, the WAI 262 claim[2] asserts our right as *tangata whenua* to exercise *tino rangatiratanga* over our *taonga* and *mātauranga*. Central to the Wai 262 claim is our role as *kaitiaki*. The claim identified how since 1840, the Crown and private entities (supported by acts and omissions by the Crown) have undermined our traditional knowledge and relationship with the natural environment, and our ability to fulfil our role as *kaitiaki*.

AI is rapidly evolving in its grasp of our *taonga* and *mātauranga*; the call for regulation of AI is stronger, proportionally, among Māori.[3] In the development of this paper, the writer engaged in this [conversation](#) with ChatGPT entirely in *te reo*. The writer probed ChatGPT around the understanding of concepts such as *tapu*. ChatGPT provided responses to indicate its awareness that some knowledge is *tapu* and should not be shared widely. AI also is used, by Māori and non-Māori, to develop Māori art or representations based on *te ao Māori*. [4]

This highlights the risk that the digital world, and AI in particular, is not only interacting with our *taonga* and *mātauranga* as we traditionally see those concepts, but also that our data itself is a *taonga* in need of protection. The development of AI infrastructure comes at a huge cost, meaning that the AI engaging with our *taonga* and *mātauranga* are international companies with limited to no exposure to Māori, or accountability for how AI interacts with our knowledge.

Last year, the Māori-lead at Microsoft developed his own AI which aims to interact with mātauranga Māori, in the context of his rohe of South Taranaki;[5] it's unclear how widely, if at all, he engaged in the development, and how much data is now accessible to Microsoft as a result of this process.

Te Kāhui Raraunga has been playing a role in the broader digital (with a focus on data) landscape. However, AI is currently not regulated, and in a short period, it has accessed a wide pool of data that has enabled it to build (or at least portray that it has built) a strong knowledge-base of *taonga* and *mātauranga*.

The statement of claim identifies a number of issues relevant to climate change adaptation, in particular:

1. The Crown's removal of the ability of Māori to develop and have access to changing technologies as they relate to the use of Māori intellectual property.
2. The right to determine intellectual property rights in the knowledge and use of *taonga* and *mātauranga*.
3. The right to participate in, benefit from, and make decisions about the application of existing and future technological advances as they relate to *taonga* and *mātauranga*.
4. The iwi interest in the continued existence of flora and fauna as particular species and as interconnected threads of *te ao turoa*.

In 2001, the Waitangi Tribunal published its report on the claim, *Ko Aotearoa Tenei*, which examines, among other kaupapa, intellectual property rights, including those related to native species.

The Tribunal concluded that Māori knowledge of native species constitutes a form of *taonga*, over which Māori are guaranteed *tino rangatiratanga*. It noted that state law and government practices have failed to uphold this principle regarding Māori knowledge. The Tribunal recommended addressing this violation by empowering Māori to exercise control over *taonga* through *kaitiakitanga*.

Current Crown Policy Context & Regulatory Framework

The Crown regulatory framework for the digital space is set out below. As stated above, there is currently no regulation specific to AI in New Zealand; in fact, much of the regulatory framework is digital neutral (not designed specifically to regulate digital activities). The Crown's position is to test the ability of the existing regulatory framework to regulate AI activities, and not to rush the process and over-manufacture regulation. The responsible Minister is currently promoting the OECD AI Principles as a form of soft law in the interim.[6] However, the Crown is currently reviewing this position, and engaged last year with Te Kāhui Raraunga on AI.[7]

New Zealand's regulatory framework for digital and AI includes the following key elements:

Privacy Act 1993: The Privacy Act is at odds with the concept of Māori Data Sovereignty. It is focused on individual privacy rights. The Act requires the Commissioner to consider “cultural perspectives on privacy.”

Copyright Act 1994: this Act fails to engage with Māori intellectual property rights and is out of sync with technological developments. This Act, alongside the Patents Act 2013 and Trade Marks Act 2002, have all been raised in the broader issues of Wai 262.

