Offshoring New Zealand Government Data

A report prepared for Statistics New Zealand

21 June 2021

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1. Introduction and summary

Introduction

1.1 We have been engaged by Statistics New Zealand – Tatauranga Aotearoa (**Stats NZ**) to undertake an engagement process with certain Māori[1] individuals and organisations and develop a report that comprehensively outlines perspectives on the benefits and risks of both onshore and offshore data storage through a Te Tiriti o Waitangi (**Te Tiriti**) and Te Ao Māori (Māori worldview) lens.

Background to the engagement

1.2 In July 2019 the Government Chief Data Steward, on request from the Data Iwi Leaders Group (the **Data ILG**), agreed to produce a discussion paper identifying the risks (and setting out how risks are being managed) in relation to the storage of Māori data held by agencies across the public service, particularly with respect to cloud storage. A paper entitled *Discussion Paper: Offshoring New Zealand Government Data* (the **GCDS Paper**) was subsequently produced by the Government Chief Data Steward (the **GCDS**) and provided to the Data ILG for feedback.

1.3 Following their review, the Data ILG technicians indicated that they were not able to support the GCDS Paper in its current form. They considered that there was a need for a more balanced and in-depth appraisal of the issues. In particular, they recommended that the following were incorporated into the next version of the paper:

(a) a more balanced, in-depth appraisal of the Crown's obligations under Te Tiriti to Māori with respect to the storage of Māori data;

(b) equal consideration of the risks and benefits of offshore and onshore data storage, given that Te Tiriti obligations do not apply outside New Zealand's jurisdiction; and

(c) consideration of local solutions that would enhance Māori sovereignty over Māori data.

1.4 Accordingly, we were engaged by Stats NZ to:

(a) engage with a number of Māori individuals and organisations to obtain their whakaaro (thoughts) in relation to this kaupapa (subject); and

(b) building on that feedback, draft a report which (among other things) addresses the feedback given by the Data ILG on the GCDS Paper.

Process

1.5 A key element of the work that we undertook was engaging, with staff from Stats NZ, with certain Māori individuals and organisations (who we have called **Māori interviewees**). The Māori interviewees were selected by Stats NZ based on their previous experience or expertise in relation to Māori data kaupapa (whether direct or indirect). We also spoke to personnel from Stats NZ, the Department of Internal Affairs, and the Department of the Prime Minister and Cabinet. The information obtained from those interviews was supplemented by written

[1] The term "Māori" as used in this report includes whānau, hapū and iwi, as well as individuals (depending on the context).

feedback from a number of agencies within, or connected to, the Government Information Group (the **GIG respondents**), and by other written material.[2]

1.6 It is important to acknowledge that the Māori perspectives referred to in this report are a limited sample of perspectives, elicited from the Māori interviewees that we engaged with and the written materials that we considered. While the report does explore, on a high level basis, certain perspectives identified from the points of view of the Māori interviewees, it does not represent a definitive account of all Māori perspectives on this subject. A much wider engagement exercise would need to be undertaken (in a culturally appropriate manner) to obtain a more in-depth understanding of the Te Ao Māori perspective on data storage.

1.7 This report also references some of the analysis of an earlier draft version of this report by Dr Chris Culnane and Associate Professor Vanessa Teague in a paper that was independently commissioned by the Data ILG in February 2021[3] (the **Culnane Teague Report**) as that analysis relates to the pros and cons of onshore and offshore cloud-based data storage.[4] The Culnane Teague Report supplements, and to an extent contrasts with, the views expressed by GIG respondents.

Focus of the report

1.8 The focus of this report is limited to onshore and offshore options for cloud-based storage of New Zealand's government data – including Māori data – held by government agencies, and agencies' decision making processes in respect of data storage. We have not been asked to consider how agencies make decisions regarding:

(a) non-cloud based storage[5] versus cloud-based storage; or

(b) the procurement of cloud-based services higher up "the stack" at a platform and/or software layer (as opposed to at the storage infrastructure layer).

1.9 As explained below in section 2, there are potential limits to the utility of engagement focussed solely on data storage. The agencies that we surveyed not only used public cloud-based services for storage, but also used Platform-as-a-Service (**PaaS**) and Software-as-a-Service (**SaaS**) solutions. These run on top of third-party infrastructure and, in the majority of cases, are hosted in offshore locations. The use of PaaS or SaaS solutions usually entails storing data in those platforms, or moving data to those platforms as required so that it can be processed or "worked on". Agencies are therefore effectively making decisions on data location when procuring any cloud-based service, not just data storage services. Accordingly, if the government is to have a conversation with Māori around data location, there is a need to consider how agencies make decisions regarding the procurement and use of onshore and offshore cloud-based services more generally.

1.10 It is also important to note that this report does not:

(a) include any independent analysis of the relative capabilities of onshore and offshore cloud storage service providers;

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[2] Further information about the process that we used to obtain information is set out in **Appendix 1**.

[3] Dr Chris Culnane and Associate Professor Vanessa Teague, *Analysis of the Bell Gully Report on Off Shoring New Zealand Government Data*, February 2021.

[4] This report does not address analysis and commentary in the Culnane Teague report on broader issues of Māori data sovereignty or capability building as the Māori interviewees have provided their own perspectives on these matters and the principal objective of this report is to document those perspectives.

[5] Where the data is not stored on infrastructure located off-site and internet accessible.

(b) seek to define "Māori data";[6] or

(c) engage to any significant extent with the broader subjects of Māori data sovereignty or Māori data governance. These were concepts raised by Māori interviewees, who saw a link between decision making processes regarding data storage and Māori data governance more generally. They saw decisions about the onshoring or offshoring of Māori data held by the government as being just one part (or "a subset") of working out what a Māori data governance system should look like, and what represents a "robust" system.

1.11 Māori data governance is the focus of a series of wānanga (fora) facilitated by the Data ILG and GCDS (see section 2 below for some further background to this work). Accordingly, while consideration of Māori data sovereignty and Māori data governance are outside the scope of this report, we wish to highlight at the outset that:

(a) it was clear from the people to whom we spoke that Māori data storage is one piece of an overall bigger puzzle, being the government's current approach to Māori data governance;

(b) there is a widespread desire for the implementation of a system of Māori data governance which operationalises the principles of Māori data sovereignty;

(c) a key aspect of this is ensuring Māori have access to, and are able to use and control, data in which they have an interest; and

(d) there appears to be a need to work on developing Māori capability in the information and communications technology (**ICT**) and digital space and, conversely, to work on developing agencies' capability and capacity to act as stewards in relation to Māori data.

Connection with other workstreams

1.12 Stats NZ has entered into a Mana Ōrite Relationship Agreement with the Data ILG, the purpose of which is for both parties to work together to realise the potential of data to make a sustainable, positive difference to outcomes for iwi (tribes), hapū (subtribes) and whānau (families).[7] The agreement sets out a work programme which specifies certain agreed outcomes for the year. One of the agreed workstreams under the Mana Ōrite Relationship Agreement is for the parties to co-design a Māori data governance model. We understand that through this workstream, the parties intend to develop an approach to data governance that reflects Te Ao Māori needs and interests in data (which we discuss further below). The key focus of this report is the storage of Māori data held by the Crown and, as such, it does not focus on the wider concepts of Māori data governance. That said, we point out that there are overlaps between the matters dealt with in this report and the wider Māori data governance workstream that is currently underway.[8]

1.13 There are also likely to be overlaps with the whole-of-government approach (referred to as "Te Pae Tawhiti") to addressing the issues raised in the Wai 262 claim and the associated Waitangi Tribunal report *Ko Aotearoa Tēnei*. Wai 262 was a contemporary Treaty claim which focussed on, amongst other things, the protection of mātauranga Māori (Māori knowledge). The next phases of Te Pae Tawhiti will involve developing a whole-of-government plan of action,

[6] However, because the ability to identify and classify Māori data is central (and a necessary precursor) to any informed decision making regarding data storage location, we have in section 2 set out some existing definitions of Māori data. We have also discussed the views expressed by Māori interviewees about what Māori data is.

[7] A copy of the Agreement is available at www.stats.govt.nz/about-us/what-we-do/mana-orite-relationship-agreement.

[8] See section 2 below for some further background on the Māori data governance workstream.

supporting Māori-to-Māori conversations about partnering with the Crown, exploring opportunities to raise the profile of the protection of Mātauranga Māori in international fora, and advancing opportunities for early progress.[9]

1.14 The Māori data governance work that is underway is also potentially relevant to the Crown's agreement to develop a national plan of action on the United Nations Declaration on the Rights of Indigenous Peoples (the **UNDRIP**).[10] The UNDRIP is discussed in more detail in section 6.

Summary of key themes

1.15 The key themes that we drew from the kōrero (comments) of the Māori interviewees and the relevant written sources are as follows:

(a) Distinctly Māori perspectives exist in relation to data, including how it is stored, authenticated, transmitted and protected. We refer to the following examples provided by Māori interviewees in this respect:[11]

(i) As one Māori interviewee put it, "Māori have always been data people". This comment was accompanied by a metaphorical example of how wharenui or whare tūpuna (ancestral meeting houses) on marae are the original repositories of Māori data. This is because the wharenui, its overall structure being the personification of a prominent ancestor, contains whakairo (carvings), tukutuku (ornamental lattice-work) and kōwhaiwhai (painted rafter ornamentation).[12]

(ii) Each of these elements contain kōrero or narratives relevant to the people and place (in other words, data), which can be interpreted and translated into kōrero, waiata (song) and/or haka (ceremonial performance) (i.e. information).

(i) By viewing the metaphor in the reverse, the storage facility of digitised Māori data can be seen as a form of "virtual wharenui". In the same way that tikanga (correct procedure) or kawa (marae protocols) exists in relation to how people engage with a physical wharenui on a marae, certain protocols for engaging with and protecting data should, according to Māori interviewees, be developed and applied in respect of the virtual wharenui (which reflects the fact that there are developing notions of what constitutes taonga (valued things) in the context of modern digitisation). As such, Māori perspectives on data storage are dynamic and continue to develop and grow today.[13]

(iii) One Māori interviewee contended that while the wharenui played a role in the storage and transmission of Māori data, ancient whare wānanga[14] generally held a

[9] See www.tpk.govt.nz/en/a-matou-kaupapa/wai-262-te-pae-tawhiti.

[10] Refer paper for the Cabinet Māori Crown Relations: Te Arawhiti Committee "Developing a Plan on New Zealand's Progress on the United Nations Declaration on the Rights of Indigenous Peoples", 28 February 2019, and Cabinet Māori Crown Relations – Te Arawhiti Committee Minute of Decision MCR-19-MIN-0003, 5 March 2019, available at www.tpk.govt.nz/en/a-matou-mohiotanga/cabinet-papers/develop-plan-on-nz-progress-un.

[11] Noting the definition of Māori data conceptualised by Te Kāhui Raraunga, we note that while certain of the examples given in this section relate to the storage of what could be considered to be "implicit" Māori data (i.e. data that has certain cultural characteristics and is encoded in cultural items such as karakia (prayers), haka, waiata tawhito (ancient waiata) and/or pakiwaitara (legends)), Māori data is not limited to such matters and also extends to wider forms of data, such as "explicit" data included, for example, in quantitative statistics. See Te Kāhui Raraunga "Iwi Data Needs", available at www.kahuiraraunga.io/iwidataneeds.

[12] This view was expressed by a Data ILG technician.

[13] This view was expressed by a Data ILG technician.

[14] Being places where tohunga taught (and continue to teach) knowledge of history, genealogy and religious practices). While in this context we understand that the Māori interviewee was referring to his understandings of

greater depth of mātauranga Māori. Ancient techniques were adopted within the whare wānanga to effect the transfer of kōrero tuku iho (oral tradition), including techniques designed to develop memory and the ability to store and recite kōrero tuku iho using word "triggers". Whare wānanga also played a role in testing the authenticity of kōrero tuku iho. One Māori interviewee mentioned how a key purpose of whare wānanga was to create a forum for in-depth debates about such Māori data so that it could be either authenticated and transmitted, or dismissed.[15]

(iv) As such, traditionally Māori had systematic ways of storing and transferring data and nuanced understandings of such matters at a conceptual level – dynamic systems which continue to evolve, apply and be practised to this day. A comprehensive body of mātauranga developed over time in relation to Māori data and its storage, as well as the tikanga and kawa that should apply to such matters.

(b) Te Ao Māori perspectives can provide valuable insights into decision making processes in respect of Māori data (including in relation to cloud storage):

(i) By way of analogy, the work of one Māori interviewee focussed on how ancient Māori knowledge (kōrero tuku iho) obtained from whare wānanga in relation to the maramataka (Māori lunar calendar) continues to be a valuable source of knowledge and can guide environmental restoration, such as planting and planning in parks and reserves.

(ii) Applying that analogy to this context, insights can, and should, be obtained in the same manner from mātauranga Māori in respect of the governance of data, including its storage.

(c) There is a lot of work currently underway by various Māori data experts (including the Data ILG and Te Mana Raraunga) to operationalise Te Ao Māori views within the government's system of data governance, including in relation to the storage of Māori data held by the Crown. To this end, for example, Te Mana Raraunga, and people affiliated with Te Mana Raraunga, have developed conceptual frameworks for Māori data governance based on Te Ao Māori principles.

(d) There are concerns in relation to the way that agencies currently make decisions about the storage of Māori data. Relevantly, these are:

(i) The current system of government decision making in relation to cloud storage adoption does not:

(A) give expression to Te Ao Māori worldviews in relation to data; or

(B) enable Māori to exercise an active role in cloud storage decision making – for any Māori data, let alone data that may be a taonga.

(ii) The Government Chief Information Officer (**GCIO**)/Government Chief Digital Officer (**GCDO**) directed focus on security and jurisdictional risk, and agencies' focus on cost-effectiveness in decision making, appears to leave little room for such other matters to be routinely considered and effected in the course of decision making.[16]

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whare wānanga as they were in ancient times, we understand that the concept of whare wānanga is a current pedagogy and is still applied as a means to transfer knowledge today.

[15] This view was expressed by a Māori interviewee with expert knowledge in mātauranga Māori.

[16] This view was expressed by a Māori academic and professional adviser.

(iii) The highly publicised failures of the government's approach to the 2018 census (i.e. the "digital-first" approach and the low turnout from Māori) demonstrate a wider problem that the government does not have the requisite capacity or capability to act as a steward in relation to Māori data.[17]

(e) There was a shared recognition amongst Māori interviewees that Māori data exists on a spectrum and that accordingly there is no single "rule" as to when Māori data should remain onshore or may be offshored. It appeared to us that the dominant concern of Māori interviewees was not with the substantive decision (i.e., to store data in an onshore cloud data storage solution or an offshore cloud data storage solution) but with the decision making *process*.

(b) Related to the previous paragraph, to realise Māori aspirations in relation to data and improve trust and confidence in decision making, Māori should be involved in making decisions about the storage of Māori data.

1.16 Addressing the concerns of the Māori interviewees set out in paragraph 1.15(d) above (in relation to the way that agencies currently make decisions about the storage of Māori data) could, at a high level, be considered to be broadly in line with agencies' obligations pursuant to Te Tiriti. We have set out in section 6 below a high level analysis of legal considerations that agencies may wish to take into account in making decisions about data storage.

1.17 Insofar as Stats NZ is concerned, addressing these concerns is also consistent with the Mana Ōrite Relationship Agreement that it has entered into with the Data ILG. The key idea behind the Agreement is recognition that the parties have equal "explanatory power" – that is, they acknowledge and accept each other's unique perspectives, knowledge systems and world views as being equally valid to decisions made under the relationship established by the Agreement. Stats NZ has committed under the Agreement to "work[ing] across the public sector data system to improve access to data and increase opportunities for iwi, hapū, whānau and representative Māori organisations to engage and have input into decisions on future system and data design".[18]

1.18 Other key features of the Mana Ōrite Relationship Agreement are:

(a) A set of defined goals for the relationship, including that:

(i) data and statistics strategies and polices, including operational approaches, enable the current and future data needs and aspirations of Māori throughout Aotearoa to be met more effectively;

(ii) there is stronger engagement and relationships between Stats NZ and iwi and hapū across Aotearoa, and the capability to sustain these over time;

(iii) iwi Māori have improved access to iwi Māori data, and enhanced opportunities to co-create and co-develop future systems and data design across the public sector data eco-system;

(iv) key data gaps for Māori are identified and resolved in partnership with Māori;

(v) there is equity of outcomes with respect to iwi and Māori data across the public data ecosystem to support decision making and investment; and

[17] This view was expressed by Data ILG technicians and a member of Te Mana Raraunga.

[18] A copy of the Agreement is available at www.stats.govt.nz/about-us/what-we-do/mana-orite-relationship-agreement.

(vi) a Te Ao Māori lens is embedded in the way in which decisions are taken across the public sector data ecosystem.

(b) A set of relationship principles, which both parties agree to honour in the conduct of the relationship. Those relationship principles are as follows:

(i) **Mana Ōrite** – respective views will be heard, considered, and afforded equal explanatory power;

(ii) **Whanaungatanga** – strong transparent relationships through respect, integrity, empathy, and commitment to the kaupapa;

(iii) **Kotahitanga** – a culture of moving together with solidarity towards a common purpose;

(iv) **Rangatiratanga** – leadership that focusses on common purpose whilst also respecting the autonomy and independence of the iwi and members of the Data ILG;

(v) **Whakawhāiti** – inclusiveness, acknowledging the respective value and roles of the National Iwi Chairs Forum and the individual iwi, hapū and Māori data stakeholders; and

(vi) **Kaitiakitanga** – a shared culture of respect, guardianship, care and protection for data as a strategic and valued resource, recognising that for the National Iwi Chairs Forum, Māori data is a taonga and iwi Māori are kaitiaki over their taonga.

(c) The parties acknowledge that the Agreement is in addition to, and not a substitute for, the broader relationship between Māori and the Crown, and does not replace the primary Tiriti relationship for individual iwi between the Crown and its representative Minister in the relevant context.

1.19 While the Mana Ōrite Relationship Agreement is between Stats NZ and the Data ILG (rather than other agencies and/or iwi or other Māori groups) – and is fundamental to that relationship – agencies may wish to consider it as a good example of operationalising the Treaty relationship between the Crown and Māori groups, and what a model for shared decision making might look like.

1.20 The key themes that we obtained from the written responses of the GIG respondents are as follows:

(a) Various GIG respondents expressed a desire to address Māori concerns in relation to the Crown's current system of cloud storage adoption decision making. As a practical example of this, some GIG respondents have paused their cloud procurement decisions pending the provision of clear guidance on the circumstances in which Māori data may be offshored.

(c) GIG respondents stressed the need for any new framework relating to cloud storage adoption decision making to be:

(i) aligned with any outputs from the Māori data governance wānanga underway between the Data ILG and the GCDS/Stats NZ; and

(ii) integrated with GCDO guidance, both existing and new.

(d) At a practical level the GIG respondents referred to a need for any new framework to:

(i) be understandable and implementable by all; that is, moving beyond high level principles to containing pragmatic advice for implementation;

(ii) facilitate a weighing up of overall risks, opportunities and benefits; that is, between operational requirements (including price), jurisdictional risk, Māori legal rights and interests, and improving Māori trust and confidence in decision making; and

(iii) provide clarity around decision making responsibilities and engagement and governance mechanisms.

1.21 At a high level, the Māori interviewees and GIG respondents appear to share a common desire to work together on this kaupapa.[19] Therefore, an opportunity exists for the parties to develop a meaningful way forward which is consistent with Māori aspirations, and builds trust and confidence in the Crown's decision making processes.

Summary of next steps

1.22 In light of the above, we have suggested that Māori and agencies could work together to co-design a framework, to be used by all agencies, to facilitate a weighing-up of the risks and benefits of offshoring on a case-by-case basis. We have provided, in paragraph 11.12 below, some suggestions for different ways in which such a framework could be designed. Whatever approach is adopted, we consider that ideally a data storage framework would work together with other frameworks, or form part of an overall cohesive strategy. That is, we consider that it should acknowledge existing kaupapa Māori frameworks and should align, to the extent possible, with the Māori data governance framework that comes out of the wānanga being facilitated by the Data ILG and the GCDS.

1.23 As requested by Stats NZ, we have also separately provided some guidance that could be adopted for use by agencies as an interim aid to support decision making about where to store Māori data when using cloud-based data storage services. The request for interim guidance is motivated by the fact that, while there is broader work being undertaken in relation to Māori data governance, including co-design of a Māori data governance framework, agencies wish to ensure that they are considering Treaty principles when making decisions now about whether to use an onshore or offshore cloud-based data storage service.

1.24 As discussed in the remainder of this report, a key concern raised by Māori is about the process by which agencies develop policy and make decisions in relation to Māori data. That is why we suggest that Māori and agencies should co-design a framework that assists with decisions to offshore data. It is also why we consider that any guidance that we provide should only be used as an aid in decision making on an interim basis. We are of the view that if the Crown wishes to improve trust and confidence in its capacity and capability to act as a steward in relation to Māori data, it will need to engage with Māori in policy design and involve Māori in decision making in this area.

1.25 The remainder of this report:

(a) deals with some foundational and contextual matters, including the meaning of Māori data, ownership of data, Māori data sovereignty and Māori data governance;

(b) for contextual purposes, summarises the:

[19] We understand that certain positive steps are already being taken by the government to help address identified gaps in agencies' capacity and capability to act as stewards of Māori data, including through the co-design of a Māori data governance model through a series of wānanga by the Data ILG and Stats NZ (discussed elsewhere in this report).

(i) current government data storage landscape and GIG respondents' perspectives on the pros and cons of the current onshore and offshore cloud storage solutions on offer to government (supplemented by analysis from the Culnane Teague Report); and

(ii) current government policy settings, risk assessment and decision making frameworks;

(c) provides our view on relevant legal considerations in respect of the storage of Māori data, including obligations under Te Tiriti;

(d) summarises, by reference to the kōrero of the Māori interviewees:

(i) particular contexts in which some of the Māori interviewees are using, or their clients are using, cloud storage services (including Māori Television's current content storage arrangements);

(ii) the relationship between data and Te Ao Māori;

(iii) Māori needs, expectations and aspirations in relation to data, and opportunities for enhancing Māori control of Māori data;

(iv) current Māori perceptions of the Crown's ability to act as a trusted data steward, and resulting risks to the Māori – Crown relationship; and

(v) the challenge for agencies, and the opportunities that would arise if Māori could be involved in decision making;

(e) sets out our views as to next steps, including in relation to the need for a decision making framework, capacity and capability building; and, finally

(f) assesses the impact of the development of local cloud storage options and a Microsoft Azure "region".

