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**Indigenous Data Sovereignty and Indigenous Data Governance:
A perspective from Aotearoa New Zealand**

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Developments in Indigenous Data Sovereignty and Indigenous Data Governance

Indigenous Data Sovereignty (IDSov) is a rapidly growing social movement and field of research and technological innovation. IDSov refers to the inherent rights and interests that Indigenous Peoples have in relation to the creation, collection, access, analysis, interpretation, management, dissemination, re-use and control of their data.¹ Indigenous data includes digital or digitisable data, information or knowledge, that is about, from or connected to Indigenous Peoples, including data about population, place, traditional knowledge, culture and environment.² IDSov is much broader than data localisation and jurisdiction – it grapples with the wider ramifications of data colonialism and the ongoing struggle for Indigenous self-determination.

IDSov networks have been established in at least three of the world's regions (Europe, Oceania, North America)³ and there is also a global network, the [Global Indigenous Data Alliance](#) (GIDA). IDSov networks share several features in that they all:

- focus on self-determination and intergenerational wellbeing
- are grounded in local Treaties and/or global human rights instruments (e.g., UNDRIP)
- recognise data as a valued cultural resource
- emphasise collective data rights, and
- prioritise Indigenous Peoples' values as the basis for good data governance.

¹ Carroll, S. R., Garba, I., Figueroa-Rodríguez, O. L., Holbrook, J., Lovett, R., Materechera, S., Parsons, M., Raseroka, K., Rodriguez-Lonebear, D., Rowe, R., Sara, R., Walker, J. D., Anderson, J., & Hudson, M. (2020). The CARE Principles for Indigenous data governance. *Data Science Journal*, 19(1), 43.

<https://doi.org/10.5334/dsj-2020-043>; Kukutai, T. & Taylor, J. (eds). 2016. *Indigenous data sovereignty: Toward an agenda*. Canberra: ANU Press. <https://press.anu.edu.au/publications/series/caepr/indigenous-data-sovereignty>

² Kukutai & Taylor (2016), op. cit.; Te Mana Raraunga (2018). *Principles of Māori Data Sovereignty*. <https://www.temanararaunga.maori.nz/nga-rauemi>

³ First Nations Information Governance Centre (Canada); Māori Data Sovereignty Network Te Mana Raraunga (Aotearoa NZ); Pacific Data Sovereignty Network (Aotearoa NZ); the United States Indigenous Data Sovereignty Network (US); Maiam nayri Wingara Indigenous Data Sovereignty Collective (Australia); GIDA Sampi (Norway, Sweden, Finland).

IDGov initiatives and the Māori Data Governance Model

Indigenous data governance (IDGov) is a key mechanism for activating IDSov. Whereas IDSov can only be realised by Indigenous Peoples themselves, IDGov can be adopted and implemented by a wide range of actors that collect and hold Indigenous data, including Indigenous communities and organisations, national governments, corporations and civil society.⁴ The UN Special Rapporteur on the right to privacy has called on national governments and corporations to recognise and uphold Indigenous Peoples' rights to IDSov and to implement IDGov.⁵ A central tenet of IDGov is that Indigenous Peoples must be the decision-makers regarding the access, control and use of Indigenous data, particularly data that are held by non-Indigenous organisations.

The First Nations OCAP ® principles are widely regarded as the first IDGov framework and assert First Nations Ownership, Control, Access and Possession over First Nations data.⁶ The international [CARE Principles for Indigenous Data Governance](#) were developed to address the growing push for open data and increased data sharing among entities. The principles, which stand for Collective benefit, Authority to control, Responsibility and Ethics, provide high-level guidance on the governance of Indigenous data with the goal of providing tangible benefits for Indigenous Peoples around the world.⁷ CARE has been affirmed or adopted by influential data actors that include the global Research Data Alliance, UNESCO Recommendation on Open Science and IEEE Recommended Practice for the Provenance of Indigenous Peoples' Data. More recently, GIDA produced a primer on *Indigenous Peoples' Rights in Data*,⁸ which draws a distinction between rights relating to data for Indigenous governance, and rights relating to the governance of Indigenous data.