Harmful Digital Communication Act 2015: This act provides legal protection for individuals against online harassment, bullying, and other forms of harmful digital communications. However, this fails to capture the example provided above of AI generated content designed to create ill-will towards Māori in general.

Digital Identity Services Trust Framework Act 2023: This act establishes a legal framework for digital identity services in New Zealand, including rules and regulations for how accredited digital identity services should operate, protecting information and privacy. It is governed by the Trust Framework Board.

Alongside legislation, we also see: **Algorithm Charter for Aotearoa New Zealand:** The Algorithm charter for Aotearoa New Zealand demonstrates a commitment to ensuring New Zealanders have confidence in how government agencies use algorithms.

Ngā Tikanga Paihere (Stats NZ): a framework guiding ethical and culturally appropriate data use developed by Stats NZ alongside Maui Hudson.

The following pillars should also inform the Crown's current regulatory framework.

However, this administration of the New Zealand state government has either indicated a lack of support, or at best, has not been openly supportive of these:

- 1. He Whakaputanga & Treaty of Waitangi:** Both He Whakaputanga o te Rangatiratanga o Nu Tirenī 1835 (The Declaration of Independence) and te Tiriti o Waitangi 1840 affirm tino rangatiratanga (Māori authority) over land and taonga.
- 2. Tikanga Māori:** begins from a fundamentally different perspective than state law, as it emphasises the relationship between people and the environment or taonga rather than aligning with Western notions of exclusive ownership. Traditionally, land and resources could be utilised by various Māori collectives simultaneously or at different times for diverse purposes, like gardening and gathering. While Māori legal concepts of control and ownership do exist, they are rooted in a different framework of use rights and responsibilities. In contrast to state law, tikanga Māori does not have a centralised repository and is instead derived from oral traditions captured contemporarily in written documents. Tikanga is practiced through underlying values such as manaakitanga, kaitiakitanga, and whānaungatanga. Tikanga is context-specific, meaning it can vary in understanding and practice among different Māori collectives.

3. International Law

UN Principles for the Ethical Use of Artificial Intelligence in the United Nations System (2022): a series of principles to promote “safe, secure and trustworthy” artificial intelligence (AI) systems that will also benefit sustainable development for all. Backed by 120 member states in the UN.

UN Declaration on the Rights of Indigenous Peoples: Adopted in 2007 and endorsed by New Zealand in 2010, this Declaration is the most comprehensive instrument addressing Indigenous rights, affirming their ownership and control over lands, territories, resources, and deriving intellectual property.

Application of Tiaki Taonga to Digital World & AI

The current vision of Te Taumata is the constitutionalisation of te Tiriti o Waitangi through entrenchment of a taonga Māori protection framework, Tiaki Taonga. Te Taumata seeks for Tiaki Taonga to be a standalone sui generis framework that can be activated in every instance where there is activity relating to taonga Māori and mātauranga Māori.

The activity moves the taonga and mātauranga into a sphere whereby protection and/ or use of the subject is governed by appropriate tikanga and kawa that underpins the taonga. The framework is kaitiaki and hapū based.[8] A key component of this framework is that it will enable Māori to exercise tino rangatiratanga – a degree of authority that incorporates a spectrum of rights and responsibilities from ownership and control, to co-ownership and co-management,

to consultation – over *mātauranga* Māori and *taonga*.

Part of the framework informs bespoke legislation for the protection of taonga and mātauranga Māori. This is underpinned by Pou Uara, which include for example, the recognition of intrinsic *mauri* in *taonga* and *mātauranga*, and the *whakapapa* connection between *kaitiaki* and *taonga*. The framework is intended to regulate activities that relate to *taonga / mātauranga Māori* that, both commercial (private) and regulatory (Crown).

Application of Tiaki Taonga in the development of the case studies helps us better understand things like the maturity of existing regimes to meet te Tiriti obligations, areas of stress and tension that require tools, and how the provision for protection of taonga and kaitiaki relationships enables (rather than hinders) commercial activity because it provides certainty.