2. Scope of this report and foundational issues

Introduction

2.1 In this section we highlight those areas that are not directly within the scope of this report and their relevance to concerns about data location and how data storage decisions are made.

2.2 We also:

(a) identify the absence of a standardised approach for identifying and classifying Māori data as a foundational issue and refer to some suggestions about how this particular challenge can be addressed; and

(b) make some general comments about the place of traditional legal concepts of property in relation to data.

Storage-as-a-service versus PaaS and SaaS

2.3 The focus of this report is on onshore and offshore options for cloud-based storage of New Zealand's government data, including Māori data, held by agencies. We have not been asked to consider how agencies make decisions regarding:

(a) non-cloud based storage versus cloud-based storage; or

(b) procurement of cloud-based services higher up "the stack" at a platform and/or software layer (as opposed to at the storage infrastructure layer).

2.4 However all agencies surveyed are not only using public-cloud based services for storage but are also procuring PaaS and SaaS services, which, in turn, run on top of third party infrastructure. In the majority of cases these PaaS and SaaS services are hosted in offshore locations. When agencies procure PaaS and SaaS services, they are:

(a) storing data in those platforms; and/or

(b) moving data from its primary storage location to those platforms as required so that the data can be processed or "worked on".

2.5 For these reasons we consider that the distinction between straight storage (or infrastructure-level) services and Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS) is somewhat artificial. We also note that Māori interviewees were not making this distinction in the course of their comments on the offshoring of Māori data.

2.6 One GIG respondent observed: "The idea of datacentres hosting an application or data is gradually becoming obsolete as software vendors seek to offer 'platform or software as a service solutions' to drive efficiency, ease of use and performance."

2.7 Accordingly, agencies are effectively making decisions on data location when procuring any cloud-based service, not just data storage services.

2.8 If the government is to have a conversation with Māori around data location, there is a need to consider how agencies make decisions regarding the procurement and use of onshore and offshore cloud-based services more generally. In our view the legal concepts discussed in section 6 of this report would be applicable to decision making by agencies in relation to the procurement of both cloud-based data storage services and cloud-based services more generally.

Māori data sovereignty and Māori data governance

2.9 In addition, this report does not seek to define "Māori data" or the wider concepts of Māori data sovereignty and Māori data governance.

2.10 While the level of concern amongst Māori interviewees around the specific question of data location varied somewhat, the common response by Māori interviewees was a desire to:

(a) first and foremost, understand what Māori data is being collected by agencies and how this is held, accessed and used;

(b) have a say in how Māori data is held, accessed and used; and

(c) access and use Māori data for their own purposes.

2.11 This is the much broader subject of Māori data governance, which was the focus of the co-design wānanga facilitated by the Data ILG through its mahi (or operational) arm, Te Kāhui Raraunga Charitable Trust (**Te Kāhui Raraunga**), and the GCDS in 2020. We expand on this below.

Māori data governance co-design wānanga

2.12 The Māori data governance co-design wānanga were an output of the work plan developed under the Mana Ōrite Relationship Agreement which was entered into between the Data ILG and Stats NZ in October 2019. We understand that the primary purpose of the wānanga was to "co-design a system-wide model for Māori data governance to ensure data design, collection and dissemination serves iwi and Māori needs and aspirations".[20]

2.13 The co-design wānanga were led by Te Kāhui Raraunga, with support from wider Data ILG personnel and Stats NZ. Participants were iwi and national Māori leaders, representatives of Māori organisations with data interests, individual Māori data experts, and senior representatives from 16 government agencies.

2.14 The co-design wānanga process started in August 2020 with working wānanga for a subset of both the ao Māori and kāwanatanga (government) participants in preparation for the two co-design wānanga. The two co-design wānanga took place in September and October 2020 in Wellington.

2.15 We understand that the key outcomes from the co-design process were as follows:[21]

(a) **Waka Hourua Māori data governance model**: There was a consensus among participants on the use of a waka hourua (double-hulled canoe) framework for the development of a Māori data governance strategy. The Waka Hourua model uses the waka hourua as a key metaphorical frame, whereby one hull of the waka is occupied by Te Ao Māori and one hull by government agencies. The participants envisaged that by applying this framework they would be guided toward the realisation of a Māori data governance strategy.

(b) **Ohu Raraunga**: There was consensus that an ohu (working group) should be established to further develop the waka hourua and to develop pae tata (short term) and pae tāwhiti (long term) strategic goals for Māori data governance. The ohu would also

[20] Tawhiti Nuku – Te Kāhui Raraunga (kahuiraraunga.io).

[21] See Te Kāhui Raraunga "Māori Data Governance Co-design Review" (Te Kāhui Raraunga, January 2021) and Te Kāhui Raraunga "Tawhiti Nuku: Māori Data Governance Co-design Outcomes Report (Te Kāhui Raraunga, January 2021) for a summary of these outcomes.

be tasked with securing sustainable investment and system change for Māori data governance. The ao Māori participants endorsed Te Kāhui Raraunga to lead the ohu.

(c) **Chief Māori Data Steward**: A third key outcome of the co-design wānanga was support for the establishment of a Chief Māori Data Steward. The Steward's role would focus on ensuring data is enabling Te Ao Māori aspirations at all levels (i.e. grassroots communities and national Māori organisations). The participants noted that the role should be appropriately resourced, including through the provision of secretariat staff. Given that the role contributes to developing the government's data system as a whole, it was agreed that the role (and its support) should be resourced by the government.

Linkages with wider Māori data governance work

2.16 The majority of GIG respondents made express reference to, and expressed their intention to be guided by, the outcomes of the Māori data governance co-design wānanga. A number of GIG respondents also referred to Māori data governance initiatives that they have implemented, or are in the process of implementing, in their respective areas.[22]

2.17 The relevance of these broader questions is that Māori interviewees saw a linkage between decision making processes regarding data storage and Māori data governance more generally. It was observed that working out how decisions regarding data onshoring and offshoring are made "is just a subset of the working out what the whole Māori data governance system should look like and what represents a 'robust' system".

2.18 For this reason, while Māori data sovereignty and Māori data governance are outside the scope of this report, it is important to highlight the need (referred to in paragraph 11.6(b)) for any new decision making framework to align with the Māori data governance framework that comes out of the co-design wānanga.

Māori data

Need for a classification approach

2.19 The ability to identify and classify Māori data is central (and a necessary precursor) to any informed decision making regarding where data is stored. Only when agencies know what data they have can they make decisions about it – not just where to store it, but for how long to store it, who should have access, how they should have access, and the level at which it should be secured.

2.20 Most GIG respondents acknowledged the need for this and viewed it as a challenge. The challenge is complicated by the fact that data tends to some degree to be held in silos and decision making also occurs in silos. The government has many distributed (significant) data sets, with Māori data (structured and unstructured) seeded right throughout them. The government currently relies on a security classification approach in order to determine what data may be offshored (referred to at paragraphs 4.5 and 5.3 of this report). This approach does not enable a matrix classification – that is, to take a large data set and identify different elements within that data set as having varying levels of sensitivity when measured or assessed from a range of perspectives (including significance to Māori).

[22] Stats NZ referred to Ngā Tikanga Paihere framework (available at data.govt.nz/use-data/data-ethics/nga-tikanga-paihere/); the Ministry of Education referred to the Māori medium working group Te Rau Whakatupu Māori, which is part of the Te Rito project and has developed a set of values to guide the project; and the Ministry of Justice referred to Ināia Tonu Nei, which is based on a Mana Ōrite partnership model and governs the Justice Sector Māori data hub.

2.21 Māori interviewees saw the development of an information management classification system, to enable identification and to manage access and use, and metadata classifications (data about the data), as key. One Māori interviewee commented:[23]

> Labelling, which provides the context about the information, is just as important as the information itself – it limits what can be accurately inferred from the data/what decisions can be made based on that data. Without labels information can just get lost. Just giving people access is not enough.

2.22 Another Māori interviewee stressed the need to have people who can contextualise the data before other decisions are made about it.

2.23 At an even more fundamental level there is a need for common metadata standards for people:[24]

> Māori people are just people too. People first, a cohort second. Get that right and then there's a more overt cultural construct that you can lay over the data. If we have the latter but then apply it in 20 different ways because we don't have the former then we are back to square one.

Existing definitions of Māori data

2.24 Some significant thinking has already gone into how to define Māori data.

2.25 Te Kāhui Raraunga has produced a paper setting out guidance for Stats NZ and other government agencies on the needs for and uses of iwi data. That paper defines Māori data as "data that is about Māori; data that is from or by Māori; and any data that is connected to Māori". The rationale for that expansive definition is explained as follows:[25]

> Our earlier wānanga about data sovereignty resulted [in] the following definitions for Māori data:
>
> - Data that is for, from or about Māori and the places we have connection with; and
> - Data [that] is about or from iwi in terms of people, language, culture, resources, environments or knowledge systems.
>
> As such, we consider iwi data to be any data of this nature: data that is about Māori; data that is from or by Māori; and any data that is connected to Māori. This includes data about population, place, culture, environment and their respective knowledge systems. In our view, this spectrum can be both quantitative and qualitative data, and therefore include any data or information that comprises iwi knowledge systems, whether implicit and encoded in cultural items such as karakia, haka, waiata tawhito and pakiwaitara; or explicit in terms of statistics and qualitative narratives. It is not just statistics.
>
> We understand that methodologists often want concepts to be practical and have clear and bounded definitions. However, for us data underpins how we use data for governance, for mana motuhake, for tino rangatiratanga. If we limit this definition further, then the data ecosystem will continue to be designed against our data needs, and we will not have the appropriate data for our own governance.
>
> Using the lens of data governance, we assert control over this data according to the principles of relevance and access … . Secondly, the breadth of Māori and iwi data should be seen within the context of data for governance. While this definition is expansive, it is easier to understand why it

[23] This view was expressed by a representative from a Māori digital service provider.

[24] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

[25] Te Kāhui Raraunga "Iwi Data Needs", available at www.kahuiraraunga.io/iwidataneeds.

> is this broad if readers understand that "data that affects Māori in any way" refers to iwi and Māori desires and aspirations to exercise tino rangatiratanga for our own governance purposes.

2.26 In accordance with Stats NZ's instructions, we have adopted this definition for the purposes of this report.

2.27 We note that the definition of Māori data provided by Te Mana Raraunga is similar (although refers to the data being "digital or digitisable"). That definition provides as follows:[26]

> Māori data refers to digital or digitisable information or knowledge that is about or from Māori people, our language, culture, resources or environments.

2.28 In light of the breadth of these definitions it is not surprising that a number of Māori interviewees view Māori data as existing on a spectrum: "On that spectrum are things that we would be incredibly upset if it is out of our control and mana [authority] and if it went anywhere. But at the other end are things that we might want to sell."[27]

2.29 Some GIG respondents also acknowledged that particular data sets stand out – for example, iwi data holdings around whakapapa (genealogy), major statistical indicators for iwi, and health data – acknowledging that these require particularly careful management.

2.30 In section 6 of this report we discuss the relevance of classification to the application of Treaty principles, and what this means for decision making by agencies.

Making classification decisions

2.31 All Māori interviewees were clear that Māori must be part of the decision making process when deciding how to classify Māori data. Some Māori interviewees thought that the basic approach for developing a system for classifying Māori data should be the same as the process for developing a protocol or framework for making decisions about offshoring of Māori data. Once the standards are in place, an assessment or screening tool could be developed around this and deployed to classify data. One Māori interviewee thought this should logically be a digital tool for a digital problem.[28]

2.32 We set out in paragraph 11.12 of this report some suggestions on how a framework for classification of Māori data could operate in combination with a decision making framework regarding the storage of that data.

2.33 Some GIG respondents pointed to specific examples of data sets that have been identified as Māori data, or to work underway to identify data sets that could be classified as a taonga. For example:

(a) **LINZ**: The Survey and Title system (Landonline) has data specific to iwi/Māori, such as Māori Land surveys and "flags" on titles, and the NZ Geographic Board contains many Māori place names.

(b) **Archives New Zealand**: Archives New Zealand referred to a data sovereignty report that defines and gives examples of data of interest to Māori and taonga.

[26] Te Mana Raraunga "Principles of Māori Data Sovereignty" (2018), available at cdn.auckland.ac.nz/assets/psych/about/our-research/documents/TMR%2BM%C4%81ori%2BData%2BSovereignty%2BPrinciples%2BOct%2B2018.pdf.

[27] This view was expressed by a member of the Data ILG.

[28] This view was expressed by a representative from a Māori digital service provider.

(c) **Waka Kotahi**: The new Waka Kotahi Data and Information Strategy recognises data as a taonga and imports the Te Mana Raraunga approach. While still a work in progress, the intention is to use this approach to inform risk assessment.

(d) **Ministry of Justice**: The Ministry of Justice's Data and Information Policy specifically reflects its intent to "[h]onour responsibilities to Māori by treating records of importance to Māori and the nation as taonga: showing appropriate sensitivity, respect and care". The Ministry of Justice is currently developing an information asset register via a Data Impact Assessment process, which involves the identification and noting of Māori data assets.

Can data be "owned"?

2.34 Some Māori interviewees referred to a range of rights and interests that apply in relation to Māori data – legal rights through to inherent cultural, indigenous and human rights.[29] However traditional legal concepts of property are of limited use when conceptualising rights in relation to data. There is no legal owner of raw data because copyright does not subsist in that data, although copyright can subsist in compilations of data and in insights derived from that data.

2.35 Overseas there are some models where interests in data are seen by indigenous peoples through the lens of ownership.[30] While we consider that these models are not currently of direct relevance in New Zealand (given our existing legal framework and in light of Treaty jurisprudence in other contexts, which focusses on authority and control rather than ownership and possession), they are briefly discussed in section 6. As set out there, we do not discount the possibility that concepts of ownership may become relevant as part of the broader work being carried out in relation to Māori data governance.

2.36 We understand that Te Mana Raraunga is also currently giving some thought to what comprises an indigenous right in relation to data – not a right in the sense of an ownership right but a range of rights, such as the right to use and the right to prevent or control use by others.

2.37 Accordingly, for these reasons, we do not refer in this report to "ownership" of Māori data that has been collected and is held by agencies. We suggest that it is more helpful to think about the multiple rights that exist in relation to data, and suggest that any decision making framework relating to the offshoring of this data ought not be premised on the assumption that the data in question is "owned" by one Treaty partner or the other, but that each Treaty partner will have various obligations, rights and interests in relation to that data.

[29] This reference to a range of rights was expressed by a member of Te Mana Raraunga.

[30] See for example the First Nations Principles of OCAP (ownership, control, access, and possession), discussed at www.fnigc.ca/ocap-training/. We note also that Māori TV deals with access to content based on its understanding of the "owners" of the content: see paragraph 3.15 below.

3. Māori interviewees' perspectives on offshoring data and examples of cloud engagement

Introduction

3.1 This section of the report sets out some perspectives provided by Māori interviewees on the specific question of data location, and outlines some of the particular contexts in which certain of the Māori interviewees are using, or their clients are using, cloud storage services (including Māori Television's current content storage arrangements).

Location as an issue

3.2 Some Māori interviewees referred to an awareness of a general sentiment that all Māori data held by government should stay in Aotearoa and that the Crown should have to make the case for why that data should leave Aotearoa. However, all Māori interviewees acknowledged that Māori data exists on a spectrum and that some data is more sensitive than other data. A recurring theme of the interviews was that cloud storage decisions should be made on a case by case basis.

3.3 There was a view expressed by some Māori interviewees that as soon as Māori data goes offshore there is a loss of control over such data.[31] Interviewees observed:

(a) it is harder to hold third parties in the relevant jurisdiction to account for intended and unintended actions in relation to Māori data (although the level of "jurisdictional" risk will depend on the nature of the data set);[32]

(b) technical security is not the bottom line – even if an offshore cloud solution is more secure from a technical point of view, the data is never going to be as secure from a New Zealand data sovereignty or Māori data sovereignty perspective;[33]

(c) it is unclear how the Crown could effectively discharge its Treaty obligations in relation to Māori data once data is relocated to another jurisdiction;[34]

(d) for Māori with rights in relation to the data, there would appear to be a complete absence of any recourse against the relevant cloud provider in the event that data is compromised;[35] and

(e) "by having [the data] onshore there is also an opportunity to legislate to protect it".[36]

3.4 It was clear from the kōrero with Māori interviewees that underpinning stated concerns regarding location is the more fundamental concern of regulating access and use (i.e., control) of the data. Whichever third party cloud storage solution is selected, there is still the same need to ensure ongoing access so that Māori can utilise the data for their own purposes. The need for, and methods of enhancing, Māori control over data are discussed further in section 8 of this report.

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[31] Including Data ILG technicians and a member of Te Mana Raraunga.

[32] This view was expressed by a member of Te Mana Raraunga.

[33] This view was expressed by a member of Te Mana Raraunga.

[34] This view was expressed by a Data ILG technician.

[35] This view was expressed by a member of Te Mana Raraunga.

[36] This view was expressed by a representative from a Māori digital service provider.

3.5 Some Māori interviewees emphasised that the decision whether to offshore data should involve discussion of the benefits as well as the risks. A benefits discussion should cover what is not being obtained in terms of the ability to analyse, interpret and extract value from the data in question by retaining the data onshore:[37]

> The narrative that is missing is what are the [benefits] of storage of data offshore and what are the protocols to ensure that we can unreservedly say that we will always have access to it. It may be that we need back-up copies locally.

Decision making process versus the substantive decision

3.6 A key observation by one Māori interviewee was that if Māori are not involved in the decision making process then the point of focus will become the substantive decision. However, if the right decision making frameworks and processes are in place, then there is potential to be agnostic (depending on the sensitivity of the data) about whether the data is stored onshore or offshore.[38] This was a consistent theme of the interviews, and is discussed further in section 8 of this report.

A range of possible decision outcomes

3.7 It is important to recognise that the decision does not need to be binary – that is, simply between offshore cloud storage and onshore cloud storage. The majority of Māori interviewees were explicit about the need to ensure that a range of cloud data storage solutions are, and remain, available to government agencies, including hybrid options, so that there are ways of mitigating some of the jurisdictional issues. Commentary on the ongoing requirement for hybrid storage solutions is set out at paragraphs 12.3 – 12.6 of this report. As one interviewee phrased it, instead of endeavouring to "design" the problem to fit the solution, the government should ensure that there are a range of possible solutions on offer.[39]

How Māori are using data storage solutions for their own purposes

Private companies with iwi stakeholders/clients

3.8 Digital Navigators Limited is a services company providing GIS, mapping, and strategic digital technology consultancy services to iwi and indigenous communities – to assist in the collation of data from indigenous knowledge systems and mapping/cross-referencing of that data against government geospatial data. Iwi clients are both large and small with varying resources and digital capabilities and are using a range of onshore and offshore storage solutions, including (in the case of the larger iwi) Amazon Web Services (**AWS**).

3.9 Āhau.io is a technology company that has built digital tools to enable whānau-based communities to capture important information, histories and narratives in community archives and to store and share that data using infrastructure that is controlled and managed by the people. The experience of Āhau is that people do care about storage location and that there is concern over jurisdiction. Some groups store their archives on local devices. One rōpū (group) who worked with an offshore storage provider specifically selected Canada over the US to store its mātauranga (history, whakapapa).

[37] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

[38] This view was expressed by a member of Te Mana Raraunga.

[39] This view was expressed by a representative from a Māori digital service provider.

Flax-roots community initiative

3.10 One Māori interviewee referred to a data storage project that he was actively involved with in the Far North (as at the time of the kōrero). This related to the storage of kōrero tuku iho in respect of a grouping of papakāinga in Hokianga. The kōrero tuku iho is currently stored in an on-premise storage system at one of the kura (school) embedded in the papakāinga community. As the kōrero tuku iho is inherently linked by whakapapa to the community's tūpuna (ancestors), the data contained within it was perceived as particularly important and in need of protection from interference (which, in the Māori interviewee's view, the onshore option ensured): "we don't want people 'tutu'ing' around with our whakapapa... ever".[40]

3.11 At the time of our kōrero, papakāinga community representatives were engaging with Spark and other providers to investigate moving away from a traditional on-premise storage system to a local cloud solution. This was largely due to a desire to facilitate access to, and management of, the data by papakāinga whānau members. It was also a long term goal for the storage system to enable the exchange of indigenous knowledge with other indigenous communities throughout the Pacific and North America (e.g. the Navajo people).

Māori video content provider: Māori Television

3.12 The empowering legislation for Māori Television[41] acknowledges the Treaty partners' joint obligation to preserve, protect and promote te reo Māori (the Māori language). The principal function of Māori Television is to "contribute to the protection and promotion of te reo Māori me ngā tikanga Māori [through the provision of the television service]".[42]

3.13 Māori Television took its protection function into account when it made a deliberate decision to use a local cloud-based service provided by Catalyst IT Limited for the storage of its website content.[43] A Māori Television representative observed that Māori Television's preference is to have this content "down the road" rather than in another country. Catalyst IT is a New Zealand-owned company with three local data centres (in Porirua, Hamilton and Wellington). While a local cloud solution means higher storage costs and limited redundancy relative to an offshore cloud solution, moving large volumes of data offshore and then back onshore creates its own issues around latency and content transfer (in the form of access and restore times) that can then only be solved by purchasing more bandwidth, which comes at a significant additional cost. Accordingly, a local data storage solution makes sense from a range of perspectives.

3.14 In addition to the low resolution copy of each video file stored in Catalyst IT's cloud, high resolution archive copies are retained on Māori Television's premises and tape copies are stored at an off-site location in New Zealand.