In Aotearoa NZ, the *Maori Data Governance Model*⁹ was designed by Māori data experts for use across the country's public service. The demand for data-driven and evidence-based decision-making has increased the collection, sharing, analysis and reuse of Māori data by government agencies, but without clear policies or guidance that centre Māori values and

⁴ Walter, M. & Carroll, S. (2020). Indigenous data sovereignty, governance and the link to Indigenous policy. In M. Walter, T. Kukutai, S. R. Carroll & D. Rodriguez-Lonebear (eds), *Indigenous data sovereignty and policy* (pp. 1-20). Routledge.

⁵ Special Rapporteur on the right to privacy. (2018). Big data and open data taskforce report (A/73/438). Office of the High Commissioner for Human Rights (UN Human Rights). <https://www.ohchr.org/en/calls-for-input/reports/2018/report-big-data-and-open-data>
Special Rapporteur on the right to privacy (2019). Report on the protection and use of health-related data (A/74/277). Office of the High Commissioner for Human Rights (UN Human Rights). <https://www.ohchr.org/en/calls-for-input/report-thee-protection-and-use-health-related-data>

⁶ First Nations Information Governance Centre (FNIGC). (2022). *The First Nations Principles of OCAP*. <https://fnigc.ca/ocap-training/>

⁷ Carroll et al. (2020), op. cit.

⁸ Global Indigenous Data Alliance (GIDA) (2023). *Indigenous Peoples' rights in data*. <https://doi.org/10.6084/m9.figshare.22138160>

⁹ Kukutai, T., et al. (2023). *Māori data governance model*. Te Kāhui Raraunga. <https://www.kahuiraraunga.io/maoridatagovernance>

priorities. Universities have also amassed a vast volume of Māori data, but the benefits and decision-making have not been shared with the communities from whom the data originate.¹⁰

The Model seeks to transform how public service agencies collect, classify, store, share, disclose and use Māori data. It explicitly affirms Māori rights and the Crown's responsibilities under Te Tiriti o Waitangi/Treaty of Waitangi (Te Tiriti), Aotearoa NZ's founding document. The Model was published in 2023 by Te Kāhui Raraunga,¹¹ an independent charitable trust that progresses data and digital initiatives on behalf of the National Iwi (Tribal) Chairs Forum Data Iwi Leaders Group (Data ILG). The ground breaking Mana Ōrite¹² (equal authority) relationship agreement between Statistics New Zealand and Data ILG provides for a shared work programme to advance tribal data priorities and aspirations.

The Model comprises eight data pou or pillars which represent priority areas of action against which government agencies can assess their data governance maturity. Each pou defines a critical area of data governance and specifies a set of directives about actions that should be undertaken. This includes halting the offshoring of Māori data, implementing anti-racist data practices within agencies, investing strategically in Māori data leadership and data infrastructure (especially decentralised and distributed forms), prioritising Māori information needs in the collection of any new data, and repatriating data back to collective rights holders. The Model also proposes a number of measures to strengthen Māori authority over Māori data including the appointment of a Chief Māori Data Steward to support the implementation of MDGov across all of government. A simple MDGov audit tool was also developed to assist agencies and other organisations with applying the Model.¹³

Challenges in protecting Māori data

There are well-documented implementation gaps when it comes to Indigenous policies,¹⁴ and Aotearoa NZ is no exception. While a growing number of government agencies have incorporated some aspect of MDSov and MDGov into their organisational documents, this has yet to result in a meaningful shift in authority and control back to Māori.

Aotearoa NZ's regulatory environment is currently poorly placed to recognise or protect collective Māori data rights, beyond the data protection rights that apply to all New Zealanders. There is no *sui generis* Māori data law that recognises Māori data as a taonga

¹⁰ Prehn, J., Taitingfong, R., Rowe, R., Garba, I., Price, C., Hudson, M., Kukutai, T., Carroll, S. R. (2023). *Indigenous Data Governance and Universities Communiqué*. Global Indigenous Data Alliance. DOI: 10.6084/m9.figshare.24201585; *IIRC22 Indigenous Data Sovereignty Communiqué*. <https://www.maramatanga.ac.nz/project/ids22-communication>

¹¹ <https://www.kahuiraraunga.io/>

¹² Data ILG (2019). *Mana Ōrite relationship agreement*. <https://www.stats.govt.nz/about-us/what-we-do/mana-orite-relationship-agreement/>

¹³ Sterling, R., Kukutai, T., Chambers, T., & Chen, A. 2024. A Māori data governance assessment of the NZ Covid Tracer App. *Discover Social Science and Health*. <https://doi.org/10.1007/s44155-024-00092-2> (Appendix 1)

¹⁴ Wright, C., & Tomaselli, A. (eds.) (2019). *The prior consultation of Indigenous Peoples in Latin America: Inside the implementation gap*. Routledge.