The lack of regulation (and to a degree, representation) in the AI space means we currently have very limited ability to exercise *rangatiratanga* over our *mātauranga* and *taonga*. Any ability we do have, is built through an expectation of corporate social responsibility (CSR) and engagement with Māori, as opposed to a regulatory requirement. This means AI is already sharing our *mātauranga* and *taonga* widely, and at times earning revenue for companies,[9] but without *mātāpono* to guide it.

The Pou Uara in Tiaki Taonga provide a strong foundation for mātāpono to guide the appropriate use of AI, and support:

1. The prevention of misuse and misappropriation of taonga Māori and/or corresponding mātauranga;
2. The development of ethics and guidelines to facilitate and encourage the appropriate use of, and benefit from, taonga Māori;
3. A cost-effective, properly resourced, and workable monitoring, audit, enforcement and sanction regime.

The tool below has been developed as part of this paper and corresponding case studies. The purpose of this tool is to assess activity engaging with taonga / mātauranga against the Tiaki Taonga framework. The goal is for the tool to provide guidance for users and recognise the tino rangatiratanga of iwi and hapū over their taonga / mātauranga.

References:

[1] *Te Kāhui Raraunga*
<<https://www.kahuiraraunga.io/maori-datagovernance>>.

[2] *Written by Moana Jackson and led by Haana Murray, Dell Wihongi, John Hippolyte, Tama Poata, Kataraina Rimene and Witi McMath in 1991.*

[3]
<https://internetnz.nz/assets/Uploads/New-Zealands-Internet-Insights-2023.pdf>

[4] *See an example of improper use -*
<https://www.teaonews.co.nz/2025/02/11/fake-runanga-photo-draws-the-ire-of-ngapuhi-chairperson/>

[5] <https://www.stuff.co.nz/te-ao-maori/350151921/microsofts-dan-walker-creates-ai-support-matauranga-maori>

[6] <https://oecd.ai/en/ai-principles>

[7] <https://www.mbie.govt.nz/dmsdocument/28913-approach-to-work-on-artificial-intelligence-proactiverelease-pdf>

[8] *NICF Wai 262 2024, at 4.*

[9] *Many AI models have a subscription cost attached.*

Taonga Analysis

| | | |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identification | <ul style="list-style-type: none"> (a) Flora or Fauna (b) Genetic or Biological Resource of Taonga Species (c) Mātauranga (d) Expressions of Mātauranga (Taonga Works) | |
| Kaitiaki and nature of relationship | <p>Kaitiaki</p> <ul style="list-style-type: none"> (a) All Māori (b) Iwi – Specify: (c) Hapū or whānau – Specify: (d) Individuals or groups - Specify: | <p>Nature of kaitiaki relationship</p> <ul style="list-style-type: none"> (a) Whakapapa (b) Mātauranga and association (c) Use and development (d) Other: |
| Authority and influence – The stronger the relationship, the greater the control and influence of kaitiaki. | <ul style="list-style-type: none"> (a) Devolution of authority and control (b) Kaitiaki co-management (c) Advice and expertise (d) Consultation (e) Other: | |
| Protection – what kaitiaki decided is required in the protection and appropriate promotion | <ul style="list-style-type: none"> (a) Preserve/ retain (b) Protect from inappropriate use, sanction/ enforce (c) Promote and develop – use appropriate (d) Other: | |
| Tiaki Taonga – mechanisms for effective exercise of kaitiakitanga | <ul style="list-style-type: none"> (a) Sui generis model will be applicable (b) Creation of property rights (c) National and regional policy statements which apply to central and local authorities (d) Protocols/codes of conduct (e) Databases and registries (f) Other: | |
| Issues | Summary. | |
| Solution | <p>Propose and give reasons for solution. Support with evidence as to feasibility. Strategies for implementation of solution. Recommendations for further actions to resolve issues.</p> | |

Appendix 1 | Case Study: ChatGPT – te reo Māori

ChatGPT is an AI chatbot that uses Natural Language Processing (NLP) to create humanlike conversational dialogue. NLP is a field of artificial intelligence (AI) that focuses on enabling computers to understand, interpret, and generate human language. It allows machines to process and analyse text and speech, enabling applications like machine translation, chatbots, and sentiment analysis. Chatbot GPT can generate text and graphics. Chatbot GPT is fluent in over 80 languages, including te reo (with some grammatical errors). The fluency is built through access to public data (include dictionaries, etc).