3.15 The Māori Television representative explained that Māori Television's core concern, however, is effective content access management. Access is carefully managed via terms of understanding with the "owners" of the content. We understand that while the "owners" are not told where content will be stored, a clear understanding of the purposes for which the content will be used is documented. Should Māori Television subsequently wish to re-purpose the data then it will go back to the "owners" and seek permission for such use. Particular care is taken with sensitive content, such as whaikōrero (pōwhiri oratory), tangihanga (funerals, rites for the dead), Waitangi Day celebrations, and coverage of controversial events such as the 2007 police raids in Te Urewera. In all these cases, specific terms of understanding are "wrapped around" the content.

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[40] This view was expressed by a Māori interviewee with expert knowledge in mātauranga Māori.

[41] Māori Television Service (Te Aratuku Whakaata Irirangi Māori) Act 2003.

[42] Māori Television Service (Te Aratuku Whakaata Irirangi Māori) Act 2003, section 8(1).

[43] This was noted by a representative of Māori Television.

4. Current government data storage landscape

Introduction

4.1 This section of the report summarises:

(a) the range of service providers and the location of those service providers (onshore or offshore) currently used by agencies to store New Zealand government data; and

(b) on the basis of feedback received from GIG respondents as supplemented by the views of the authors of the Culnane Teague Report, the perceived technical and commercial pros and cons of the data storage solutions that are available onshore compared to the services provided by the hyperscale public cloud providers located offshore.

4.2 The primary purpose of this report is to introduce a Te Tiriti and Te Ao Māori lens or perspective and to consider how this might be incorporated into the decision making frameworks used by agencies. Accordingly, we have not conducted any independent analysis of the pros and cons of onshore versus offshore cloud-based data storage solutions, and we have presented the perspectives of GIG respondents in summary format only.[44]

Storage solutions currently used by agencies

4.3 The table set out in **Appendix 2**: *Current landscape: storage infrastructure service providers and location*, shows the range of third party storage providers currently in use by GIG respondents, and which we expect is broadly representative of the public sector as a whole.

4.4 All agencies surveyed are using a combination of:

(a) **data storage solutions**: comprising managed storage at local data centres, AoG (All-of-Government) IaaS and offshore hyperscale public cloud; and

(b) **storage service providers**: with some providers located onshore and locally-owned (for example, Revera, Datacom), some providers located on-shore but foreign-owned (for example, Fujitsu and Unisys) and other providers located offshore (for example, AWS and Microsoft Azure (**Azure**)),

to store government data collected and generated in the course of each agency's operations. This has resulted in government data being stored in a variety of onshore and offshore locations.

4.5 Some agencies continue to run their own legacy onshore capability, hardware and systems due, in part, to the prohibition on holding data above RESTRICTED in a public cloud (whether hosted onshore or offshore), although the extent to which these are used and where precisely they are located was not clear from the GIG responses.

4.6 In addition, all GIG respondents are procuring various SaaS services.[45] The majority of these SaaS services are running on AWS or Azure infrastructure.

[44] Stats NZ's own perspectives on the technical and commercial pros and cons were set out in the original discussion paper prepared by Stats NZ.

[45] Refer to the far right column of the table in Appendix 3.

Pros and cons of onshore cloud storage services v offshore cloud storage services

4.7 The table set out in **Appendix 3**: *Pros and cons – offshore and onshore data storage solutions*, has been populated on the basis of responses from GIG respondents. GIG respondents were asked to consider (amongst other things) the key risks to the ability of the Crown to perform its role as data steward or data custodian associated with the use of onshore data storage services compared to the services provided by Azure and AWS from offshore. This table does not reference the legal and broader "trust and confidence" issues associated with each option, which are the main focus of this report.

4.8 By way of summary, the onshore service providers and solutions do not appear to be viewed by the GIG respondents as providing the same levels of security, scalability, performance or resilience of the global hyperscale public cloud providers. One GIG respondent commented that:

> Assessment of security risk has shifted in the last few years, from a view that data was safest in our own data centres, to recognising that major public cloud vendors provide significant security benefits. This is particularly so when systems need to be accessible externally to enable effective delivery of public services.

4.9 Further, due to the economies of scale that can be reaped by AWS and Microsoft, the offshore options are widely regarded by GIG respondents as being more cost effective. Nor does AoG IaaS replicate the range of capabilities and functionality of a hyperscale public cloud provider like Azure or AWS, with one GIG respondent noting:

> Ultimately a disk is a disk for storing data, but it's what you can do with that data [that matters]. To gain any benefit from onshore data organisations must create the capabilities themselves, which is far higher cost and lower quality [compared to the services offered by the offshore hyperscale public cloud providers].

4.10 The GIG respondents were not asked to comment specifically on the third option of an onshore data storage solution operated by a company under foreign ownership.

4.11 The table in **Appendix 3** also references some of the commentary from the Culnane Teague Report as this relates to the technical pros and cons of onshore versus offshore data storage solutions. The Culnane Teague Report supplements, and to some extent contrasts with some of, the views expressed by the GIG respondents.

5. Current policy settings and risk assessment and decision making frameworks

Introduction

5.1 In this section of the report we summarise current approaches to decision making by agencies. We have defined "jurisdictional risk" and summarised what GIG respondents and Māori interviewees have said about how jurisdictional risk is, or should be, factored into decision making by agencies. We then highlight the gaps in those existing decision making frameworks to the extent that these have been acknowledged by the GIG respondents and also as highlighted by Māori interviewees. We also note the actions that some GIG respondents are taking to incorporate a Māori perspective into cloud-based service procurement decisions.

Cloud First

5.2 Cabinet's "Cloud First" policy requires agencies to adopt cloud services in preference to traditional IT systems. Cabinet has directed all public service agencies to contact the GCIO for advice and guidance when considering the use of any cloud service, and to follow a mandatory and uniform information management process issued by the GCIO.[46] Agencies within the GCIO functional leadership mandate are required to follow the cloud risk assessment and endorsement process established by the GCIO. All public service agencies are expected to follow the process set out in this Cabinet direction.

Government data currently not permitted to be stored in cloud-based solutions

5.3 There is no "cloud" classification system for data in New Zealand. Agency decision making currently relies on government security classifications in order to determine what data may be offshored (for storage and/or processing in cloud-based solutions). Government security classifications are essentially about the level of damage that would be done to the nation were the data to be exposed. No data above RESTRICTED is permitted to be held in a public cloud, whether it is hosted onshore or offshore. Data classified up to SENSITIVE can now be stored in AWS and Azure.

Current guidance

5.4 Procurement decisions on all cloud computing services (including cloud-based storage) are required to be made on a case-by-case basis after a proper risk assessment by agency chief executives with GCIO oversight, reflecting the importance of the GCIO as an adviser to agencies on cloud services. The current range of mandated processes and guidance available to agencies is set out set out online.[47]

5.5 The risk assessment tools and guidance include:

(a) a cloud risk assessment process incorporating a risk assessment tool (GCIO 105), which contains 105 questions that deal with the security and privacy aspects of cloud services; and

[46] Cabinet Minute (13) 37/6B.

[47] See snapshot.ict.govt.nz/resources/digital-ict-archive/static/localhost_8000/guidance-and-resources/using-cloud-services/assess-the-risks-of-cloud-services/index.html.

(b) GCDO's "Managing Jurisdictional Risks for Public Cloud Services" – which provides a framework for assessing jurisdictional risks in relation to both jurisdictions and cloud services providers.[48]

5.6 The cloud risk assessment can inform, and can also be informed by, the Certification and Accreditation (**C&A**) process under the New Zealand Information Security Manual (**NZISM**) and by Privacy Impact Assessments.

5.7 The relevant agency's Chief Executive or formal delegate is required to attest to the completeness and adequacy of the risk assessment that has been carried out before the agency can use the relevant cloud-based services. The completed cloud risk assessment tool and the sign-off (or "endorsement") is then submitted to the GCIO.

Assessment of jurisdictional risk

5.8 Jurisdictional risk is inherent in any decision to store data offshore. It is effectively addressed by being selective about what jurisdiction data is transferred to, or by not transferring the data at all.

5.9 While agencies are typically considering security risk in the same context as jurisdictional risk, these are quite separate issues:

(a) **Information security risk** is focussed on the risk of unauthorised access (including illegal access), use and disclosure, in addition to loss or destruction.

(b) **Jurisdictional risk** occurs where data is subject to the laws of the country where cloud service providers store, process, or transmit data. The principal problem is of government and law enforcement agencies in that jurisdiction having legal rights to access that data for whatever their laws allow in a way that is disadvantageous to New Zealand's national interests or inconsistent with New Zealand's laws (that is, in a way with which the New Zealand government would not be "comfortable").

5.10 Accordingly, data location is key when assessing jurisdictional risk. Data location is not inherently key when assessing security risk, as the security risk will depend more on the capabilities and protections inherent in the relevant solution. Jurisdictional risk will also arise in the case of foreign-owned onshore providers (and is discussed in paragraphs 12.11 – 12.13 of this report).

5.11 The framework set out in "Managing Jurisdictional Risks for Public Cloud Services" requires agencies to carry out the following assessments:

(a) **Lawful access**: an assessment of the laws that regulate a government's lawful access to data.

(b) **Legal institutions**: an assessment of the robustness of legal institutions that oversee a government's lawful requests for access to data.

(c) **Privacy frameworks**: an assessment of the protections available to personally identifiable information.

5.12 On this definition of jurisdictional risk the government has identified a limited number of jurisdictions where New Zealand government data can be stored where the risk is "tolerable". This guidance remains under review as those jurisdictions continue to update their laws. An

[48] See snapshot.ict.govt.nz/resources/digital-ict-archive/static/localhost_8000/assets/Guidance-and-Resources/Cloud-ICT-Assurance/Jurisdictional-risks-v1.0-UNCLASSIFIED.pdf.

example of this is the Telecommunications and Other Legislation Amendment (Assistance and Access) Act 2018 (Cth), which gave Australian law enforcement and intelligence agencies the ability to access data stored in Australian domiciled data centres, including data belonging to overseas governments.[49]

5.13 All GIG respondents commented that jurisdictional risk is one factor in the risk assessment, to be considered alongside other risks including, for example, security, business continuity, cost, and latency. The emphasis that is placed on jurisdictional risk is necessarily a factor of the nature and importance of the data set in question.[50]

5.14 While there were some inconsistencies amongst the GIG responses, it was generally acknowledged that using technical means to mitigate the risk of lawful access by foreign government and law enforcement agencies issues is not the solution. While this may solve the immediate access problem, it then creates a range of other problems – and could become quite a significant bilateral issue.

Jurisdictional risk and Māori data

5.15 Viewed more broadly, jurisdictional risk also generates broader issues that agencies have to take into account for Māori (and New Zealanders generally) to have confidence that their data is protected after it is moved offshore. However, jurisdictional risk is currently being assessed by, and from the perspective of, the government. It appears that the level of tolerance for jurisdictional risk amongst Māori with interests or rights in relation to that data is not being routinely considered.

5.16 None of the Māori interviewees were intimately familiar with the GCDO's "Managing Jurisdictional Risks for Public Cloud Services" – most did not know it existed. However, Māori interviewees were very clear that while offshore cloud-based storage solutions may be more secure than the domestic offerings from a technical point of view, the data is never going to be as secure from a sovereignty (Māori data sovereignty and New Zealand data sovereignty) perspective. Accordingly, offshoring data without "buy-in" or Māori involvement risks eroding trust and confidence in government decision making.

What Māori interviewees have said about current decision making frameworks

5.17 All Māori interviewees were critical of current government decision making processes and said that these must change.

5.18 One of the recurring themes in comments made by Māori interviewees on current government decision making processes was the lack of transparency. They observed that agencies are already making decisions about which data sets are too sensitive to go offshore, but that there is no visibility over what this looks like: "A lot of these decisions are made without any kind of consultation – not just Māori but other New Zealanders who want to understand the risks [of offshoring]".[51]

5.19 Those Māori interviewees who had seen decision making at play commented on decision making occurring in silos and the need for less "adhoc-ness". One Māori interviewee, who has

[49] This legislation was a factor in recent decisions of certain agencies to retain data onshore, including the Judiciary and Parliamentary Services.

[50] One GIG respondent explained that if a "copy" of a master dataset was being assessed, as opposed to the master dataset itself, the weighting would change. For master datasets of critical importance to New Zealand that are not otherwise openly available, the respondent would give a stronger weighting on jurisdictional risk than it would for a copy.

[51] This view was expressed by a Data ILG technician.

been contracted as a cultural adviser across different agencies, said he was not aware of any "one" decision making process.

5.20 Some Māori interviewees also observed that the primary driver for decisions to offshore government data were cost-effectiveness and security. They considered that New Zealand is being "led" by this lens, adding that financial cost is a very short-term consideration and that the government must also think about longer-term costs and benefits.

5.21 A number of Māori interviewees acknowledged that offshore public cloud providers are clearly better at security than the onshore service providers. However they also observed that agencies are not always doing their due diligence well – for example, understanding the full scope for data to be moved to, or accessed from, offshore locations (in addition to the primary site location) or for a service provider to access and retain data, particularly where the data is being processed by the service provider's proprietary algorithms.

5.22 Similarly, various Māori interviewees pointed out that agencies have a clear lack of capacity and capability to act as stewards of Māori data. Two of the Māori interviewees noted that the highly publicised failure of the government's approach to the 2018 census (i.e. the "digital-first" approach and the low turnout from Māori)[52] demonstrates that the government does not have the requisite capacity/capability to act as a steward in relation to Māori data.[53] Another Māori interviewee held the view that this plays into a wider problem of generally poor data governance in New Zealand.[54] Agencies' capacity and capability to act as stewards of Māori data is discussed further in paragraphs 9.1 – 9.3 of this report.

5.23 More fundamentally, Māori interviewees said that current decision making does not give Māori a say in relation to collection, use or access either: "It is very difficult for Māori at any level to be involved in the collection, and to exercise any rights in relation to data that has been collected about Māori, including accessing that information."[55] This is referred to further in paragraphs 8.18 – 8.20 of this report.

Acknowledged gaps in current decision making frameworks

5.24 Some GIG respondents have also acknowledged the need for the government to establish and maintain the trust and confidence of Māori in connection with decisions to offshore government data, and have highlighted:

(a) a general intent and desire to attend to this area, pointing to some general statements of intent regarding giving effect to Crown obligations and Māori rights and interests under Te Tiriti in empowering legislation and/or strategy documents; and

(b) the absence of a systematic and approved approach for engaging effectively with Māori in the spirit of Te Tiriti in this area.

5.25 Some of the GIG respondents have paused their decision making in relation to offshoring certain data sets pending:

(a) provision of clear advice and guidance from the GCDO; and

[52] See, for example, Bryce Edwards "Political Roundup: The absolute debacle of the 2018 Census" *The New Zealand Herald* (online ed, Auckland, 6 March 2019).

[53] This view was expressed by Data ILG technicians and Te Mana Raraunga.

[54] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

[55] This view was expressed by a representative from a Māori digital service provider.

(b) the development of a collective approach to Māori data governance via the outcomes of the wānanga being facilitated by the GCDS.

5.26 It was acknowledged that government agencies continue to grapple with how to apply a Te Ao Māori lens to the design, planning and execution of cloud storage adoption. It was suggested that this is largely due to a lack of capacity and capability within government, and the fact that current policy settings and frameworks are silent on how to achieve this.

What some agencies are doing

5.27 Some agencies are utilising a range of complementary frameworks and tools in order to incorporate a Māori perspective when making broader decisions about:

(a) use of Māori data more generally (referred to in the footnote to paragraph 2.16 of this report); and

(b) offshoring specifically, for example:

(i) **Archives New Zealand** takes specific account of data of interest to iwi/Māori in setting its approach to management of data in its archival management system and has produced its own guidance that refers to data location;[56] and

(ii) **Stats NZ** applied a privacy impact assessment framework in the course of assessing whether to migrate certain systems (excluding the IDI) to Microsoft Office 365 hosted on Azure infrastructure located in Australia, and in the course of that process drew upon applicable dimensions of the Ngā Tikanga Paihere framework.

5.28 There are also examples of organisations getting independent advice on the application of Te Tiriti in relation to particular programmes. One is the Health Quality Safety Commission, which recently decided against offshoring of data collected via the Patient Experience Survey.

5.29 Te Rau Whakatupu Māori, the Māori medium working group involved in the governance of the Ministry of Education's Te Rito programme, recently discussed offshoring the hosting of learner information, and has taken the position that hosting data onshore is preferable.

Objectives of new Cloud Centre of Excellence

5.30 An all-of-government Cloud Centre of Excellence (**CCOE**) is currently in the process of being established, led by the Digital Public Service branch (**DPS**) Te Kōtui Whitiwhiti of the Department of Internal Affairs. The intention of the CCOE is to better support agencies in the design, planning and execution of the adoption of cloud-based services. Increasingly, DPS is aware that the focus of agencies when conducting their risk assessments is not just on security and privacy, but also on the application of a Te Ao Māori lens. DPS has expressed an intention to develop an expanded toolkit to help agencies work through all three of these areas.

[56] Refer "Cloud Services: Information and records management considerations", available at archives.govt.nz/files/Clouds%20services%20-%20Information%20and%20records%20management%20considerations%2018%2FG15.

GCDO and GCDS working collectively

5.31 It was acknowledged that the government functional leads responsible for matters relating to cloud storage migration and data storage (i.e. the GCDO and GCDS)[57] need to work together closely when engaging with Māori, particularly in those areas where they have joint or overlapping responsibility.

[57] The GCDO oversees the development and management of digital for the state sector, and the GCDS supports the use of data as a resource across government to help to better deliver services to New Zealanders.

6. Relevant legal considerations in respect of the storage of Māori data

Introduction

6.1 This section of the report focusses on legal considerations for agencies making decisions about where to store Māori data. It focusses in particular on Te Tiriti and the UNDRIP. However, it also considers the legal relevance of other instruments raised by Māori interviewees and agencies. These include He Whakaputanga o te Rangatiratanga o Nu Tireni/The Declaration of Independence of the United Tribes of New Zealand (**He Whakaputanga**), and relationship agreements entered into between Māori and the Crown, often (but not always) in the context of the Treaty settlements process.

6.2 It is important to note at the outset that:

(a) This section deals only with legal considerations, in light of decisions of the courts and Waitangi Tribunal to date. Considering these matters is necessary, but may not be sufficient to establish a relationship based on trust and confidence between agencies and Māori. That is, while it is obviously important that agencies consider their legal obligations when making decisions about the storage of Māori data, focussing only on legal considerations is unlikely to be the best way to realise Māori aspirations in relation to data and improve confidence in decision making. However, they may provide at least a baseline against which Crown decision making can be measured.

(b) This is an evolving area of law. Both the courts and the Waitangi Tribunal take the view that Te Tiriti is a living document, and is capable of adaptation to meet new and changing circumstances.[58] It is therefore not possible to be definitive about the views that a court or the Waitangi Tribunal might come to in considering these issues. There is room for views other than those we have set out below, which are necessarily high level.

(c) Māori perspectives on what is required under Te Tiriti will not necessarily align in all cases with the law as it stands at present. We acknowledge, for instance, that some Māori consider that legal analysis should proceed based on the articles of Te Tiriti, rather than on Treaty principles.

(d) Finally, there are of course other, general legal constraints on how data – including Māori data – is stored, and the circumstances in which it is accessible. These include legislation such as the Public Records Act 2005, the Official Information Act 1982 and the Privacy Act 2020.[59] Those constraints are not considered in this report.

[58] See for example *New Zealand Māori Council v Attorney-General* [1987] 1 NZLR 641 (CA) at 655 – 656 and 663 per Cooke P ("an embryo rather than a fully developed and integrated set of ideas"); *Te Rūnanga o Muriwhenua Incorporated v Attorney-General* [1990] 2 NZLR 641 (CA) at 655 ("the Treaty is a living instrument and has to be applied in the light of developing national circumstances"); Waitangi Tribunal *Motunui-Waitara Report* (Wai 6, 1983) at 52 ("the Treaty is capable of a measure of adaptation to meet new and changing circumstances provided there is a measure of consent and an adherence to its broad principles").

[59] New information privacy principle 12 deals with disclosure of personal information outside New Zealand. However, guidance provided by the Privacy Commissioner states: "Using offshore cloud providers or other agents to store or process your data is not treated as a disclosure under principle 12, so long as the agent or cloud provider is not using that information for their own purposes." Refer Privacy Commissioner *Disclosing personal information outside New Zealand – the new information privacy principle 12* (P/1873/A711558), available at www.privacy.org.nz/assets/DOCUMENTS/IPP12-guidance/1.-Principle-12-Guidance-web.pdf.

Te Tiriti o Waitangi/The Treaty of Waitangi

The principles of the Treaty of Waitangi

6.3 It is by now well known that the Māori and English texts of Te Tiriti (set out in full in **Appendix 4**) are not direct translations of each other, and the courts have accepted that they do not necessarily convey exactly the same meaning.[60] For this reason, the courts, the Waitangi Tribunal and, in many cases, legislation often refer to the "principles of the Treaty of Waitangi". Those principles have been the subject of considerable discussion in court judgments and Waitangi Tribunal reports. We set out from paragraph 6.11 below the principles that we consider agencies may want to take into account when making decisions about the storage of Māori data. All arise against the background that Te Tiriti guarantees to Māori "te tino rangatiratanga" (absolute chieftainship/sovereignty) over (relevantly) "ratou taonga katoa" (all their treasures). We consider that Treaty principles may speak both to how those decisions are made, and what agencies may ultimately decide in respect of data storage.

The legal status of Te Tiriti

6.4 Strictly speaking, the law remains that the rights conferred by Te Tiriti cannot be enforced in the Courts except in so far as a statutory recognition of the rights can be found.[61] However, for present purposes, the significance of that strict position is limited for a number of reasons.