(treasure of tangible and intangible value) under Article 2 of Te Tiriti, or upholds Māori data sovereignty – and Māori data ownership - as a collective right. Nor is there a *sui generis* law that recognises and upholds Māori intellectual property rights, despite the 2010 Waitangi Tribunal report ‘Ko Aotearoa tēnei. A report into claims concerning New Zealand law and policy affecting Māori culture and identity,’ known as WAI 262.¹⁵

Māori rights are invisible in Aotearoa NZ’s information privacy legislation, the Privacy Act 2020,¹⁶ which focuses on the protection of personal information of identifiable individuals. The lack of a Tiriti clause in the Act means there are few avenues under which Māori might assert or express their specific rights in privacy, including protection against disclosure of information that is regarded as culturally significant (e.g., genealogical information). The only indirect reference to consider Māori perspectives in the Act is through the requirement that the Privacy Commissioner “takes into account cultural perspectives on privacy” (s. 21c). To date this has not been done in any meaningful way,¹⁷ despite concerns from Māori about the risks of Artificial Intelligence, including the use of facial recognition technologies in public spaces¹⁸ and other forms of biometric data processing.¹⁹

The Data and Statistics Act 2022²⁰ is unique in recognising the Crown’s responsibility to give effect to the principles of Te Tiriti (clause 4) in the context of data and statistics. It provides for the interests of Māori data in relation to the collection of data, the production of statistics and access to data for furthering Māori wellbeing, and the way in which data is collected, managed and used for the production of official statistics and research (clause 3(e)). The Act also imposes specific responsibilities on the Government Statistician in relation to the way in which data is collected, managed and used for the production of official statistics and research, as well as fostering the “capability and capacity of Māori to collect and use data for the production of statistics” (Clause 14(c)). This, combined with the Mana Orite agreement, provides Māori with opportunities to influence the production and use of Māori data and statistics, even if it is silent on key matters of data ownership and rights.

MDSov initiatives

Given these challenges, Indigenous communities and innovators are crucial for propelling IDSov forward. There are a growing number of examples of community-based IDSov

¹⁵ Waitangi Tribunal (2010). *Ko Aotearoa tēnei. A report into claims concerning New Zealand law and policy affecting Māori culture and identity*, Vol. 1. Waitangi Tribunal.

https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_68356606/KoAotearoaTeneiTT2Vol2W.pdf

¹⁶ Accessed at: <https://www.legislation.govt.nz/act/public/2020/0031/latest/LMS23223.html>

¹⁷ Kukutai, T., Cassim, S., Clark, V., Jones, N., Mika, J., Morar, R., Muru-Lanning, M., Pouwhare, R., Teague, V., Tuffery Huria, L., Watts, D. & Sterling, R. (2023). *Māori data sovereignty and privacy*. Tikanga in Technology discussion paper. Hamilton: Te Ngira Institute for Population Research.

¹⁸ Privacy Commissioner (2024, 20 May). *Māori are more concerned about privacy in every way* [Press release].

¹⁹ Privacy Commissioner (2024). *Summary of submissions received between April and May 2024 in response to the Office of the Privacy Commissioner’s consultation on an exposure draft of a biometric processing code of practice*. Privacy Commissioner.

²⁰ Accessed at: <https://www.legislation.govt.nz/act/public/2022/0039/latest/whole.html#LMS418578>

initiatives in Aotearoa NZ that are grounded within mātauranga Māori (knowledges) and lived experiences. Two of these are briefly described below.