In developing this paper, the writer engaged with ChatGPT in a conversation in te reo.[10] In the conversation, ChatGPT composed a new whakatauhā and a karakia to Tāne on request. When asked if OpenAI (the parent company) will make money through ChatGPT's knowledge of te reo, it responded: *He pātai nui tēnā! Ko taku mōhiotanga ki te reo Māori tētahi wāhanga anake o taku mahi hei āwhina i ngā tāngata e rapu ana i te mātauranga, engari kāore au i te tino mōhio mēnā ka whiwhi pūtea tōku kamupene (arā, a OpenAI) i runga i taku whakamahī i te reo Māori.*

I te ao whānui, he maha ngā kamupene rorohiko e whakawhanake ana i ngā pūnaha reo kia tautoko i ngā reo taketake, ā, i ētahi wā ka whiwhi pūtea rātou i ngā ratonga e tukuna ana ki te iwi whānui. Engari, ko te take nui ko te whakaū i te tika me te whakaute i te reo Māori me ōna tikanga.

Kei te whakaaro koe mō te wāhi ki te reo Māori i roto i ngā hangarau hou? Me pēhea te whakarite kia tika, kia whai mana te whakamahī i te reo Māori i roto i ngā pūnaha pēnei i ahau? 😊

ChatGPT provided conflicting answers at times. For example, when asked about its understanding that some knowledge is tapu and should not be shared, it agreed. However, it did not explain convincingly how it would not share knowledge that it considers tapu. It also told the writer that it would not retain any of what the writer shared in the chat, however, it also stated that it improves its knowledge of te reo through engagement with te reo speakers in chat.

Te Hiku Media have been leading the charge on AI in the space of te reo. Te Hiku have taken a strong position on protecting the rangatiratanga of our data, and declined an attempted purchase of data to inform an AI company's AI product.[11] Te Hiku noted the lucrative transcription market, and other ways at which international companies are attempting to profit of indigenous language datasets.

[10]
<https://chatgpt.com/share/67ecd76e-afc8-8012-9345-e68189c8cff0>

[11]
<https://newsroom.co.nz/2024/09/12/new-zealand-law-not-prepared-to-protect-world-leading-te-reo-maori-ai-database/>

Chat GPT - te reo Māori

| | | |
|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Identification | (a) Mātauranga Māori | |
| Kaitiaki and nature of relationship | Kaitiaki (a) All Māori (b) Iwi (c) Hapū or whānau (d) groups – Specify: Te Mātāwai, Te Tari Matua o ngā Kōhanga Reo, Te Rūnanga o ngā KKM, Te Rūnanga o ngā Kura ā-Iwi o Aotearoa | Nature of kaitiaki relationship (a) Whakapapa (b) Mātauranga and association (c) Use and development |
| Authority and influence – The stronger the relationship, the greater the control and influence of kaitiaki. | (a) Kaitiaki co-management (b) Advice and expertise | |
| Protection – what kaitiaki decided is required in the protection and appropriate promotion | (a) Preserve/ retain (b) Protect from inappropriate use, sanction/ enforce (c) Promote and develop – use appropriate | |
| Tiaki Taonga – mechanisms for effective exercise of kaitiakitanga | (a) Sui generis model will be applicable (b) Creation of property rights (c) Protocols/codes of conduct (d) Databases and registries | |
| Issues | Access, use, and distribution of <i>taonga</i> and <i>mātaraunga</i> with no accountability to <i>kaitiaki</i> ; no principles that guide appropriate use of <i>taonga</i> / <i>mātauranga</i> ; no recognition of benefit sharing for benefit to be gained through use of <i>taonga</i> and <i>mātauranga</i> . | |
| Solution | Regulation and / or direct engagement with AI companies accessing, using and distributing <i>taonga</i> and <i>mātauranga</i> to build mechanisms above that support effect exercise of <i>kaitiakitanga</i> . | |