6.5 First, Te Tiriti is recognised in a number of statutes. This may be generally, or in more specific (and sometimes more limited) ways. To give just one example, a purpose of the Public Records Act 2005 is to "encourage the spirit of partnership and goodwill envisaged by the Treaty of Waitangi (Te Tiriti o Waitangi)".[62] To that end, and in order to "recognise and respect the Crown's responsibility to take appropriate account of [Te Tiriti]", the Act:[63]

(a) requires the Chief Archivist to ensure that, for the purposes of performing their functions, processes are in place for consulting with Māori;[64]

(b) stipulates that at least two members of the Archives Council must have knowledge of tikanga Māori;[65]

(c) recognises that the Archives Council may provide advice concerning recordkeeping and archive matters in which tikanga Māori is relevant;[66] and

(d) recognises that an iwi-based or hapū-based repository may be approved as a repository where public archives may be deposited for safekeeping.[67]

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[60] See for example *New Zealand Māori Council v Attorney-General* [1987] 1 NZLR 641 (CA) at 662 per Cooke P, 671 per Richardson J, 694 per Somers J and 712 per Bisson J. The preamble to the Treaty of Waitangi Act 1975 itself recognises that "the text of the Treaty in the English language differs from the text of the Treaty in the Maori language".

[61] *Te Heuheu Tukino v Aotea District Maori Land Board* [1941] AC 308 (PC) at 324 – 325; *New Zealand Māori Council v Attorney-General* [1994] 1 NZLR 513 (PC) at 524.

[62] Section 3(g).

[63] Section 7.

[64] Section 11(3).

[65] Section 14(3)(b).

[66] Section 15(1)(a)(i)

[67] Section 26(1).

6.6 Secondly, Te Tiriti may be used as an aid to interpreting legislation even in the absence of a direct statutory reference.[68] It can therefore colour agencies' obligations under other statutes.

6.7 Thirdly, the Waitangi Tribunal has jurisdiction to inquire into Crown policies and practices to determine whether they are consistent with the principles of the Treaty. If they are not, and it considers that they are prejudicial to Māori, the Tribunal can make recommendations as to how to remedy the inconsistency. There is therefore a means by which the consistency of government action with Te Tiriti can be measured.

6.8 Finally, there is also a general responsibility under the Public Service Act 2020 for agencies to "[support] the Crown in its relationships with Māori under the Treaty of Waitangi (te Tiriti o Waitangi)".[69] While this responsibility is owed to the Minister responsible for the relevant agency,[70] it reflects the broader position that, in general, the Crown may be presumed (morally, if not legally) to want to honour its commitments under Te Tiriti and its principles. All of this means that Te Tiriti and its principles do provide a useful framework to guide Crown action in relation to Māori rights and interests in Māori data.

How does Te Tiriti apply if data is stored offshore?

6.9 We have heard concerns expressed that if data is to be moved offshore, it will be held in a jurisdiction where Te Tiriti does not apply. It is true that Te Tiriti does not apply to overseas companies. Equally, however, it does not apply to companies based in New Zealand. In either case, the position is the same: Te Tiriti obligations fall on the Crown, and the Crown must ensure that it is able to meet those obligations if it decides to delegate or outsource its responsibilities to third parties. As the Waitangi Tribunal said in the *Ngawha Geothermal Resource Report* (in the context of the control of natural resources):[71]

> If the Crown chooses to so delegate it must do so in terms which ensure that its Treaty duty of protection is fulfilled.

6.10 As discussed earlier, however, overseas governments and law enforcement agencies may have rights to access data stored in their jurisdiction (and, in some circumstances, to data held by companies from their jurisdictions who store data in New Zealand). The exercise of those rights would not be constrained by Te Tiriti.

Relevant principles of the Treaty

6.11 There is no single or definitive statement of the principles of the Treaty. Instead, they must be gleaned from decisions of the courts and the Waitangi Tribunal, and from the text of Te Tiriti itself. Set out below are the principles that could be thought to be most relevant to decision making in this space, together with a brief discussion in relation to each.

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[68] *Barton-Prescott v Director-General of Social Welfare* [1997] 3 NZLR 179 (HC); *Ngaronoa v Attorney-General* [2017] NZCA 351, [2017] 3 NZLR 643 at [39] – [52].

[69] Section 14. Note that this provision does not apply to all types of Crown agencies (such as Crown entities): refer definition of "public service" in section 10. However, many have nevertheless themselves made commitments to uphold Te Tiriti and its principles.

[70] Section 15.

[71] Waitangi Tribunal *The Ngawha Geothermal Resource Report* (Wai 304, 1993) at 101.

Rangatiratanga and kāwanatanga

6.12 Te Tiriti gives the Crown a right of kāwanatanga (the right to govern), but reserves to Māori tino rangatiratanga. The Waitangi Tribunal has explained the relationship between these concepts in this way:[72]

> The Treaty of Waitangi was based on a fundamental exchange of kāwanatanga, or the right of the Crown to govern and make laws for the country, in exchange for the right of Māori to exercise tino rangatiratanga over their land, resources and people. Finding the appropriate balance between governance for all New Zealanders and protection of the Treaty rights of Māori is complex and cannot be applied generally to any given situation. We must consider the circumstances of each case, what is at stake, and the options available for resolution. In any case, the Crown's right of kāwanatanga is not an unfettered authority. The guarantee of rangatiratanga requires the Crown to acknowledge Māori control over their tikanga, and to manage their own affairs in a way that aligns with their customs and values.

6.13 In its Wai 262 report, the Waitangi Tribunal explained the concept of tino rangatiratanga in relation to taonga as follows:[73]

> Through the Treaty, the Crown won the right to enact laws and make policies. That proposition has been accepted time and again by the courts, as well as this Tribunal. It could hardly be otherwise in New Zealand's robust democracy. But that right is not absolute. It was – and remains – qualified by the promises solemnly made to Māori in the Treaty, the nation's pre-eminent constitutional document. Like any constitutional promise, those made in the Treaty cannot be set aside without agreement, except after careful consideration and as a last resort.
>
> Of these promises, the most important in this context is the guarantee to protect the tino rangatiratanga of iwi and hapū over their 'taonga katoa' – that is, the highest chieftainship over all their treasured things. Most speakers of Māori would render tino rangatiratanga, in its Treaty context, as a right to autonomy or self-government. The courts have found that the tino rangatiratanga of iwi and hapū is entitled to active protection by the Crown

6.14 The Tribunal went on to say that what tino rangatiratanga can or should entail will depend on the circumstances of the case. It recognised different situations in which greater or lesser decision making authority should rest with Māori:[74]

> In accordance with Treaty principle tino rangatiratanga must be protected to the greatest extent practicable, but – like kāwanatanga – it is not absolute. After 170 years during which Māori have been socially, culturally, and economically swamped, it will no longer be possible to deliver tino rangatiratanga in the sense of full authority over all taonga Māori. It will, however, be possible to deliver full authority in some areas. That will either be because the absolute importance of the taonga interest in question means other interests must take second place or, conversely, because competing interests are not sufficiently important to outweigh the constitutionally protected taonga interest.
>
> Where 'full authority' tino rangatiratanga is no longer practicable, lesser options may be. It may, for example, be possible to share decision making in relation to taonga that are important to the culture and identity of iwi or hapū. And where shared decision making is no longer possible, it should always be open to Māori to influence the decisions of others where those decisions affect their taonga. This might be done through, for example, formal consultation mechanisms.
>
> Just what tino rangatiratanga can or should entail will now depend on the particular circumstances of the case. But law and policy makers must always keep firmly in mind the crucial point that the

[72] Waitangi Tribunal *Tū Mai Te Rangi! The Report on the Crown and Disproportionate Reoffending Rates* (Wai 2540, 2017) at 25 –26 (footnotes omitted).

[73] Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 15.

[74] Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 16 – 17.

> tino rangatiratanga guarantee is a constitutional guarantee of the highest order, and not lightly to be diluted or put to one side.

6.15 On this basis, there are "levels" of tino rangatiratanga that may be exercised: from full authority, to shared decision making, to influence and consultation. In some cases, full authority for Māori may be required because of the importance of a particular taonga interest. Where that is not practicable, shared decision making might be appropriate. If that is not possible either, then there should nevertheless be an opportunity for Māori to influence the way that decisions that affect their taonga are made.

Partnership and reciprocity

6.16 The Waitangi Tribunal in the *Tū Mai Te Rangi!* report explained that the principle of partnership arises out of the exchange of kāwanatanga and rangatiratanga, and "describes how the Crown and Māori were to relate to each other under the Treaty as two peoples living in one country". It said:[75]

> This relationship is founded on good faith and respect. It requires both parties to act reasonably towards one another, with each party acknowledging the needs and interests of the other. This requires co-operation, compromise and the will to achieve mutual benefit. It also means respect for each partner's spheres of authority.

6.17 Similar sentiments have been expressed by the Courts, which have said that the principle of partnership:

- puts each party under a positive duty to act in good faith, fairly, reasonably and honourably towards the other;[76] and
- requires the Te Tiriti partners to make genuine efforts to work out agreements over issues that arise between them;[77] but
- does not authorise "unreasonable restrictions on the right of a duly elected Government to follow its chosen policy".[78]

6.18 In considering the principle of partnership, the Waitangi Tribunal has made clear that Te Tiriti envisages that Māori and the Crown are equals. Accordingly, Māori interests are not simply one factor to be considered among many other priorities. Rather, "Māori autonomy is pivotal to the Treaty and to the partnership concept it entails".[79]

The duty to make informed decisions

6.19 In the *Lands* case, Richardson J explained that:[80]

> The responsibility of one Treaty partner to act in good faith fairly and reasonably towards the other puts the onus on a partner, here the Crown, when acting within its sphere to make an informed

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[75] Waitangi Tribunal *Tū Mai Te Rangi! The Report on the Crown and Disproportionate Reoffending Rates* (Wai 2540, 2017) at 27 – 28 (footnotes omitted).

[76] *Te Runanga o Wharekauri Rekohu Inc v Attorney-General* [1993] 2 NZLR 301 (CA) at 304.

[77] *Tainui Maori Trust Board v Attorney-General* [1989] 2 NZLR 513 (CA) at 529 per Cooke P.

[78] *New Zealand Māori Council v Attorney-General* [1987] 1 NZLR 641 (CA) at 665.

[79] Waitangi Tribunal *The Taranaki Report: Kaupapa Tuatahi* (Wai 143, 1996) at 5.

[80] *New Zealand Māori Council v Attorney-General* [1987] 1 NZLR 641 (CA) at 683.

> decision, that is a decision where it is sufficiently informed as to the relevant facts and law to be able to say it has had proper regard to the impact of the principles of the Treaty.

6.20 Similarly, in the *Tū Mai Te Rangi!* report, the Tribunal said:[81]

> We accept the guarantee of rangatiratanga means 'it is for Māori to say what their interests are, and to articulate how they might best be protected'.

6.21 Accordingly, the Crown needs to ensure that its policy processes are sufficiently informed by Māori knowledge and opinions to make good on its obligations under Te Tiriti. However, this does not necessarily require a full consultation exercise in respect of every decision. In some cases, the Crown may already be in possession of sufficient information "for it to act consistently with the principles of the Treaty without any specific consultation".[82] There is judicial recognition that "wide-ranging consultations could hold up the processes of Government in a way contrary to the principles of the Treaty".[83] The Waitangi Tribunal has similarly recognised that "[t]he degree of consultation required in any given instance may … vary depending on the extent of consultation necessary for the Crown to make an informed decision".[84] In line with this, we consider that it may be possible for Māori and the Crown to work together to develop agreements or guidelines for the Crown to apply to data sets that are within Crown control.

6.22 Where the Crown does need further information, however, the Tribunal's acceptance that "it is for Māori to say what their interests are, and to articulate how they might best be protected"[85] has implications for how that consultation should be carried out. If Māori know what their interests are (which will depend on them knowing what Māori data agencies hold)[86] and how they might best be protected, it makes sense to involve them early on in the decision making process, rather than to consult them on what has already been decided is a good idea. This was a theme echoed by some Māori interviewees.

The duty of active protection of taonga

6.23 As explained in a series of court decisions and Waitangi Tribunal reports, the Crown's duties under the Treaty are not merely passive, but extend to *active* protection of Māori interests.[87] In its *Manukau Report*, the Waitangi Tribunal explained:[88]

> The Treaty of Waitangi obliges the Crown not only to recognise the Māori interests specified in the Treaty but actively to protect them. The possessory guarantees of the second article must be read in conjunction with the Preamble (where the Crown is "anxious to protect" the tribes against the envisaged exigencies of emigration) and the Third Article where a "royal protection" is conferred. It follows that the omission to provide that protection is as much a breach of the Treaty as a positive act that removes those rights.

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[81] Waitangi Tribunal *Tū Mai Te Rangi! The Report on the Crown and Disproportionate Reoffending Rates* (Wai 2540, 2017) at 28.

[82] *New Zealand Māori Council v Attorney-General* [1987] 1 NZLR 641 (CA) at 683.

[83] *New Zealand Māori Council v Attorney-General* [1987] 1 NZLR 641 (CA) at 665.

[84] Waitangi Tribunal *The Ngāi Tahu Report* (Wai 27, 1991) vol 2 at 245.

[85] See above at paragraph 6.20.

[86] See above at paragraph 2.19.

[87] In relation to court decisions see, for example, *Ngāi Tahu Maori Trust Board v Director-General of Conservation* [1995] 3 NZLR 553 (CA) at 560.

[88] Waitangi Tribunal *Manukau Report* (Wai 8, 1985) at 70.

6.24 The duty of active protection applies not only to lands and waters (the subject of discussion in the *Lands* case), but also to the taonga protected by Article II of the Treaty.[89]

6.25 As is the case with the duties discussed above, the duty of active protection is context dependent. In the *Ngawha Geothermal Resource Report*, the Tribunal said that:[90]

> The duty of active protection applies to all the interests guaranteed to Māori under article 2 of the Treaty. While not confined to natural and cultural resources, these interests are of primary importance. There are several important elements including the need to ensure:
> …
>
> - that the degree of protection to be given to Māori resources will depend upon the nature and value of the resource. In the case of a very highly valued rare and irreplaceable taonga of great spiritual and physical importance to Māori, the Crown is under an obligation to ensure its protection (save in very exceptional circumstances) for so long as Māori wish it to be so protected. … The value attached to such a taonga is essentially a matter for Māori to determine.

6.26 In the context of Māori data, active protection would seem to us to require at the very least that the data is held securely and that it is protected for future generations. It is likely also to require appropriate restrictions on use and access (intentional and unintentional), in line with requirements of Māori in relation to the data. What more may be required would, we consider, depend on the particular data in question, and its significance and importance to Māori.[91]

Options

6.27 The principle of options is that, as Te Tiriti partners, Māori have the right "to choose their social and cultural path".[92] It protects the rights of Māori "to continue their way of life according to their indigenous traditions and worldview while participating in British society and culture, as they wish". It is derived from the twin guarantees under Te Tiriti of tino rangatiratanga and the rights and privileges of British citizenship.[93]

The right to development

6.28 The final Treaty principle worth mentioning is the right to development. The Waitangi Tribunal has recognised that there is a right to development inherent in the rights guaranteed by Te Tiriti. It includes the right of Māori to develop their social and economic status and institutions of self-government.[94] We consider that this right is relevant in the present context because of the power of data for development. It speaks especially to the importance of the accessibility of data to Māori, as such access can facilitate the exercise their right to development.

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[89] Waitangi Tribunal *Te Whanau o Waipareira Report* (Wai 414, 1998) at 26.

[90] Waitangi Tribunal *Ngawha Geothermal Resource Report* (Wai 304, 1993) at 100.

[91] See further below at paragraphs 6.33 – 6.35.

[92] Waitangi Tribunal *Hauora: Report on Stage One of the Health Services and Outcomes Kaupapa Inquiry* (Wai 2575, 2019) at 35, quoting Waitangi Tribunal *The Napier Hospital and Health Services Report* (Wai 692, 2001) at 64.

[93] Waitangi Tribunal *Hauora: Report on Stage One of the Health Services and Outcomes Kaupapa Inquiry* (Wai 2575, 2019) at 35.

[94] Waitangi Tribunal *Whaia te Mana Motuhake – In Pursuit of Mana Motuhake: Report on the Māori Community Development Act Claim* (Wai 2417, 2015) at 47.

Data as a taonga

6.29 The Crown's obligations under Te Tiriti are especially high where it is making decisions or taking actions in respect of taonga. The Waitangi Tribunal has defined taonga as "things valued or treasured". It has said:[95]

> They may include those things which give sustenance and those things which support taonga. Generally speaking the classification of taonga is determined by the use to which they are put and/or their significance as possessions. They are imbued with tapu (an aura of protection) to protect them from wrongful use, theft or desecration.

6.30 To similar effect, the courts have recognised taonga as a "highly prized property or treasure".[96]

6.31 Neither the courts nor the Waitangi Tribunal have considered whether data can be a taonga. However, it is clear that the concept of taonga covers intangible things, such as mātauranga Māori.[97] There is no obvious conceptual barrier to Māori data being a taonga as that concept has been understood by the Waitangi Tribunal and the courts.

6.32 We consider that, by analogy with the Wai 262 claim, it is reasonably clear that at least some Māori data can be taonga.[98] In the Wai 262 report, the Waitangi Tribunal drew a distinction between "taonga works" and "taonga-derived works". Taonga works are those that are in their entirety an expression of mātauranga Māori, relate to or invoke ancestral connections (whakapapa), and contain or reflect traditional narratives or stories. They possess mauri (life force) and have living kaitiaki (guardians) in accordance with tikanga Māori. Taonga-derived works, by contrast, are those that derive their inspiration from mātauranga Māori or a taonga work, but do not relate to or invoke ancestral connections (whakapapa), nor contain or reflect traditional narratives or stories in any direct way.[99] The Tribunal considered that greater protection was appropriate for taonga works than taonga-derived works. Similarly, the Tribunal considered that whether a species is a taonga species "can be tested":[100]

> Taonga species have mātauranga Māori in relation to them. They have whakapapa able to be recited by tohunga (expert practitioners). Certain iwi or hapū will say that they are kaitiaki in

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[95] Waitangi Tribunal *Report of the Waitangi Tribunal of Claims concerning the Allocation of Radio Frequencies* (Wai 26/150, 1990) at 40.

[96] *New Zealand Māori Council v Attorney-General* [1994] 1 NZLR 513 (PC) at 514, citing the President of the Court of Appeal's judgment in the same case ([1992] 2 NZLR 576 (CA) at 578).

[97] Waitangi Tribunal *Manukau Report* (Wai 8, 1985) at 70 ("'Taonga' means more than objects of tangible value."); Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 17 ("Taonga include tangible things such as land, waters, plants, wildlife, and cultural works; and intangible things such as language, identity, and culture, including mātauranga Māori itself.").

[98] We do not express a view on the question whether a court or the Tribunal would go on to find that all Māori data (or all datasets with Māori data seeded throughout them) are taonga. To some extent the answer to this question may depend on the definition of "Māori data". If that term is conceived of more expansively (as per the Te Kāhui Raraunga definition discussed earlier and adopted for the purposes of this report), then in theory there may be some data held by the Crown that, while in some way about Māori or connected to Māori, would not be considered by a court or the Tribunal to be taonga. However, we note that in the Mana Ōrite Relationship Agreement, one of the relationship principles governing the relationship between Stats NZ and the Data ILG is kaitiakitanga, part of which entails recognition that "for the [National Iwi Chairs Forum], Māori data is a taonga and iwi-Māori are kaitiaki over their taonga". In this regard, there is nothing to prevent agencies from accepting that something is a taonga and agreeing to treat it as such if they consider it appropriate to do so. We also note that, as discussed above, different "levels" of protection may be appropriate depending on the nature of a particular taonga.

[99] Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 99.

[100] Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 114 – 115.

> respect of the species. Their tohunga will be able to say what events in the history of the community led to that kaitiaki status, and what obligations this creates for them. In essence, a taonga species will have kōrero tuku iho, or inherited learnings, the existence and credibility of which can be tested.

6.33 By analogy, we consider that data that is significant and important to Māori or Māori culture could readily be found to be deserving of active protection by the Crown and something in respect of which there should be a significant place in decision making for Māori. Examples of such data could include data that is related to or invokes ancestral connections, data about the natural environment or indigenous species, or significant data about people (such as data about health). On the other hand, the Crown's obligations in respect of data accumulated in the context of the ordinary activities of government (tax information or traffic infringement information, for example) may be lower. On this approach, data could be classified on a spectrum, with (say as agreed in a co-designed framework) different obligations applying to different types of Māori data. This is akin to the approach suggested in a recent article by Māui Hudson et al.[101]

6.34 This approach is also consistent with the Waitangi Tribunal's approach in other contexts, where it has accepted that what is required of the Crown in relation to particular taonga is fact-dependent. In its report on the National Freshwater and Geothermal Resources claim, the Tribunal took the view that there was a need for a "principled regime" for environmental management, which it envisaged would entail a sliding scale:[102]

> … We accept the Crown's argument that it is required to govern in the interests of the nation and the best interests of the environment, and that it must balance many interests in doing so. We also note, as the Tribunal has done many times in the past, that Māori are the Crown's Treaty partner and not just one interest group among many. Nor can Māori Treaty rights be balanced out of existence. Rather, the Crown's balancing of interests must be fair and must comply with Treaty principles. We agree with the findings of the Wai 262 report, as put to us by the Crown …, that a principled regime for environmental management must be established so as to determine what degree of priority should be accorded the Māori interest in any one case. We also agree that a sliding scale is necessary: sometimes kaitiaki control will be appropriate, sometimes a partnership arrangement, and sometimes kaitiaki influence will suffice, depending upon the balance of interests (including the interest of the taonga itself).

6.35 Ultimately, we consider that in ascertaining whether data is a taonga, the nature and value of the taonga, and how it should be protected, agencies are best guided by Māori. In the *Ngawha Geothermal Resources Report*, the Tribunal explained that consultation would be particularly important where a taonga was at issue because:[103]

> The Crown obligation actively to protect Māori Treaty rights cannot be fulfilled in the absence of a full appreciation of the nature of the taonga including its spiritual and cultural dimensions. This can only be gained from those having rangatiratanga over the taonga.

"Ownership" of data?

6.36 As has been foreshadowed, we consider that, as the law currently stands in New Zealand, it is not helpful to speak of the ownership of data (Māori or otherwise).