In addition to stewarding the *Maori Data Governance Model*, **Te Kāhui Raraunga** has undertaken a number of successful initiatives to build tribal data expertise and infrastructure. ‘Te Mana Whakatipu’ is its tribal-led data collection and data analytics capability and capacity development programme. To date it has focused on two key areas— a data analytics internship programme ‘He Ara Pūkeko’ and a pilot tribal data collection programme as part of Census 2023.²¹ Te Kāhui Raraunga also designed and stewards the tribal data platform Te Whata,²² and is piloting a distributed sovereign tribal data storage network Te Pā Tūwatawata.²³

Te Hiku Media is a charitable media organisation, set up by the tribes of the far north region more than 30 years ago, to revitalise and promote the Māori language. In recent years it has developed its own Artificial Intelligence tools including a Natural Language Processing tool, a Māori language pronunciation app ‘Rongo’, and a media platform app ‘Whare Kōrero’ where third parties, mainly tribal radio stations, can upload their content. Te Hiku deploys what it calls Kaitiakitanga Licenses to recognise and uphold good relations between the data, the communities that it connects to, and app users. In Māori the word kaitiaki is akin to guardian, protector or custodian. Te Hiku has designed bespoke Kaitiakitanga Licenses for both of its apps as well as the ‘Papa Reo’ API that Rongo uses to process user data to enable features such as speech detection and pronunciation assessment. The Rongo Kaitiakitanga License provides users with the assurance that Te Hiku will only use data that they consent to share for the purpose of Māori language revitalisation and in ways that are aligned with cultural protocols. Te Hiku has also been outspoken about the data colonialism of corporations mining Indigenous language data for their own products, including Open AI²⁴ and Lionbridge.²⁵

Conclusion

Indigenous academics, practitioners and knowledge holders have demonstrated significant innovation and commitment to laying the foundations for IDSov and IDGov in order to advance their aspirations for self-determination and the wellbeing of their peoples, cultures, languages and territories. This has been achieved with limited resources and little support by way of regulatory frameworks and policies. The UN, through its instruments and mechanisms,

²¹ Sewlyn, K. & Balthus, B. (2024). Growing data ‘doers’. In *Indigenous Data Sovereignty Masterclass Workbook*. Ngā Pae o te Māramatanga. <https://www.maramatanga.ac.nz>

²² <https://tewhata.io/>

²³ <https://waateanews.com/2024/06/04/world-first-data-storage-infrastructure-solution-built-by-iwi-maori-for-iwi-maori/>

²⁴ Mahelona, K., Leoni, G., Ducan, S. & Thompson, M. (2023). Open AI’s Whisper is another study in colonisation. <https://blog.papareo.nz/whisper-is-another-case-study-in-colonisation/>

²⁵ Coffey, D. (2021). Māori are trying to save their language from big tech. *Wired*. <https://www.wired.co.uk/article/maori-language-tech>

now has an opportunity to support and empower Indigenous-led research, innovation and advocacy in these two areas.

Recommendation

Indigenous Peoples have the right to Indigenous data sovereignty and Indigenous data governance as an expression of their inherent sovereignty and right to self-determination, as a critical enabler of collective wellbeing and sustainable development, and as a tool to counter ongoing dispossession and discrimination.

Indigenous Data Sovereignty

States must recognise and protect Indigenous data sovereignty through bespoke laws, policies and frameworks. Indigenous data sovereignty requires Indigenous Peoples, as the rightful owners of their data, to be able to control their data on their own terms, according to their own cultural protocols and priorities. There should be an intentional focus on opportunities for creating data infrastructure, technologies and capacities that enable Indigenous Peoples to actively protect and derive benefit from their data, particularly Traditional Knowledge and culturally sensitive data.

Indigenous Data Governance

States, corporations and civil society actors that collect, hold or process Indigenous data must recognise and give effect to Indigenous data governance.

Data governance includes matters relating to data collection, data disaggregation by identity and gender, data privacy and protection, data access, use and reuse, individual and collective consent including Free, Prior and Informed Consent (FPIC), data classification, metadata and data repatriation. It includes the use of data by data technologies including deductive and generative Artificial Intelligence systems.

Where Indigenous data governance frameworks and guidelines already exist, states, corporations and civil society organisations should move to implement them.

In countries where IDGov frameworks do not exist, states, corporations and civil society should adopt and implement the CARE Principles for Indigenous data governance as they transition towards approaches that are sensitive to local context and priorities.