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[101] Māui Hudson, Tiriana Anderson, Te Kuru Dewes, Pou Temara, Hēmi Whaanga & Tom Roa "'He Matapihi ki te Mana Raraunga' – Conceptualising Big Data through a Māori lens" in *He Whare Hangarau Māori – Language, culture & technology* (University of Waikato, 2017) 64 at 66.

[102] Waitangi Tribunal *The Stage 1 Report on the National Freshwater and Geothermal Resources Claim* (Wai 2358, 2012) at 78. See also Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 272 – 274 ("How should the kaitiaki interest and other interests be balanced?).

[103] Waitangi Tribunal *The Ngawha Geothermal Resource Report* (Wai 304, 1993) at 101 – 102.

6.37 From a Western legal perspective, ownership rights may arise in relation to some data – but only to the extent that the data qualifies for protection under the law of intellectual property, and in particular the law of copyright. This will often not be the case, especially in relation to raw or unstructured data.

6.38 Further, while the English text of Te Tiriti guarantees to Māori the "full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties", the Māori text guarantees tino rangatiratanga over "o ratou taonga katoa" (all the treasured things of Māori tribes ("nga hapu") and all Māori people ("nga tangata katoa")). In relation to mātauranga Māori, the Waitangi Tribunal has taken the view that tino rangatiratanga is not equivalent to ownership, and that what is more important is authority and control:[104]

> … In short, the Māori text implies that control is more important than possession. In the context of taonga works and mātauranga Māori, we think that approach is entirely appropriate.
>
> We consider therefore that the English-language guarantee of exclusive and undisturbed possession of 'their … properties' lacks the flexibility necessary to address Māori interests in taonga works and mātauranga Māori. We prefer the more accommodating, if less precise, language of the Māori text's recognition of Māori rangatiratanga over 'o ratou taonga katoa' – all of their treasured things.
>
> In the context of modern IP law, the principle of tino rangatiratanga applied to 'o ratou taonga katoa' must mean simply that the legal framework should deliver to Māori a reasonable measure of control over the use of taonga works and mātauranga Māori. Such a standard is obvious and easily stated, but the more difficult question is how far that rangatiratanga authority should go and what is reasonable in this complex subject. …

6.39 The Wai 262 Tribunal reached a similar conclusion when it was considering the relationship of Māori with the natural environment:[105]

> The final point to be made about the Treaty is that although the English text guarantees rights in the nature of ownership, the Māori text uses the language of control – tino rangatiratanga – not ownership. Equally, kaitiakitanga – the obligation side of rangatiratanga – does not require ownership. In reality, therefore, the kaitiakitanga debate is not about who owns the taonga, but who exercises control over it. …
>
> In the end, it is the degree of control exercised by Māori and their influence in decision making that needs to be resolved in a principled way by using the concept of kaitiakitanga. The exact degree of control accorded to Māori as kaitiaki will differ widely in different circumstances, and cannot be determined in a generic way.

6.40 We consider that the same approach is appropriate in relation to data. That is particularly so given that there are many reasons why agencies may need to collect, or receive, data, including data in relation to Māori, to allow the Crown to carry out its good government obligations.[106] Attempting to ascertain the ownership of such data is unlikely to be productive. The real question is what the Crown needs to do to discharge its obligations under the principle of tino rangatiratanga.[107]

6.41 That said, we do not discount the possibility that concepts of ownership may become relevant as part of the broader work being carried out in relation to Māori data governance.

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[104] Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 80.

[105] Waitangi Tribunal *Ko Aotearoa Tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (Wai 262, 2011) vol 1 at 270.

[106] Including under Article III of Te Tiriti.

[107] In relation to which, see paragraphs 6.14 – 6.15 above.

6.42 Overseas, indigenous people have asserted governance over data relating to themselves by reference to concepts of ownership. A notable example is the First Nations Principles of OCAP, by which First Nations assert ownership, control, access and possession of First Nations data. The principle of "ownership" is as follows:[108]

> **Ownership** refers to the relationship of First Nations to their cultural knowledge, data, and information. This principle states that a community or group owns information collectively in the same way that an individual owns his or her personal information.

6.43 While the OCAP principles go beyond data storage (dealing also with information creation and the research process) and are said to be "First Nations-specific, … not applicable as an Aboriginal principle",[109] we note that they have been referred to by Te Mana Raraunga in its Charter as a potential way to conceptualise rangatiratanga over data.[110]

He Whakaputanga o te Rangatiratanga o Nu Tirene

6.44 He Whakaputanga is a declaration preceding Te Tiriti consisting of four articles in which a number of rangatira asserted rangatiratanga, kīngitanga (dominion), and mana over their "Wenua Rangatira" under the title Te Wakaminenga o ngā Hapū o Nu Tireni (the sacred Confederation of Tribes of New Zealand).[111]

6.45 He Whakaputanga generally receives much less legal attention than Te Tiriti. In part, that is likely to be because it has not been accepted as an aid to the interpretation of contemporary statutes.[112] It is not usually seen as a constraint on Crown action. However, it may be relevant insofar as it is a further assertion of tino rangatiratanga and Māori decision making authority.

United Nations Declaration on the Rights of Indigenous Peoples

6.46 In addition to their obligations arising from Te Tiriti, agencies may also want to consider the UNDRIP in decision making concerning Māori data.

6.47 The New Zealand government announced its support for the UNDRIP in April 2010. While the UNDRIP is not directly enforceable in New Zealand domestic law, the key point is, again, that the Crown may be presumed to want to comply with it. Indeed, in 2019 the government agreed that Te Minita Whanaketanga Māori (the Minister for Māori Development) would lead a process to develop a national plan of action/strategy on New Zealand's progress towards the objectives of the UNDRIP.[113] Additionally, the Waitangi Tribunal has taken the view that "the UNDRIP

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[108] Refer www.fnigc.ca/ocap-training/. For a more in-depth discussion of the OCAP Principles and the concept of ownership, see Brian Schnarch "Ownership, Control, Access, and Possession (OCAP) or Self-Determination Applied to Research: A critical Analysis of Contemporary First Nations Research and Some Options for First Nations Communities" [2004] Journal of Aboriginal Health 80. At 92, Schnarch says: "First Nations' claim to ownership of their own data is not some strange new aberration. On the authority of their own institutions and laws, governments and academics have long possessed and owned data without really thinking twice about it. … Those who most strongly reject the notion of data ownership tend to have control or possession of considerable volumes of it". However, as discussed earlier, the general position in New Zealand is currently that individuals do not "own" personal information or other data (in the sense of having property rights in it).

[109] See fnigc.ca/wp-content/uploads/2020/09/2be8f15f2eff14b1f122b6a26023836a_fnigc_ocap_brochure_en_final_0.pdf.

[110] See paragraph 7.7 below.

[111] He Whakaputanga is discussed in the Waitangi Tribunal's report *He Whakaputanga me te Tiriti: The Declaration and the Treaty* (Wai 1040, 2014).

[112] *Ngaronoa v Attorney-General* [2017] NZCA 351, [2017] 3 NZLR 643 at [60].

[113] Refer paper for the Cabinet Māori Crown Relations: Te Arawhiti Committee "Developing a Plan on New Zealand's Progress on the United Nations Declaration on the Rights of Indigenous Peoples", 28 February 2019,

articles are relevant to the interpretation of the principles of the Treaty", and that it is "relevant to the manner in which the principles of the Treaty should be observed by Crown officials". That was particularly the case, it said, where its articles "provide specific guidance as to how the Crown should be interacting with Māori or recognising their interests".[114]

6.48 In this context, we consider that the following articles of the UNDRIP are particularly relevant:

> **Article 3**
>
> Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.
>
> **Article 4**
>
> Indigenous peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs, as well as ways and means for financing their autonomous functions.
>
> **Article 18**
>
> Indigenous peoples have the right to participate in decision making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision making institutions.
>
> **Article 19**
>
> States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.
>
> **Article 31**
>
> 1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.
> 2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

6.49 All of these articles reinforce the idea that Māori should be able to participate in decision making concerning matters that affect them, including in relation to data. Article 31 may provide further support for Māori governance over certain data sets.

6.50 Other work undertaken by bodies associated with the United Nations provides additional context explaining why indigenous peoples should have greater control concerning indigenous data. For example, the Special Rapporteur on the Right to Privacy has, in a report on the work of a task force (established by the Special Rapporteur) on big data and open data, recommended that:[115]

> Governments and corporations … recognize the sovereignty of indigenous peoples over data that is about them or collected from them and that pertains to indigenous peoples, knowledge systems,

and Cabinet Māori Crown Relations - Te Arawhiti Committee Minute of Decision MCR-19-MIN-0003, 5 March 2019, available at www.tpk.govt.nz/en/a-matou-mohiotanga/cabinet-papers/develop-plan-on-nz-progress-un.

[114] Waitangi Tribunal *Mana Motuhake – In Pursuit of Mana Motuhake: Report on the Māori Community Development Act Claim* (Wai 2417, 2015) at 39.

[115] *Report of the Special Rapporteur on the Right to Privacy* UN Doc A/73/438 (17 October 2018) at 22, recommendation (g).

customs or territories, by always including formalized indigenous developed principles, a focus on indigenous leadership and mechanisms of accountability.

6.51 This recommendation was in response to feedback received that:[116]

> 72. Data is a cultural, strategic and economic resource for indigenous peoples. Yet indigenous peoples remain largely alienated from the collection, use and application of data about them, their lands and cultures. Existing data and data infrastructure fail to recognize or privilege indigenous knowledge and worldviews and do not meet indigenous peoples' current and future data needs. Current practices around big data and open data, whether under the auspices of Governments or corporations, will likely move indigenous peoples' data interests even further away from where decisions affecting indigenous peoples' data are made.
>
> 73. Indigenous data sovereignty is a global movement concerned with the rights of indigenous peoples to own, control, have access to and possess data that derives from them and which pertains to their members, knowledge systems, customs or territories. It is supported by indigenous peoples' rights to self-determination and governance over their land, resources and culture, as described in the United Nations Declaration on the Rights of Indigenous Peoples. Implicit in indigenous data sovereignty is the desire for data to be used in ways that support and enhance the collective well-being of indigenous peoples.
>
> 74. Indigenous data sovereignty has a place as an underpinning principle in governance arrangements related to big data and open data. It is practised through indigenous data governance that comprises principles, structures, accountability mechanisms, policy relating to data governance, privacy and security, and legal instruments. Indigenous data sovereignty frameworks can be applied to internally controlled and owned nation/tribal data, as well as data that is stored or managed externally. The indigenous data sovereignty networks in Australia and New Zealand are developing protocols around indigenous data governance.
>
> 75. Indigenous data sovereignty illustrates that good practices concerning big data and open data require an awareness of data that is missing, underrepresented or misrepresented, and of the interests served, or not, by such practices.

6.52 The Special Rapporteur on the Right to Privacy also established a task force on privacy and the protection of health-related data. That task force produced a report which set out a series of recommendations in relation to health-related data, including in relation to health-related data and indigenous data sovereignty.[117] Notably, in relation to storage and archiving of indigenous health-related data, it was said that:[118]

> Indigenous Peoples have the right, in addition to any other rights and obligations under this recommendation, 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.

Relationship agreements and Treaty settlements

6.53 The final matter for agencies to consider is that obligations to involve Māori in decision making may arise out of relationship agreements that they have entered into with iwi (or other Māori groups) – sometimes, but not always, in the context of the Treaty settlement process. Likewise, Treaty settlements with particular iwi may themselves contain indications that the Crown should be involving those iwi in decision making that affects them. Both the Waikato Raupatu Claims

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[116] *Report of the Special Rapporteur on the Right to Privacy* UN Doc A/73/438 (17 October 2018) at 13 – 14 (footnotes omitted).

[117] Task Force on Privacy and the Protection of Health-Related Data *Recommendation on the Protection and Use of Health-Related Data* (5 December 2019) at paragraphs 16.1 – 16.2.

[118] Task Force on Privacy and the Protection of Health-Related Data *Recommendation on the Protection and Use of Health-Related Data* (5 December 2019) at paragraph 16.1(h).

Settlement Act 1995 and the Ngāi Tahu Claims Settlement Act 1998, for example, indicate that the Crown wanted "to enter a new age of co-operation" with those iwi.[119]

Summary: what does the above mean for how agencies make decisions in relation to data storage?

6.54 From the above, we consider that the following can be distilled:

(a) ***At least some data may be a taonga, requiring active protection***: The Crown's obligations will be heightened where data is a taonga, requiring active protection. In ascertaining what data is a taonga, the nature and value of the taonga, and how it should be protected, agencies should be guided by Māori.

(b) ***There should be Māori input in decision making about Māori data***: The guarantee of tino rangatiratanga and the principles of partnership and options mean that, at a general level, Māori should be involved in making decisions about the storage of Māori data (and data governance more generally). This is reinforced by the UNDRIP.

(c) ***The appropriate level of Māori input will depend on the circumstances***: In some cases, the guarantee of tino rangatiratanga could mean Māori having full authority over decision making in relation to particular data sets. In others, a shared decision making framework with agreed parameters might be appropriate. Yet in others, an opportunity for Māori to influence the outcome may be sufficient. This should be guided by the relative interests of Māori and the Crown in relation to the data in question.

(d) ***There should be consideration of Māori aspirations in relation to access to/the use of data, including for development purposes***: In considering how Māori data is stored, agencies should also consider the facilitation of access to that data by Māori for the purposes of development. For example, would using an offshore cloud-based solution mean that it could be made more accessible to, and able to be analysed by, Māori?

6.55 As discussed above, Te Tiriti does not authorise unreasonable restrictions on the Crown's right to govern. Some cooperation and compromise may be needed to find a solution that protects Māori interests but can be applied in a practical way by agencies. Agencies reasonably require certainty, and the ability to make decisions quickly. It would therefore not be reasonable for them to be required to undertake a full consultation exercise every time that a classification or on/offshoring decision is made. That would also be likely to be very resource-intensive for many Māori groups.

6.56 One reasonable and workable approach to give effect to the Crown's obligations under Te Tiriti and the UNDRIP might be a co-designed framework that can be applied by agencies making decisions about data storage. The aim of such a framework would be to provide a set of guidelines about how certain types of data should be handled, and the circumstances in which additional input (consultation, or shared decision making) from Māori should be sought. We discuss this further in section 11 below.

6.57 Finally, we reiterate that a strict focus on legal rights and interests is unlikely to be the best way to realise Māori aspirations in relation to data and improve confidence in decision making. To do that, we consider that agencies will need to consider relationships with data from a Te Ao Māori perspective. The relationship between data and Te Ao Māori is the subject of the next section of this report.

[119] Waikato Raupatu Claims Settlement Act 1995, section 6(6); Ngāi Tahu Claims Settlement Act 1998, section 6(8).

7. Data and Te Ao Māori (relevance and implications)

Introduction

7.1 In this section we analyse what could be referred to as "Māori worldviews" in relation to the storage of data by reference to the kōrero of the Māori interviewees and certain select written materials (being the Charter of Te Mana Raraunga, the Māori Data Sovereignty Network and two academic publications[120]). The feedback from the Māori interviewees was that such worldviews are largely absent from agencies' existing decision making processes regarding cloud storage. It was evident from the Māori interviewees that they considered that Māori worldviews should be a prominent feature of any decision making involving Māori data, particularly if the Crown wishes to improve Māori trust and confidence in Crown decision making – even if that may go further than what may be required under agencies' strict legal obligations.

Points to note

7.2 It is important to note the following at the outset:

(a) **No single Māori worldview**: We have not attempted to identify a single "Māori worldview" in relation to the storage of data. As noted by various Māori interviewees, Māori society is diverse and comprised of numerous groups, sub-groups and individuals, each of which exists in its own context. As such, this report does not attempt to distil the vast diversity of Te Ao Māori worldviews into a definitive compendium of ideas.

(b) **Themes can be identified**:

(i) That said, we consider that it is possible to identify from the Māori interviewees' kōrero various high level themes which reflect certain Māori perspectives on data storage. In drafting this report, we have attempted to ascertain such themes from our discussions with the Māori interviewees and the select written materials (referred to in paragraph 7.1).

(ii) For practical reasons (including timing, resourcing and scope) the kōrero outlined below was obtained from a cross-section of relevant experts from Te Ao Māori. It is worth remembering that broad perspectives exist on this kaupapa and these could be captured through a wider and more targeted engagement process.

(c) **"Cultural determinism"**:[121]

(i) While certain of the examples identified by the Māori interviewees and referred to in this section relate to the storage of what could be considered to be "implicit" Māori data (i.e. data that has certain cultural characteristics and is encoded in cultural items such as karakia, haka, waiata tawhito and/or pakiwaitara), we understand that the definition of Māori data is not limited to such matters and also extends to wider forms of data which are not encoded in cultural items, such as "explicit" data included, for example, in quantitative statistics.

[120] Being Māui Hudson, Tiriana Anderson, Te Kuru Dewes, Pou Temara, Hēmi Whaanga & Tom Roa "'He Matapihi ki te Mana Raraunga' – Conceptualising Big Data through a Māori lens" in *He Whare Hangarau Māori – Language, culture & technology* (University of Waikato, 2017) 64; and Māui Hudson "Māori Data Sovereignty: Implications for Democracy and Social Justice" (15 February 2019), available at www.otago.ac.nz/wellington/otago706724.pdf.

[121] Te Kāhui Raraunga "Iwi Data Needs", available at www.kahuiraraunga.io/iwidataneeds.

(ii) In addition, we understand that certain data should not be considered to be more "taonga-like" due to the presence of certain cultural characteristics. Instead, we note that there are developing notions of what constitutes taonga in the context of modern digitisation (which reflects the fact that Māori perspectives on data storage are dynamic and continue to develop and grow today).

(d) **"Cultural safety"**: The views set out below have been communicated to us by the Māori interviewees and we have attempted to reflect those views accurately and as they were presented to us. We understand that there are certain cultural sensitivities associated with these matters and that expert advice should be sought from tikanga, kawa and/or mātauranga experts where necessary.

Data and Te Ao Māori – recurring themes

Background

7.3 According to various Māori interviewees, the way that data has been characterised in the context of the modern digital world, including the use of certain ICT jargon, may have led to some Māori feeling like data is a "Pākehā construct". However, the concept of data (and its transmission, storage and use) is not, and was not historically, a foreign concept to Māori. In fact, Māori traditionally had systematic ways of storing and transferring data and nuanced understandings of such matters at a conceptual level.[122]

Data storage and wharenui

7.4 Māori interviewees gave numerous examples of how data (and data storage) could be viewed from a Te Ao Māori perspective. A recurring metaphorical example was the idea that the wharenui of a marae is the original repository (or storage facility) of Māori data:[123]

(a) This is because the wharenui, its structure being the personification of a prominent ancestor, contains whakairo, tukutuku and kōwhaiwhai.

(b) Each of these elements of the wharenui contain kōrero or narratives relevant to the people and place (in other words, data). Depending on your pūkenga (skill), the data contained in each component of the wharenui can be interpreted and translated into kōrero, waiata and/or haka (i.e. information).

(c) By viewing the metaphor in the reverse, the storage facility of digitised Māori data can be seen as a form of "virtual Wharenui". In the same way that tikanga or kawa exists in relation to how people engage with a physical wharenui on a marae, certain protocols for engaging with and protecting Māori data should, according to Māori interviewees, be developed and applied in respect of the virtual wharenui, which reflects the fact that notions of what constitutes taonga in the context of modern digitisation are continually developing. As such, Māori perspectives on data storage are dynamic and continue to develop and grow today.

Data storage and whare wānanga

7.5 One Māori interviewee was particularly well-versed in ancient Māori traditions of whare wānanga, which we understand are traditional places where tohunga (experts) taught (and continue to teach) knowledge of history, genealogy and religious practices. The relevant Māori interviewee's view was that while the various components of the wharenui played (and still continue to play) a role in the storage and transmission of historical Māori data, the whare

[122] This view was expressed by Data ILG technicians.

[123] This view was expressed by Data ILG technicians.

wānanga generally held a greater depth of mātauranga. Ancient techniques were adopted within the whare wānanga to effect the transfer of such kōrero tuku iho. For example, some techniques were focussed on developing memory and the ability to store and recite kōrero tuku iho using word "triggers".[124]

7.6 As such, in addition to recording ancient Māori data in the various components of the wharenui, Māori had (and continue to maintain) systemic processes for storing, safeguarding and transmitting ancient Māori knowledge over generations through whare wānanga.

Te Mana Raraunga and Māori data sovereignty

7.7 As discussed above, a number of groups within Aotearoa are advocating for the operationalisation of Māori worldviews in the governance of government data (such as Te Mana Raraunga). The Te Mana Raraunga Charter sets out the guiding principles of the mahi (work) undertaken by that rōpū, which are framed by a distinctly Māori view of data in the modern digital world. We set these out in full below:

> **Whanaungatanga and Whakapapa**: Whanaungatanga denotes the fact that in Māori thinking and philosophy relationships between man, Te Ao Turoa (the natural world) and spiritual powers inherent therein, and Taha Wairua (spirit) are everything. Whakapapa evidences those linkages and identifies the nature of the relationships.
>
> **Rangatiratanga**: Rangatiratanga speaks to the hapū, iwi/Māori aspiration for self-determination, to be in control of our own affairs and to influence those taking place within our iwi boundaries. This is especially true for activities that have the potential to affect our people (ngā uri whakaheke) or our environment (whenua/moana). Rangatiratanga can be expressed through leadership and participation. Data supports the expression of Rangatiratanga and Rangatiratanga can be expressed through data in terms of the OCAP© principles of ownership, access, control and possession.
>
> **Kotahitanga**: Kotahitanga speaks to a collective vision and unity of purpose while recognising the mana of rangatira from individual hapū and iwi. The foundations of kotahitanga can be found in our whakapapa and reflected in our relationships with each other. It is important that we make space to identify our collective aspirations for indigenous data sovereignty and advocate for activities that benefit all Māori.
>
> **Manaakitanga**: Manaakitanga can be expressed through the responsibility to provide hospitality and protection to whānau, hapū, iwi, the community and the environment. The foundations of manaakitanga rely on the ability of Māori to live as Māori, to access quality education, to have good health, to have employment opportunities and to have liveable incomes. Ethical data-use has the potential to contribute greatly to Māori aspirations.
>
> **Kaitiakitanga**: Kaitiakitanga speaks to the hapū, iwi responsibility to be an effective steward or guardian and relates to actions that ensure a sustainable future for all people. Underpinning our existence is the need to protect and enhance Māori knowledge and practices, to strengthen whānau, hapū and iwi and to create sustainable futures. Kaitiaki have a social contract and are responsible to the communities they serve. Identifying appropriate data guardians and the principles by which they will operate is a key consideration.

7.8 The principles set out in the Te Mana Raraunga Charter provide a useful reference point for how certain Māori worldviews are currently being advocated for through the Māori data sovereignty movement.

7.9 Furthermore, we understand that certain individuals affiliated with Te Mana Raraunga (who could be described as pūkenga Māori) have played a key role in the development of relevant conceptual frameworks in relation to Māori data. For example, we refer to the Te Mana o te

[124] This view was expressed by a Māori interviewee with expert knowledge in mātauranga Māori.

Raraunga Framework.[125] That framework has been represented visually as follows, incorporating two interwoven spirals:

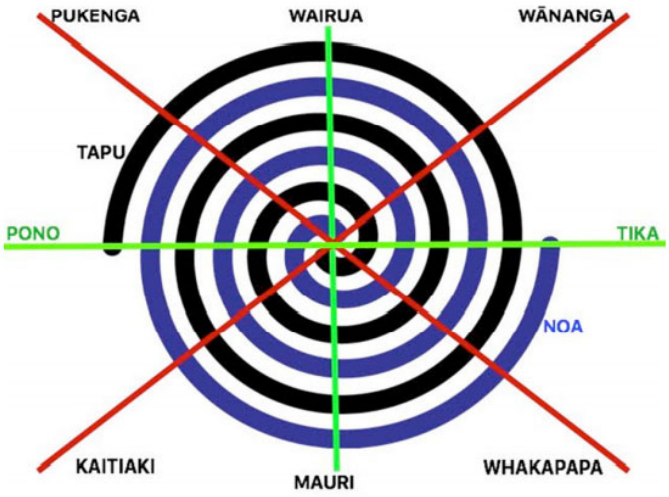

Diagram 1: *Te Mana o te Raraunga Framework*

7.10 This is intended to represent the "duality" that informs certain aspects of Te Ao Māori. As the authors note: "As you track along either the tapu [to be restricted] or noa [to be free from tapu] spiral you pass through each of the four planes representing core Māori concepts relevant to the management of data."[126] As a further example of how this framework operates:[127]

> **Tapu/Noa**
>
> The two spirals represent the dynamic forces of tapu and noa. Tapu and Noa co-exist in relation to each other and therefore have a symbiotic relationship which is at times wholly tapu or wholly noa but often with aspects of both. Tapu, the black spiral, reflects an assessment of the 'level of sensitivity' associated with the data. This can be determined by asking the question "How sensitive is the data?" Noa, the blue spiral, reflects an assessment of the 'level of accessibility' to the data. This can be determined by asking the question "How accessible should this data be?"

7.11 The Te Mana o te Raraunga Framework demonstrates how Te Ao Māori concepts can be seen as inextricably linked to the governance of data.

Distinctly Māori perspectives on data exist

7.12 As noted by one Māori interviewee, "Māori have always been 'data people'" – that is, Te Ao Māori perspectives on data (including its storage) have long existed.[128] We consider that the specific examples discussed above are consistent with that view.

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[125] Māui Hudson, Tiriana Anderson, Te Kuru Dewes, Pou Temara, Hēmi Whaanga & Tom Roa "'He Matapihi ki te Mana Raraunga' – Conceptualising Big Data through a Māori lens" in *He Whare Hangarau Māori – Language, culture & technology* (University of Waikato, 2017) 64 at 68. See also Māui Hudson "Māori Data Sovereignty: Implications for Democracy and Social Justice" (15 February 2019), available at www.otago.ac.nz/wellington/otago706724.pdf.

[126] At 68.

[127] At 69 – 70; and see at 71.

[128] This view was expressed by a Data ILG technician.

7.13 In line with this kōrero, Māori interviewees referred to the following Māori perspectives on data:

(a) Certain waiata, such as mōteatea (traditional chants), could be equated with metadata in the sense that the information contained within the chant provides useful information about other data.[129]

(b) In a digital mapping context, a line, polyform and/or attribute of a digitised geographical feature might be viewed by some Māori as a representation of their whakapapa. Equally, data about Māori contained within a spreadsheet could be seen as the personification of ancestry and environment. As such, and given the importance of whakapapa to Māori, certain expectations arise as to how that data will be stored, interacted with and protected.[130]

(c) Kōrero tuku iho can be understood as holding ancestral Māori data dating back many hundreds of years. Such kōrero can contain valuable insights for today's world, including, for example, in the context of environmental restoration. In one specific case, a Māori interviewee referred to an ancient poroporoaki (farewell) passed down to him which recounts how during an ocean voyage a tupuna witnessed the death of a star (also known as a supernova). The data in this kōrero tuku iho was analysed by Japanese scientists who determined that the account could be dated back to 1054.[131]

(d) Further to the above discussion on whare wānanga, these institutions also played a role in testing the authenticity of kōrero tuku iho (and continue to do so today). One Māori interviewee mentioned how a key purpose of whare wānanga was to create a forum for in-depth debates about such Māori data so that it could be either authenticated and transmitted or dismissed.[132]

7.14 In addition to engaging with the Māori interviewees, Stats NZ has also engaged with Te Rau Whakatupu Māori (a panel of representatives from a Māori immersion education background) on this kaupapa. Feedback received from Te Rau Whakatupu Māori is that tamariki (children) Māori are a taonga and therefore information about them is also a taonga. Given this, the guiding principle of Te Rau Whakatupu Māori is "me tiaki te mana o te tamaiti me tōna whānau" (protect and uphold the mana of the child and their whānau).

7.15 To summarise, traditionally Māori had systematic ways of storing and transferring data and nuanced understandings of such matters at a conceptual level, which systems and understandings continue to develop and apply today. Work is currently underway by various Māori data experts (including the Te Mana Raraunga collective) to operationalise such views within the government data system. As such, a comprehensive body of mātauranga exists in relation to Māori data and its storage, and the tikanga and kawa that should apply to such matters.

Current system does not give expression to a Te Ao Māori worldview on data

7.16 To conclude this section of the report, we refer to the strong messaging of the Māori interviewees that the current system of government decision making in relation to cloud storage adoption does not give expression to Te Ao Māori worldviews in relation to data. For example, we refer to the distinctly Māori conceptions of data referred to above, including the wharenui

[129] This view was expressed by a Data ILG technician.

[130] This view was expressed by a Data ILG technician.

[131] This view was expressed by a Māori interviewee with expert knowledge in mātauranga Māori.

[132] This view was expressed by a Māori interviewee with expert knowledge in mātauranga Māori.

metaphor and the idea that certain cultural protocols apply to the engagement and interaction with that wharenui.

7.17 The previous section of this report concluded by noting that a strict focus on legal rights and interests is unlikely to be the best way to realise Māori aspirations in relation to data and to improve Māori trust and confidence in the Crown's decision making.

7.18 Based on the feedback from various Māori interviewees, for Māori to be able to have trust and confidence in relation to Crown cloud storage decision making, Māori worldviews should *at least* be identified by the relevant experts and genuinely considered by agencies as part of their data storage decision making processes.

7.19 The following section identifies certain further matters which, if addressed by the Crown, would also contribute to improvements in the Māori–Crown relationship, insofar as it relates to data.

8. Māori needs, expectations and aspirations/user requirements/enhancing "control"

Introduction

8.1 This section of the report sets out a discussion on the following matters (in the context of cloud storage and the use of, and access to, Māori data more broadly):

(a) Māori "user requirements", aspirations, expectations and needs (for both now and the future); and

(b) opportunities for enhancing Māori control of Māori data,

in each case, by reference to the kōrero of the various Māori interviewees with whom we engaged. While the interviews were primarily focussed on cloud storage, much of the commentary provided by Māori interviewees related to the use of, and access to, Māori data more generally. As such, this section aims to capture these wider perspectives instead of focusing narrowly on the cloud storage point.

8.2 We consider that a number of high level themes emerged in relation to the above matters through our engagement with the Māori interviewees. In summary, these themes are as follows:

(a) Māori being fully informed, and transparent data storage decision making;

(b) agencies should not simply do the minimum that is required by law;

(c) the rights and obligations of individuals and collectives within Te Ao Māori;

(d) developing the capability/capacity of Māori in the digital space;

(e) access to and use of Māori data; and

(f) active decision making by Māori – enhancing Māori control.

8.3 We understand from the kōrero of the Māori interviewees that addressing these matters would go a long way towards improving Māori trust and confidence in cloud storage decision making and the government's approach to Māori data sovereignty.

Analysis of themes

Theme 1: Māori being fully informed and transparent data storage decision making

8.4 This first theme focusses on the lack of transparency in agencies' cloud storage decision making. Nearly all of the Māori interviewees mentioned that they were unaware of the Crown's current decision making processes in relation to the adoption of cloud storage – this included several individuals who we understand are relatively familiar with the government data system from their past experience. Many Māori interviewees considered that there is a low level of transparency in terms of the particular data held by agencies, the way that the data is stored, and the decision making processes adopted in each case. This perception led to a low level of confidence in the Crown's ability to act as a steward in relation to Māori data and, in some cases, a level of mistrust.

8.5 One Māori interviewee expressed this kōrero by referring to the principle of "fully informed consent".[133] For example, it is only if Māori are fully informed about a particular kaupapa (such as the Crown's decision making processes for cloud storage adoption) and understand all of the relevant pros and cons that they will be able to provide a fully informed response. This view accords with one of the Te Mana Raraunga *Principles of Māori Data Sovereignty*, which provides:[134]

> **5.2 Consent**. Free, prior and informed consent (FPIC) shall underpin the collection and use of all data from or about Māori. Less defined types of consent shall be balanced by stronger governance arrangements.

Theme 2: Agencies should not simply do the minimum that is required by law

8.6 As alluded to above, it is important that agencies achieve a "legal licence".[135] However, the point raised in the previous sections of this report, which was echoed by various Māori interviewees, is that agencies should not simply look to comply with their legal obligations in respect of Māori data (including how and where it is stored) and go no further than they are legally required. To do so would place too much emphasis on "western" notions of rights and interests, and not enough focus on the inherent rights which Māori have by virtue of their inalienable relationships with the land, water and natural world.[136] Instead, as various Māori interviewees noted, agencies should, in their cloud storage decision making, consider how they can operationalise Māori aspirations in relation to data.

8.7 The Māori interviewees gave various reasons for this point of view – in particular, various Māori interviewees emphasised how Te Ao Māori perspectives can provide valuable insights into decision making, including in relation to cloud storage:

(a) By way of analogy, the work of one Māori interviewee focussed on how ancient Māori knowledge obtained from whare wānanga about the maramataka can guide environmental restoration, such as planting and planning in parks and reserves. Applying that analogy to this context, it was suggested that insights can (and should) be obtained in the same manner from mātauranga Māori in respect of the governance of data, including its storage.[137]

(b) This view is also reflected in the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, which provides in its preamble that "the knowledge of the Indigenous Peoples of the world is of benefit to all humanity".[138]

8.8 To frame the narrative and decision making in this manner would also be consistent with the rights of self-determination and autonomy afforded to indigenous peoples in the UNDRIP. As

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[133] This view was expressed by a Māori academic and professional adviser. With respect to the principle of free, prior and informed consent, see Article 19 of the UNDRIP, which relevantly provides:

> States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them.

[134] Available at cdn.auckland.ac.nz/assets/psych/about/our-research/documents/TMR%2BM%C4%81ori%2BData%2BSovereignty%2BPrinciples%2BOct%2B2018.pdf.

[135] Section 6 above discusses how agencies can achieve a "legal licence".

[136] This view was expressed by a member of Te Mana Raraunga. See also Te Mana Raraunga – Māori Data Sovereignty Network Charter, available at static1.squarespace.com/static/58e9b10f9de4bb8d1fb5ebbc/t/5913020d15cf7dde1df34482/1494417935052/Te+Mana+Raraunga+Charter+%28Final+%26+Approved%29.pdf.

[137] This view was expressed by a Māori interviewee with expert knowledge in mātauranga Māori.

[138] Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples (1993), available at ngaaho.maori.nz/cms/resources/mataatua.pdf, at 2.

noted above, the UNDRIP is not directly enforceable under New Zealand domestic law; however, the UNDRIP reflects how the norms and standards of the international community apply in respect of indigenous peoples.[139]

Theme 3: The rights and obligations of individuals and collectives within Te Ao Māori

8.9 Another recurring theme in the Māori interviewees' kōrero was the idea that Te Ao Māori is comprised of both individuals and collectives (of whānau, papakāinga, hapū, iwi and waka (wider kinship groups)) and that different rights and obligations (and considerations generally) can apply to each, including in the context of data storage decision making. Alongside these two elements of Māori society are pūkenga Māori or subject matter experts.[140]

8.10 A number of Māori interviewees expressed the view that mana tangata (mana of people) should be respected in decision making regarding cloud storage. We understand that the concept of mana tangata refers to the authority of the individual and therefore the idea that individuals should be entitled to have a say in, or make, decisions which affect them. In addition to individuals, the views of whānau were also seen as important by various Māori interviewees. This can be contrasted with other perspectives which perceive iwi and hapū (or other collectives) as the primary representatives of Māori individuals.

8.11 We understand that this tension between Māori as individuals and Māori as members of various social collectives, and the considerations, rights and/or obligations which arise or apply in each case, has been identified as a key consideration in the context of advocacy for the realisation of Māori data sovereignty. This view accords with one of the Te Mana Raraunga *Principles of Māori Data Sovereignty*, which provides:

> **3.1 Balancing rights**. Individuals' rights (including privacy rights), risks and benefits in relation to data need to be balanced with those of the groups of which they are a part. In some contexts, collective Māori rights will prevail over those of individuals.

8.12 In our view, the key takeaway from this theme is that in any cloud storage decision making relating to Māori data, the decision maker should seek to ensure a consensus across:

(a) tangata Māori (individuals);

(b) iwi/hapū Māori (representative organisations); and

(c) pūkenga Māori (experts).

8.13 As one Māori interviewee noted, you can be satisfied that you have a Te Ao Māori voice when you get consensus across all three of these levels.[141]

Theme 4: Developing Māori capability in the digital space

8.14 The fourth theme that emerged from the Māori interviewees' kōrero relates to the development of Māori capability in the ICT and digital space. There was widespread agreement amongst the Māori interviewees that there is much work to be done to ensure the development of Māori capability in this space to enable Māori to meaningfully participate in conversations and decision making in respect of cloud storage. In fact, one Māori interviewee noted that ICT

[139] Megan Davis "Indigenous Struggles in Standard-Setting: The United Nations Declaration on the Rights of Indigenous Peoples" (2008) 9 Melbourne Journal of International Law 439.

[140] This view was expressed by a Māori interviewee with expertise in Māori development.

[141] This view was expressed by a Māori interviewee with expertise in Māori development.

capability across the board in Aotearoa (not just with Māori) is seriously deficient and needs to be addressed.[142]

8.15 Māori interviewees observed that there is currently a real dis-equilibrium – including within Māoridom where different "tiers" of iwi organisations have different capacities to engage in this area. The plan should be a long-term one because it will take time to build digital literacy and to achieve the requisite level of engagement.

8.16 We understand that capability building is a key objective of both the Data ILG (Māori interviewees mentioned the need to transition Māori from being "data consumers" to being "data designers") and Te Mana Raraunga. Furthermore, the Te Mana Raraunga *Principles of Māori Data Sovereignty* include:

> **4.2 Build capacity**. Māori Data Sovereignty requires the development of a Māori workforce to enable the creation, collection, management, security, governance and application of data.

8.17 It was recognised by various Māori interviewees that the government has a role to play in developing this capability. For example:

(a) In some cases, there is a lack of ICT infrastructure in Māori communities which acts as a barrier to the development of Māori capability. One Māori interviewee highlighted that you need connectivity to enable capacity to be built through use – noting that certain rural areas with high Māori populations do not have access to ultra-fast broadband (that is, fibre connectivity).[143]

(b) Many Māori interviewees spoke of the need for government to prioritise investment into Māori ICT education. One Māori interviewee contended that the focus should be on developing ICT skills amongst tamariki Māori in the first instance: "Let's start with the mokos [grandchildren] and tamariki – build that capacity. We are not going anywhere so we don't care how long it takes to get there, but let's start now – and we <u>will</u> get there".[144]

(c) One Māori interviewee suggested that resources should be invested into the development of interdisciplinary ICT programmes where students simultaneously develop skills in both technical ICT matters and tikanga Māori.[145] Another Māori interviewee referred to making workplace internships for Māori – so that students can see and understand how data is used.[146]

Theme 5: Access to and use of Māori data

8.18 A key theme raised by Māori interviewees was the need for Māori to have access to and be able to use data about, or relating to, themselves. Access to such data would enable Māori to undertake their own analyses in respect of the data and to obtain insights from it to inform and contribute towards their social, cultural and economic development. A key part of this theme is that access by itself is not enough – the data must be able to be used by Māori in a way that is easily consumable. As such, various Māori interviewees noted the importance of

[142] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

[143] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

[144] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

[145] This view was expressed by a representative from a Māori digital service provider.

[146] This view was expressed by an interdisciplinary Māori academic and advocate for Māori rights.

metadata/data labels and classifications for this purpose. This issue is addressed in more detail in paragraphs 2.19 – 2.23 above.

8.19 This key theme is also a key objective of Te Mana Raraunga, and we understand that much of its work focusses on operationalising this concept. For example, the Te Mana Raraunga Charter, relevantly provides:

> 2. Data governance. There is a wealth of data pertaining to Māori individuals, whānau, households, hapū, iwi, entities and te Taiao that is collected by the state as part of the Official Statistics System (OSS), crown agencies and government organisations, through commercial transactions, social media, telecommunications (including satellites) and other means. Only a small proportion of these data sources are currently accessible to Māori for our own purposes and benefit. Māori involvement in data governance and data management is essential to ensure data is used for projects that support beneficial outcomes for Māori.

8.20 Furthermore, the Te Mana Raraunga *Principles of Māori Data Sovereignty* document relevantly provides as follows:

> **1.1 Control**. Māori have an inherent right to exercise control over Māori data and Māori data ecosystems. This right includes, but is not limited to, the creation, collection, access, analysis, interpretation, management, security, dissemination, use and reuse of Māori data.

8.21 On this definition, "control" extends beyond access and use by Māori and also includes the prevention or regulation of use by others, including ensuring that the data remains secure. This can become an issue in the context of any cloud storage services arrangement (i.e., onshore or offshore) because practical control of the data is transferred to the cloud storage service provider. Accordingly, there is always a potential risk of inappropriate or illegal access by others (separate from the risk of lawful access by foreign government and law enforcement agencies) when data is deployed in the cloud. Certain Māori interviewees referred to the particular challenges in holding service providers to account for "unintended" actions in relation to Māori data when the service provider is located in a foreign jurisdiction.[147]

Theme 6: Active decision making by Māori – enhancing Māori control

8.22 Another key theme identified from the Māori interviewees' kōrero is the idea that Māori should be actively involved in decision making where the decision affects their interests, such as decisions relating to the storage of Māori data. This idea was strongly advocated for by the majority of the Māori interviewees, who noted that Māori generally have no role in decision making over cloud storage adoption (particularly in relation to Māori data held by government).

8.23 There are two main aspects to this theme which we have identified from the Māori interviewees' kōrero. These are: (a) the "level" of authority afforded to Māori (co-determination or autonomous control); and (b) the basis upon which decisions can be made (ensuring the decision making framework – the "rules of the game" – incorporates tikanga kawa and mātauranga Māori). We discuss these two aspects in more detail below:

(a) **"Level" of authority**:

The feedback from Māori interviewees varied as to whether Māori should have a "higher" level of control over data storage decision making, to the effect that Māori are the sole decision maker (acting autonomously), or an equal level of control as the Crown so that both parties make the decision through an equal partnership model.[148] In either case, the general preference of Māori interviewees appeared to be that an active decision

[147] This is referred to in paragraph 3.3 of this report.

[148] For an example of an equal partnership model, see discussion of the Mana Ōrite Relationship Agreement in section 1 above.

making role (having "a seat at the table") was required in relation to Māori data. That said, it was acknowledged by some Māori interviewees that an advisory role for Māori in relation to data storage decision making would also be a useful development.[149]

(b) **"Rules of the game"**:

The second aspect of this theme relates to the decision making framework that can be applied by decision makers in respect of cloud storage decisions (that is, the considerations and/or matters that can form the basis of their decision). Māori interviewees' feedback is that in exercising the active decision making power alluded to above, Māori should be able to base their decisions on a combination of tikanga, kawa and/or mātauranga Māori (as applicable), which should apply in addition to any other relevant technical or other considerations.

This is consistent with the view of Māori data governance expressed by Te Mana Raraunga that:

(i) data which is collected from the Māori nation should be subject to the laws of the Māori nation;[150] and

(ii) "tikanga, kawa and mātauranga shall underpin the protection, access and use of Māori data".[151]

8.24 Numerous bases were cited by the Māori interviewees in support of these propositions. The Māori interviewees primarily referred to Article II of Te Tiriti (the right of tino rangatiratanga over taonga), but also certain general principles of Te Ao Māori, such as the concept of mana motuhake. Much of the kōrero of Māori interviewees in respect of this theme could also be viewed through the lens of the right of indigenous peoples to self-determination recognised by the UNDRIP, as discussed earlier.

Summary

8.25 In this section we have identified and described certain high level themes which emerged from our engagement with the various Māori interviewees, particularly in relation to Māori "user requirements", aspirations, expectations and needs regarding cloud storage and Māori control of Māori data.

8.26 We understand from the kōrero of the various Māori interviewees that addressing the matters discussed in these themes would go a long way toward improving trust and confidence in relation to Crown cloud storage decision making.

[149] This view was expressed by an interdisciplinary Māori academic and advocate for Māori rights.

[150] Te Mana Raraunga "Te Mana Raraunga – Māori Data Sovereignty Network Charter", available at static1.squarespace.com/static/58e9b10f9de4bb8d1fb5ebbc/t/5913020d15cf7dde1df34482/1494417935052/Te+Mana+Raraunga+Charter+%28Final+%26+Approved%29.pdf.

[151] Te Mana Raraunga "Principles of Māori Data Sovereignty" (2018), available at cdn.auckland.ac.nz/assets/psych/about/our-research/documents/TMR%2BM%C4%81ori%2BData%2BSovereignty%2BPrinciples%2BOct%2B2018.pdf.

9. Risks to the Māori – Crown relationship

Introduction

9.1 In this section we summarise:

(a) Māori interviewees' views of the Crown's capability to care for and act as a steward in relation to Māori data; and

(b) the risks to the Māori – Crown relationship that flow from a stated lack of confidence in the capability of the Crown in this area.

Current perception of Crown's ability to steward

9.2 Māori interviewees talked about their perception of the Crown's ability to act as a trusted data steward as being low, for the following reasons:

(a) **Lack of transparency**: Māori don't know what Māori data agencies are holding and how agencies are using that data, including what decisions are being made about transferring that data to cloud service providers (onshore and offshore). One Māori interviewee said: "It is very hard for anyone to have any confidence in the Crown when there is a huge veil – I have no idea what the Crown holds about me."[152]

(b) **Decision making is unilateral**: Related to the preceding point, Māori are excluded from decision making.

(c) **Inconsistencies in decision making**: Different decisions are being made by different agencies about the same data – because data is held in silos and there are no metadata standards.

(d) **Capability of decision makers**: The actual decision makers are not well versed in security or privacy or in data governance more broadly.

(e) **Lack of knowledge/awareness**: Understanding of tikanga and Māori cultural perspectives varies considerably from agency to agency. This lack of knowledge means that agencies can sometimes over simplify and pay lip service to Te Ao Māori.

(f) **Uncertainty and quality of data holdings**: Agencies do not understand what Māori data they are holding and there is a lack of confidence in the data itself – that is, accuracy and currency, with one Māori interviewee asking: "How can you have trust and confidence if they don't value it as much as we do?"[153]

(g) **Track record**: As noted above in paragraph 5.22, the highly publicised failures of the government's approach to the 2018 census (i.e. the "digital-first" approach and the low turnout from Māori) demonstrate that the government does not have the requisite capacity and/or capability to act as a steward in relation to Māori data.

Risk if the Crown keeps making the decisions in the way that it is

9.3 Māori interviewees summarised the risk to the Māori – Crown relationship if agencies continue to manage Māori data and make decisions regarding its use (including storage) as they have

[152] This view was expressed by a representative from a Māori digital service provider.

[153] This view was expressed by a Data ILG technician.

been as a risk of further reducing trust and diminishing the relationship. The risk of future Waitangi Tribunal claims was also raised.[154]

9.4 Māori interviewees also observed that if the Crown is holding, and not sharing, the data and making decisions about the data that is so important to Māori for their future, then the risk is that this only increases disparity and disenfranchises iwi Māori. One Māori interviewee said: "We need data to understand our world – take it away from Māori then [you are] taking away that ability to understand."[155]

[154] This issue was raised by a Data ILG technician.

[155] This view was expressed by a Māori interviewee with expertise in using data to enable evidence-based decision making in the public sector.

10. The challenge and the opportunity

Introduction

10.1 In this section we refer to the risk to the Māori – Crown relationship outlined above and note the challenges, but also the opportunities, that come with this.

The challenge

10.2 All Māori interviewees expressed a desire to see a co-designed protocol and co-decision making in relation to government proposals to offshore Māori data to cloud service providers. This is discussed in detail in the next section of this report. More generally, all Māori interviewees wish to see Māori participating in decision making regarding access and use, and for Māori to get a share in the value that can be generated from that data. However, this goes more to the wider subject of Māori data governance.

10.3 The Department of the Prime Minister and Cabinet observed that there is quite a long way that the government could go to explaining how it uses and manages data – both Māori and non-Māori.

10.4 Other Māori interviewees pointed to the scope for agencies to upskill and be more knowledgeable about culture and tikanga and to have the right people in their respective organisations: "This would then help Māori have more confidence in the Crown's decision making and ability to steward".[156]

10.5 Māori interviewees also stressed the central importance of metadata standards for Māori data – observing that if the Crown is going to be a good steward, and give Māori good data that they can use to make decisions, then it has to be applying good metadata tags, especially in health data.[157]

The opportunity

10.6 The current lack of transparency is also a huge opportunity. One Māori interviewee observed that: "making everything transparent would change everything".[158]

10.7 By meeting these challenges, the specific opportunity for the Crown is to improve buy-in to the substantive outcome of any decision that is made about the offshoring of Māori data.

10.8 More generally the opportunity is to lift confidence amongst Māori stakeholders in the Crown's ability to steward – to protect Māori data and manage it appropriately.

10.9 From a public service perspective, the opportunity also ties to the fostering of an environment where Māori are able to navigate the digital world with confidence and use the full range of services they want to when they want to, with the level of assurance around how their data is being treated.

[156] This view was expressed by a Māori academic and professional adviser.

[157] This view was expressed by a representative from a Māori digital service provider.

[158] This view was expressed by a representative from a Māori digital service provider.

10.10 Some Māori interviewees also pointed to the global leadership role that is available for the taking – observing that New Zealand and Māori could lead development in this area globally: "because we [Māori] have the skill sets and partnerships with the Crown that means we could do this".[159]

[159] This view was expressed by a Māori academic and professional adviser.

11. Next steps: a new decision making framework and enabling "active" decision making

Introduction

11.1 In this section we set out the requirements for a decision making framework or protocol that could be applied by agencies when making decisions about onshore and offshore cloud-based data storage (and other cloud-based services), including the approach to the design of this framework.

11.2 Māori interviewees attached central importance to the process for development of this framework. These views are reflected in paragraphs 11.13 – 11.16 below.

11.3 Māori interviewees also appeared to advocate for an active decision making role as opposed to "lesser" forms of influence, such as acting in an advisory capacity for a separate decision maker (whereupon Māori have no "seat at the table"). Māori interviewees stressed that co-design does not then mean that someone else makes the final decision. This is also discussed in paragraph 8.23 of this report.

11.4 However, it was also acknowledged by Māori interviewees that Māori data (and the associated rights and interests) exist on a spectrum. In section 6 of this report, we concluded that some cooperation and compromise may be needed to find a solution that protects Māori interests but can be applied in a practical way by agencies. It is with this in mind that we also set out in this section some suggestions about a multi-faceted decision making framework, where the engagement mechanism in relation to specific decisions varies depending on how the data in question has been classified.

11.5 In this context, we note that the very clear view of Māori interviewees was that any assessment of where Māori data sits on the spectrum is not a decision for agencies to make unilaterally – and reiterate the central importance of co-designed standards and associated tools for the classification of Māori data, given that these classifications will then inform all subsequent decision making.

A co-designed framework

Māori interviewees' views

11.6 Māori interviewees referred to the requirements for a single new all-of-government decision making framework (that is, used by all agencies) that facilitates a weighing up of the risks alongside benefits of offshoring on a case-by-case basis:

(a) with the Māori piece fully integrated, not a "bolt-on"; and

(b) that works together with other frameworks/as part of an overall framework together in a consistent way, including by acknowledging existing kaupapa Māori frameworks and aligning with the Māori data governance framework that comes out of the wānanga that are being facilitated by the Data ILG and the GCDS.

11.7 When it comes to applying the decision making protocol, Māori interviewees stressed that the focus must be on consistency between agencies – to mitigate the current "adhoc-ness".

GIG respondents' feedback

11.8 GIG respondents similarly stressed the need for the new framework/protocol to align with outputs from the wānanga with Stats NZ and to integrate with GCDO guidance, both existing and new. At a practical level they referred to a need for the framework to:

(a) be understandable and implementable by all, moving beyond principles to containing pragmatic advice for implementation;

(b) facilitate a weighing up of overall risks, opportunities and benefits – that is, between operational requirements (including price), jurisdictional risk, Māori legal rights and interests, and improving Māori trust and confidence in decision making; and

(c) provide clarity around decision making responsibilities and engagement and governance mechanisms.

11.9 GIG respondents also suggested that guidelines be formulated so as to assist with the identification and classification of Māori data and to help agencies understand the source and scope of their legal obligations under Te Tiriti and UNDRIP in relation to Māori data.

Options for a framework

11.10 The aim of such a framework would be to provide a set of guidelines about how certain types of data should be handled, and the circumstances in which additional input (consultation, or shared decision making) from Māori should be sought. We envisage a co-designed framework. An unresolved question, in light of the responses from Māori interviewees, is to what extent that framework might provide for co-management of classification and decision making. We set out some options for discussion below.

11.11 In our view, any framework must:

(a) provide, or refer to, a way that data can be classified (is it Māori data? Is it particularly sensitive?);[160]

(b) explain what that classification means for agencies making decisions about the storage of that data; and

(c) have buy-in both from agencies (because it is clear and easy to apply), and Māori (because they have confidence in the way that the framework was put together and operates in practice).

11.12 We consider that there are different ways that such a framework could operate. For example:

(a) ***Option 1: co-designed framework with no co-management***

Under this option, Māori and the Crown could work together to:[161]

[160] The complexity of this task is acknowledged given the issues with existing classification methods and the absence of harmonised standards.

[161] What this process would look like needs to be worked out. It could, for example, involve design by an appropriately qualified and resourced Māori group in conjunction with the Crown, and then a wider consultation exercise.

(i) provide standards and guidelines by which agencies could themselves classify data; and

(ii) set out relevant constraints on how that data is stored. For example, there could be tiers of data which were more or less sensitive such that no additional restrictions or procedures applied to the lowest tier (Tier 1), and very significant additional restrictions or procedures applied to the highest tier (Tier 3). The framework might then provide that data in Tier 3 could be stored with certain providers only and/or in certain locations or not stored offshore or not stored in the cloud at all.

This would go at least some way to meeting the Crown's obligations (because it had been designed by Māori) and could better facilitate the protection of sensitive data sets. It would also be easier for agencies to apply in practice. However, in light of the feedback received from respondents about the importance of active decision making, such an approach may risk poor buy-in from Māori because they may lack confidence in the way that the framework is being applied.

(b) ***Option 2: co-designed framework with co-management over classification***

Under this option, Māori and the Crown could work together to:

(i) provide guidelines by which agencies could approach the classification of data, but which required some (but not all) classification questions to be referred to an advisory group and/or those with interests in the data; and

(ii) set out relevant constraints on how that data is stored (in the same way as option 1 above). These would flow automatically from the way that the data was classified.

We consider that the practicality of this option, and its acceptability to Māori, would depend in large part on how wide and long the consultation envisaged by step (i) would be. There would be a need to find a balance here.

(c) ***Option 3: co-designed framework with co-management over decision making***

Under this option, Māori and the Crown could work together to:

(i) provide guidelines by which agencies could themselves classify data; and

(ii) set out circumstances in which questions about the storage of that data should be decided by Māori (an advisory group, and/or those with interests in the data). The framework could again have multiple tiers – for example, agencies could make their own decisions in relation to Tier 1 data, consult in relation to Tier 2 data, and leave decision making to Māori in relation to Tier 3 data.

Again, there would need to be careful consideration of the breadth of the circumstances in which consultation or devolved decision making are to take place. This would need to be reasonably workable for agencies, but wide enough to ensure buy-in from Māori. There would also need to be careful consideration given to the question of which (if any) decisions should be made by an advisory group (whose make-up would need to be considered carefully), and which (if any) should be made by those with interests in the data.

(d) ***Option 4: co-designed framework with co-management over both classification and decision making***

Under this option, Māori and the Crown could work together to:

(i) provide guidelines by which agencies could approach the classification of data, but which required some (but not all) classification questions to be referred to an advisory group and/or those with interests in the data; and

(ii) set out circumstances in which questions about the storage of that data should be decided by Māori (an advisory group, and/or those with interests in the data). The framework could again have multiple tiers – for example, agencies could make their own decisions in relation to Tier 1 data, consult in relation to Tier 2 data, and leave decision making to Māori in relation to Tier 3 data.

With this option, the circumstances in which classification or decision making questions are referred to the advisory group, and the role of that group as against those with interests in the data, would need to be very carefully calibrated so as to ensure that they were workable for agencies but gave Māori comfort in the framework.

Process for co-designing the framework/protocol

Māori interviewees' views

11.13 All Māori interviewees viewed the co-design process as key – with the biggest risk being that the right people aren't involved in this process and that the Crown is seen as putting some guidelines together that facilitate the Crown getting to the point that it is already aiming for: "We must be able to tell people who was involved and how they were involved".[162]

11.14 They referred to the need for the process to:

(a) recognise the diversity of the physical Te Ao Māori by involving a range of individuals who:

(i) are actually embedded in different segments of modern Māori society and are therefore able to speak on their behalf; and

(ii) are representative of a range of collectives: whānau, papakāinga, hapū, iwi and waka, not limited to iwi (because Māori culture is evolving); and

(b) design from the flax roots up – considering everyone's experiences.

11.15 There was also a clear acknowledgement that the working group must have pūkenga Māori or subject matter experts from both the data and tikanga spaces – given that the task is to overlay a technical framework with a cultural construct. We consider these comments would apply equally to any advisory group that is subsequently convened to implement the framework, as is envisaged under some of the options set out in paragraph 11.12 above.

11.16 In terms of co-design process itself, Māori interviewees referred to the need to wrap a tikanga around the wānanga in order to create a safe space where everyone is comfortable participating. Some Māori interviewees referred positively to the two-house model (which we

[162] This view was expressed by a member of Te Mana Raraunga.

understand is the approach that has been adopted to conduct the wānanga currently being facilitated by the Data ILG and GCDS).

Insights from the Māori data governance co-design process

11.17 The processes adopted to co-design the framework/protocol could be informed by insights obtained from the Māori data governance co-design process carried out as part of the Mana Ōrite work programme. In this regard we note that the analytical framework developed for the review of the Māori data governance co-design, the *Māori-Crown Co-design Continuum*, may be of some utility.[163]

11.18 The Māori-Crown Co-design Continuum conceptualises five different approaches to design processes (three being co-design processes and two being exclusive design processes). At a high level, these are as follows:

(a) **Mana Māori co-design**: This form of co-design is iwi and Māori led – it is "underpinned by mātauranga Māori and facilitated with tikanga Māori and Western co-design approaches as considered appropriate. The voice of Māori is privileged and amplified, and the outcomes defined by Māori. The decision making authority (rangatiratanga) rests with Māori. Kāwanatanga fulfil their Treaty obligations by providing support, resourcing, and iterating the kāwanatanga perspective as required to include valuable information and data."[164]

(b) **Ōritenga co-design**: The Ōritenga co-design process refers to a process where Māori and Crown perspectives and approaches have ōritenga (equal weighting or a balance of power) – the respective views of Māori and Kāwanatanga are afforded equal explanatory power: "Like the Mana Māori co-design, this model privileges Māori/iwi worldviews and the voice of Māori. This privilege acknowledges the pre-existing power imbalance between Māori and Crown agencies."[165] We understand that the Mana Ōrite Relationship Agreement is an example of this approach.

(c) **Participatory co-design**: This form of co-design is defined by Crown agencies and, while it can involve Māori/iwi to some extent, Māori are not involved in setting the agenda and do not have decision making authority (instead Māori are asked to participate in an advisory capacity): "The voice of Māori is not privileged but heard as one of many viewpoints to be considered… Their viewpoints are actively extracted rather than collaborating with a Tiriti partner".[166]

(d) **Māori motuhake design**: This process is iwi and/or Māori driven at all stages: "It is based on the assertion of rangatiratanga and the confidence Māori have again in their own solutions embedded in mātauranga Māori creating the greatest outcomes for their people."[167]

(e) **Crown exclusive design**: At the other end of the spectrum is the approach where agencies design alone with minimal or no participation of Māori – "Māori are unconsciously or consciously excluded. There may be some Māori features to the

[163] Te Kāhui Raraunga "Māori Data Governance Co-design Review" (Te Kāhui Raraunga, January 2021).

[164] At 14.

[165] At 14.

[166] At 14.

[167] At 14.

process and potentially some Māori participants, but this may be coincidental or "extractive in nature".[168]

11.19 For obvious reasons, a Crown exclusive design process is unlikely to be helpful in this context. However it is possible that the precepts of Mana Māori co-design and Ōritenga co-design (or a mixture of the two) would address some of the concerns outlined by the Māori interviewees referred to above and enable a meaningful co-design process to be implemented for the framework/protocol.

Resourcing the co-management process

11.20 Māori interviewees observed that, while effective engagement with the Crown assumes a 1:1 relationship, parity is not the reality. Māori do not have the same resources to engage at the same level. They asked what resourcing the Crown is willing to provide to enable the Māori partner to participate as an equal Treaty partner (including by resourcing "whatever group comes out of this").[169]

11.21 However all Māori interviewees were also clear that any current limitations on capability are not a reason to not engage or to start involving Māori in decision making. In their view, the only way that Māori can develop that capability is to start by doing.

11.22 We consider that, in an addition to providing adequate funding for groups to participate in the co-design process, there is a need for the government to:

(a) ensure that it is doing everything reasonable to facilitate the process, including, in particular:

(i) making sufficiently senior Crown officials available to participate; and

(ii) ensuring that a sufficiently broad range of agencies participate and, importantly, in light of the importance of the GCIO as an advisor to agencies on cloud services, ensuring that the GCIO can participate; and

(b) consider whether there is anything that it can do (beyond funding) to assist groups that wish to participate but which may not currently have the capability to participate in the co-design process. One issue it might consider, for example, is whether there is an information asymmetry, and whether that could be remedied by the provision of additional information in an accurate but digestible format to allow more effective participation.

Current initiatives

11.23 Some GIG respondents have already established or are in the process of establishing an advisory group approach in their respective organisations. For example:

(a) **Ministry of Justice**: The Ministry of Justice engaged with its internal Māori Reference group in the development of its Data and Information Strategy and Policy. The Ministry of Justice is using a Data Impact Assessment process to support it to operationalise the Data and Information Strategy and Policy, including around understanding data of interest to Māori and promoting engagement with Māori. (Note that the focus of the Ministry of Justice has been on use generally versus procurement of cloud services.)

[168] At 14.

[169] This view was expressed by a representative from a Māori digital service provider.

(b) **Ministry of Health**: The Ministry of Health has established a Māori data governance function to provide guidance and influence decision making in a range of areas, including Māori Data Sovereignty, Māori data governance, enabling mana motuhake and achieving equity though better use of data – aiming to move beyond principles to pragmatic advice for implementation.

(c) **Archives New Zealand**: Te Pae Whakawairua is the Māori consultative group for the Chief Archivist established under the Public Records Act. In addition to engaging with Te Pae Whakawairua, other examples of Archives' current decision making processes include:

(i) a project-based mana whenua advisory group and a Māori technical group; and

(ii) in relation to the Christchurch Archives, a partnership and consultation with Ngāi Tahu (Te Matapopore).

Private sector applications

11.24 Finally, some Māori interviewees noted that the demand for a framework for classifying and making decisions in relation to Māori data also exists outside of the public sector.[170] They observed that private sector companies – Māori-owned and/or with Māori stakeholders – are also thinking about what data to offshore in the context of their cloud procurement decision making. Māori interviewees saw the opportunity for the Crown to assume a broader leadership role by facilitating the development and implementation of a framework/protocol that is not targeted exclusively at government agencies.

[170] This view was expressed by a representative from a Māori digital service provider and a member of Te Mana Raraunga.

12. Local cloud storage options and a New Zealand Azure "region"

Introduction

12.1 In this section we set out the views of GIG respondents and Māori interviewees on the need for onshore data storage options to remain available and consider the extent to which the establishment of an Azure "region" in New Zealand will:

(a) mitigate any of the concerns raised by Māori interviewees regarding how agencies make decisions in relation to the procurement of cloud-based services (including storage); and/or

(b) mitigate the concerns of agencies and/or Māori relating to jurisdictional risk and simplify the cloud risk assessment process for agencies.

12.2 We also refer to the broader opportunity in the Māori data governance space that was identified by Māori interviewees in the course of their kōrero.

Ongoing requirement for onshore cloud storage options

12.3 All GIG respondents and Māori interviewees saw a need for a range of "fit for purpose" storage solutions to remain available to enable secure storage of the various data sets that an agency is responsible for; that is, onshore, offshore and potentially also hybrid solutions (where a copy or a subset of the dataset in question is retained onshore).

12.4 Onshore solutions will continue to be required for data that is deemed more sensitive – whether on the basis of the existing national security classifications, from a privacy perspective and/or a new classification approach for assessing the significance of Māori data – and where the risk of offshoring (jurisdictional risk) cannot be mitigated and/or offshoring would otherwise not be appropriate in the particular circumstances.[171]

12.5 GIG respondents noted that until the local providers can offer the same services, or the global providers can establish local presences, a hybrid approach is the best answer.

12.6 In response to the question about the need for hybrid storage solutions (onshore and offshore), one Māori interviewee asked why the question was necessarily about putting all the data in a box in the cloud with one party then holding the keys: "Māori culture does not align with putting all the information in one box and putting that box in one place".[172] The suggestion was that the government look beyond the big service providers and be open to more distributed systems for storage. This is seen as a natural extension of opening up the governance of certain data sets by giving Māori mana motuhake over certain of their data.

Does a New Zealand Azure "region" change or solve anything?

12.7 Both AWS and Microsoft have operated outpost models in New Zealand but the services available have been quite limited to date. However Microsoft has recently announced its intention to establish a New Zealand Azure "region". The New Zealand Overseas Investment Office has granted consent for Microsoft to purchase the land to enable the hyperscale data centres to be built. There is an expectation in some quarters that AWS, not wanting to be left out, will also look to solidify its presence in New Zealand.

[171] From a technical perspective, GIG respondents commented that data that interacts with applications or solutions requiring a low latency will also continue to need to be stored onshore.

[172] This view was expressed by a representative from a Māori digital service provider.

12.8 When asked whether a New Zealand Azure region would change anything, the general view amongst Māori interviewees was that an onshore presence is only part of the solution – it does not resolve the need for Māori participation in decisions regarding access and use of Māori data: "Full transparency is still required".[173]

12.9 GIG respondents noted that a New Zealand Azure Region should equate to a lower cost and a higher feature set. From a technical perspective, while reducing any technical latency concerns, some respondents noted that a local region may increase the business continuity risk due to lack of geographic diversity, unless copies of data sets continue to be stored offshore.

Mitigating jurisdictional risk

12.10 Importantly, however, both GIG respondents and Māori interviewees agreed that having a hyperscale public cloud provider in-country mitigates the jurisdictional risk factor in part, but not in full.

12.11 The mitigation is only partial because, while Microsoft will have direct obligations under New Zealand law, including under the Privacy Act 2020, as a US-controlled company Microsoft's local subsidiary will remain subject to certain laws of its home jurisdiction (including the USA Patriot Act 2001). This means that the actual risk of lawful access to data stored in a New Zealand Azure "region" will continue to exist at some level, and the perception of risk will certainly continue to exist.

12.12 However the Department of the Prime Minister and Cabinet and the Department of Internal Affairs have pointed to some emerging bilateral and multilateral international frameworks affecting state to state relations that may further mitigate the jurisdictional risk factor (should they come to fruition):

(a) **CLOUD Act Agreement**: an executive agreement with the United Stated Department of Justice entered into under the Clarifying Lawful Overseas Use of Data Act 2018 (the **CLOUD Act**)[174];

(b) **mutual legal assistance framework**: for mutual legal assistance requests between New Zealand and the United States (as an alternative to an executive agreement under the CLOUD Act); and/or

(c) **membership of the Budapest Convention on Cybercrime**: this aligns countries' laws on cybercrime, upholds human rights, and makes it easier for the 65 member countries to cooperate on international criminal investigations.

12.13 More fundamentally, however, for a New Zealand Azure "region" to mitigate both the concerns of Māori around the offshoring of data and also jurisdictional risk, the agency data in question must not only be stored in New Zealand but must also be substantially processed in New Zealand. A number of GIG respondents queried whether all Azure services will be available in New Zealand, meaning that in order to make use of all the available functionality data will still need to leave New Zealand, at least for processing or to be "worked on".

A Māori "data island"

12.14 In the kōrero about Azure coming to New Zealand, Māori interviewees referred to the opportunity to do something tangible and unprecedented in conjunction with Microsoft in the

[173] This view was expressed by a Māori academic and professional adviser.

[174] The CLOUD Act clarifies that companies subject to US jurisdiction served with court orders must turn over data they control, regardless of where the data is stored. It does, however, contain a number of privacy and human rights safeguards.

Māori data governance space. It was this prospect, rather than the ability to subscribe to a locally delivered Azure service, for example, that was seen as exciting.

12.15 The Department of the Prime Minister and Cabinet highlighted the scope for:

(a) some "state to company" diplomacy with Microsoft – characterising New Zealand as an opportunity for Microsoft to learn about how to do some things in new ways; and

(b) the Crown to facilitate conversations between Microsoft and the Data ILG.

12.16 Data ILG members in turn referred to a desire to play a role in building direct relationships between iwi organisations and Microsoft. As an example, Data ILG members suggested that if Microsoft looked to establish a data centre in Rotorua, then the Data ILG would be interested in facilitating a direct relationship between the mana whenua of that area (Te Arawa) and Microsoft. The Data ILG noted that they had separately been developing relationships and held discussions with other offshore providers, including AWS and Google.

12.17 Māori interviewees spoke about the potential to use the Azure platform in new ways to meet the requirements of particular Māori collectives based around a data governance framework that extends a determining and central role to the Māori holders of the data themselves. One suggested that it might be possible to set up a series of Māori "islands" within a storage facility. Each "island" would be used to host data classified as taonga, and kaitaiki (guardianship) of the data would reside with the relevant collective. In terms of the Rotorua data centre example (referred to above), such arrangements would enable Te Arawa to exercise a degree of data sovereignty over its Māori data.

12.18 This was also viewed as an opportunity for the Crown to contribute directly to building iwi/Māori digital capability. The Crown could provide funding for training so that Māori can be involved in the implementation of those "islands" and then subsequently assume responsibility for their ongoing administration.

Summary

12.19 To conclude this final section of the report, we note the largely measured nature of the views expressed by Māori interviewees (and also, to some degree, GIG respondents) in relation to the establishment of an Azure "region" in New Zealand, and highlight the ongoing requirement for a co-management approach to classification and decision making in relation to Māori data in order for agencies to achieve a greater level of trust and confidence from Māori.

Appendix 1: Process

Introduction

1. This appendix describes the processes that were adopted to engage with certain Māori individuals/organisations and Crown agencies for the purposes of drafting this report.

Engagement with Māori

2. A key element of this workstream was the undertaking of an engagement process in respect of certain Māori individuals and organisations. Māori interviewees were selected by Stats NZ based on their previous experience or expertise in relation to Māori data kaupapa (whether direct or indirect). We understand that Stats NZ was conscious of ensuring that the Māori interviewees freely consented to participate in the interviews.

3. Interviews were carried out in the following manner:

    (a) each Māori interviewee was, ahead of time, provided with:

        (i) certain background information regarding this kaupapa; and

        (ii) a questionnaire for their consideration prior to the interview;

    (b) interviews were held via videoconferencing and were, with prior consent, recorded for the purposes of assisting with the formulation of this report only;

    (c) Stats NZ staff attended and oversaw each interview, but Bell Gully staff facilitated each interview;

    (d) each interview began with a mihi to the relevant Māori interviewee and a karakia delivered by Stats NZ;

    (e) Māori interviewees were advised that they were not obliged to answer any questions posed to them (that is, the extent of their involvement was entirely voluntary) – they were provided with an opportunity ask questions about the process and the subject matter; and

    (f) the questionnaire provided to Māori interviewees was generally adopted as the agenda for each interview in a "semi-structured" manner – where appropriate, the kōrero deviated from the questionnaire in an organic manner.

Written materials considered

4. For the purposes of compiling this report, Māori perspectives were also obtained from the following sources:

    (a) the Data ILG's written feedback on the GCDS Paper;

(b) various written materials published by Te Mana Raraunga (including the Te Mana Raraunga Charter, and a document entitled *Principles of Māori Data Sovereignty*) and certain individuals affiliated with Te Mana Raraunga;[175] and

(c) a letter to the Ministry of Education sent by Te Rau Whakatupu Māori dated 27 August 2020.

Comment about Māori perspectives

5. In terms of "cultural safety":

(a) The Māori perspectives referred to and set out in this report have been communicated to us by the Māori interviewees and otherwise obtained from certain specific written materials.

(b) We have attempted to reflect those views accurately and as they were presented to us. We understand that there are certain cultural sensitivities associated with these matters and that expert advice should be sought from tikanga, kawa and/or mātauranga experts where necessary.

(c) In undertaking this work we have adhered to a "cultural safety protocol" which was approved by Stats NZ prior to undertaking any Māori engagement.

6. Furthermore, we note that:

(a) The Māori perspectives referred to in this report are a limited sample of perspectives elicited from the Māori interviewees who we engaged with, as well as the written materials referred to above.

(b) While this report does explore, on a high level basis, certain perspectives identified from the points of view of the Māori interviewees, it does not represent a definitive account of all Māori perspectives on this subject.

(c) A much wider engagement exercise would need to be undertaken (in a culturally appropriate manner) to obtain a more in-depth understanding of the Te Ao Māori perspective on data storage.

Written responses from Government Information Group

7. To further inform the development of this report, in addition to engaging with the Māori interviewees, we also obtained feedback from various Crown agencies. Feedback was primarily obtained from GIG respondents. Instead of undertaking interviews with each of the GIG respondents, a questionnaire was developed and provided to the relevant personnel of each GIG respondent. Written feedback was subsequently obtained from the GIG respondents.

8. The information obtained from the GIG respondents focusses on:

(a) the manner in which they are currently storing their data;

[175] Māui Hudson, Tiriana Anderson, Te Kuru Dewes, Pou Temara, Hēmi Whaanga & Tom Roa "'He Matapihi ki te Mana Raraunga' – Conceptualising Big Data through a Māori lens" in *He Whare Hangarau Māori – Language, culture & technology* (University of Waikato, 2017) 64. See also Māui Hudson "Māori Data Sovereignty: Implications for Democracy and Social Justice" (15 February 2019), available at www.otago.ac.nz/wellington/otago706724.pdf.

(b) the decision making processes that were undertaken prior to their adoption of the relevant storage solutions; and

(c) the extent of Māori participation in such processes and the consideration of agencies' legal obligations (in particular, under Te Tiriti).

9. Feedback was received from the following agencies:

(a) Archives New Zealand;

(b) Inland Revenue Department;

(c) Land Information New Zealand;

(d) Ministry of Education;

(e) Ministry of Health;

(f) Ministry of Justice;

(g) Stats NZ; and

(h) Waka Kotahi (New Zealand Transport Agency).

Direction-setting conversations

10. In addition to the above, we also held a number of meetings and conversations with personnel from Stats NZ (Craig Jones and Rhonda Paku), Department of Internal Affairs (Adrienne Moor) and Department of the Prime Minister and Cabinet (Paul Ash and Wayne Greer). The purpose of these hui was to further refine and inform the scope and focus of this report.

Appendix 2: Current landscape: storage infrastructure service providers and location[176]

GIG Respondent	NZ (IaaS)	NZ ("traditional" DC)	Azure/AWS	PaaS/SaaS (examples)[177]
Ministry of Justice (Ministry)	Revera (primarily), Datacom (some)		Website data (AWS)	Payroll data (SAP Success Factors
Ministry of Justice (Courts)	Revera (primarily), Datacom (some)			
Archives NZ	Revera	Non-IAAS independent data centre	Azure; AWS	Social media (YouTube, Twitter, Facebook)
Ministry of Health	Revera		Azure, AWS, Oracle Cloud	Range of SaaS solutions
LINZ	Datacom		Azure, AWS	
Ministry of Education	AoG IaaS		Azure, Aws (Australia)	Limited number of SaaS applications
Stats NZ	Revera/ Computer Concepts		Azure, AWS (Australia)	O365, Salesforce, Trello and Zoom (offshore) AoG ECMS solution; AoG Content Management System; payroll; training management system (onshore)
Inland Revenue	Revera (for hosting new services: core tax and Social Policy Systems and Data (START))	Unisys data centre (hosting mainframe FIRST, SAP and other (soon to be legacy) platforms.	Azure AWS (heritage data storage)	Data and Intelligence Platform (Australia)
Waka Kotahi	Revera		Azure	Silverstripe

[176] This table is referred to in paragraph 4.3 of this report.

[177] Cloud-based services (i.e., not storage/infrastructure) running on public cloud platforms that are mostly located offshore and not limited to Australia.

Appendix 3: Pros and cons – offshore and onshore data storage solutions

1. The following table is referred to in paragraph 4.7 of this report. It summarises the high level perspectives and comments made by GIG respondents on onshore cloud storage options when compared to offshore cloud storage options (AWS and Azure) against a range of criteria.

2. We note that the GIG respondents were not asked to consider, and did not comment on, the relative pros and cons of a foreign-owned but locally based cloud storage service. In contrast, the Culnane Teague Report does contain some perspectives on this third option. This option, and the associated jurisdictional risks, is discussed in section 12 of this report.

Criteria	Onshore	Off-shore	Comments made by GIG respondents	Culnane Teague Report
Security – capability and maturity		✓	Security is an inherent part of the Azure/ AWS capability. Azure/AWS are certified against international standards. Onshore service providers have to build security into the stack.	"The capability and maturity of foreign owned services would be expected to be stronger than onshore offerings. However … we do not believe this to be an absolute - onshore offerings are not inherently insecure and continue to develop."[178]
Security – data-in-transit	✓		There are risks associated with transfer of data between countries.	
Security – cyber		✓	Azure/AWS offer advanced protection in a rapidly evolving cyber threat landscape.	
Jurisdictional risk – at rest and in transit	✓		No jurisdictional risk if data is retained onshore with a New Zealand controlled company.	Jurisdictional risk also arises in relation to data in-transit as it is transferred between Aotearoa and an offshore cloud service.
Stability of service provision/availability		✓	Onshore service providers have experienced recent outages.	Loss of any of the 5 undersea cables connecting New Zealand to the rest of the world could significantly impact on the ability

[178] Culnane Teague Report at 11.

Criteria	Onshore	Off-shore	Comments made by GIG respondents	Culnane Teague Report
				to access overseas infrastructure on which data is stored. There is also a longer term concern as to whether suitable bandwidth capacity will always be available in the future.
Access controls/least risk of access by services provider		✓	Lack of transparency around access rights and administrator rights by onshore service providers. Due to the local skills gap, onshore service providers enable access by offshore resources to assist in supporting onshore solutions.	The risk of (inappropriate) access by the service provider should be the same for an onshore service as an offshore service as the scope for service provider access is inherent in the cloud model (where practical control of the data is transferred to the service provider). Although oversight of service provider access "is probably more easily achievable in onshore solutions, even more so with locally owned providers".[179]
Business continuity/back-ups		✓	Significant natural disaster risk (in the absence of an offshore back up).	A local cloud storage provider could obtain significant data redundancy just by using locally encrypted backups that are stored overseas, i.e., data redundancy can be achieved while mitigating the jurisdictional risk via encryption.
Latency	✓		Performance/access to data held by offshore service providers can be negatively impacted by limited capacity of long-distance communications links.	
Lower cost - storage		✓	Azure/AWS are typically more cost effective given economies of scale.	Bandwith requirements and associated costs should also be factored into the overall cost equation of storing data offshore.

[179] Culnane Teague Report at 12.

Criteria	Onshore	Off-shore	Comments made by GIG respondents	Culnane Teague Report
Ongoing capital investment		✓	Offshore cloud service providers continuously invest in new capabilities and absorb this into their cost structure (as opposed to charging customers one-off implementation or upgrade fees).	In a true cloud arrangement "it would [be] usual to see such charges [covering capital costs] being directly passed on to the customer."[180]
Service provider maturity		✓	Onshore providers have a skills, experience and industry maturity gap to overcome.	
Market maturity		✓	The global cloud storage market is a competitive, mature market that affords customers a range of choices.	
Potential for vendor lock-in	✓		The more business the offshore providers aggregate the great the risk of lock-in (and the easier the price is to manipulate).	"The issue of vendor lock-in is a concern across all providers".[181] A related concern is data retrieval in an insolvency situation. Should an overseas cloud storage provider cease trading, the ability to recover data is not guaranteed.

[180] Culnane Teague Report at 13.

[181] Culnane Teague Report at 13.

Appendix 4: Text of Te Tiriti o Waitangi/The Treaty of Waitangi

The Māori text of Te Tiriti is as follows:

Ko Wikitoria, te Kuini o Ingarani, i tana mahara atawai ki nga Rangatira me nga Hapu o Nu Tirani i tana hiahia hoki kia tohungia ki a ratou o ratou rangatiratanga, me to ratou wenua, a kia mau tonu hoki te Rongo ki a ratou me te Atanoho hoki kua wakaaro ia he mea tika kia tukua mai tetahi Rangatira hei kai wakarite ki nga Tangata Māori o Nu Tirani-kia wakaaetia e nga Rangatira Māori te Kawanatanga o te Kuini ki nga wahikatoa o te Wenua nei me nga Motu-na te mea hoki he tokomaha ke nga tangata o tona Iwi Kua noho ki tenei wenua, a e haere mai nei.

Na ko te Kuini e hiahia ana kia wakaritea te Kawanatanga kia kaua ai nga kino e puta mai ki te tangata Māori ki te Pakeha e noho ture kore ana.

Na, kua pai te Kuini kia tukua a hau a Wiremu Hopihona he Kapitana i te Roiara Nawi hei Kawana mo nga wahi katoa o Nu Tirani e tukua aianei, amua atu ki te Kuini e mea atu ana ia ki nga Rangatira o te wakaminenga o nga hapu o Nu Tirani me era Rangatira atu enei ture ka korerotia nei.

Ko te Tuatahi

Ko nga Rangatira o te Wakaminenga me nga Rangatira katoa hoki ki hai i uru ki taua wakaminenga ka tuku rawa atu ki te Kuini o Ingarani ake tonu atu-te Kawanatanga katoa o o ratou wenua.

Ko te Tuarua

Ko te Kuini o Ingarani ka wakarite ka wakaae ki nga Rangatira ki nga hapu-ki nga tangata katoa o Nu Tirani te tino rangatiratanga o o ratou wenua o ratou kainga me o ratou taonga katoa. Otiia ko nga Rangatira o te Wakaminenga me nga Rangatira katoa atu ka tuku ki te Kuini te hokonga o era wahi wenua e pai ai te tangata nona te Wenua-ki te ritenga o te utu e wakaritea ai e ratou ko te kai hoko e meatia nei e te Kuini hei kai hoko mona.

Ko te Tuatoru

Hei wakaritenga mai hoki tenei mo te wakaaetanga ki te Kawanatanga o te Kuini-Ka tiakina e te Kuini o Ingarani nga tangata Māori katoa o Nu Tirani ka tukua ki a ratou nga tikanga katoa rite tahi ki ana mea ki nga tangata o Ingarani.

The English text of the Treaty provides:

HER MAJESTY VICTORIA Queen of the United Kingdom of Great Britain and Ireland regarding with Her Royal Favour the Native Chiefs and Tribes of New Zealand and anxious to protect their just Rights and Property and to secure to them the enjoyment of Peace and Good Order has deemed it necessary in consequence of the great number of Her Majesty's Subjects who have already settled in New Zealand and the rapid extension of Emigration both from Europe and Australia which is still in progress to constitute and appoint a functionary properly authorized to treat with the Aborigines of New Zealand for the recognition of Her Majesty's Sovereign authority over the whole or any part of those islands—Her Majesty therefore being desirous to establish a settled form of Civil Government with a view to avert the evil consequences which must result from the absence of the necessary Laws and Institutions alike to the native population and to Her subjects has been graciously pleased to empower and to authorize me William Hobson a Captain in Her Majesty's Royal Navy Consul and Lieutenant Governor of such parts of New Zealand as may be or hereafter shall be ceded to her Majesty to invite the confederated and independent Chiefs of New Zealand to concur in the following Articles and Conditions.

Article the First

The Chiefs of the Confederation of the United Tribes of New Zealand and the separate and independent Chiefs who have not become members of the Confederation cede to Her Majesty the Queen of England absolutely and without reservation all the rights and powers of Sovereignty which the said Confederation or Individual Chiefs respectively exercise or possess, or may be supposed to exercise or to possess over their respective Territories as the sole Sovereigns thereof.

Article the Second

Her Majesty the Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession; but the Chiefs of the United Tribes and the individual Chiefs yield to Her Majesty the exclusive right of Preemption over such lands as the proprietors thereof may be disposed to alienate at such prices as may be agreed upon between the respective Proprietors and persons appointed by Her Majesty to treat with them in that behalf.

Article the Third

In consideration thereof Her Majesty the Queen of England extends to the Natives of New Zealand Her royal protection and imparts to them all the Rights and Privileges of British Subjects.

Appendix 5: Glossary

Kupu Māori (Māori word/phrase)	Tikanga (Translation)
Awa	River, stream, creek, canal, gully, gorge, groove, furrow
Haka	To dance, perform the haka, perform
Hapū	Kinship group; subtribe
Ika	Fish, marine animal, aquatic animal – any creature that swims in fresh or salt water including marine mammals such as whales
Iwi	Extended kinship group; tribe
Kaitiaki	Trustee, minder, guard, custodian, guardian, caregiver, keeper, steward
Kaitiakitanga	Guardianship, stewardship, trusteeship, trustee
Karakia	To recite ritual chants, say grace, pray, recite a prayer, chant
Kaupapa	Topic; matter for discussion; subject
Kawa	Marae protocols
Kīngitanga	Kingdom, reign (of a king), dominion, majesty, nation, country
Kōrero	Narrative; account; discussion; conversation; discourse
Kōrero tuku iho	Oral tradition; history; stories of the past
Kōwhaiwhai	Painted scroll ornamentation – commonly used on wharenui rafters
Kura	School
Mahi	To work, do, perform, make, accomplish, practise, raise (money)
Mana	Prestige, authority, control, power, influence, status, spiritual power, charisma – *mana* is a supernatural force in a person, place or object. *Mana* goes hand in hand with *tapu*, one affecting the other
Mana motuhake	Autonomy; self-government; mana though self-determination and control over one's own destiny
Mana tangata	Power and status accrued through one's leadership talents
Mana whenua	Territorial rights, power from the land, authority over land or territory, jurisdiction over land or territory – power associated with possession and occupation of tribal land
Marae	The open area in front of the *wharenui*, where formal greetings and discussions take place. Often also used to include the complex of buildings around the *marae*

Kupu Māori (Māori word/phrase)	Tikanga (Translation)
Maramataka	Māori lunar calendar
Mātauranga	Knowledge; wisdom; understanding
Maunga	Mountain, mount, peak
Mauri	Life principle, life force, vital essence, special nature, a material symbol of a life principle, source of emotions – the essential quality and vitality of a being or entity. Also used for a physical object, individual, ecosystem or social group in which this essence is located
Mōteatea	Lament; traditional chant
Noa	To be free from the extensions of tapu, ordinary, unrestricted, void
Ohu	Working group
Papakāinga	Original home, home base, village, communal Māori land
Pātaka	Storehouse raised upon posts, pantry, larder
Poroporoaki	Farewell
Pūkenga	Skill
Rangatira	To be of high rank, become of high rank, enobled, rich, well off, noble, esteemed, revered
Rōpū	Group, party of people, company, gang, association, entourage, committee, organisation, category
Tamariki	Children
Tangihanga	Funeral, rites for the dead, obsequies
Taonga	Treasure, anything prized - applied to anything considered to be of value including socially or culturally valuable objects, resources, phenomenon, ideas and techniques
Tapu	Be sacred, prohibited, restricted, set apart, forbidden, under *atua* protection
Te Ao Māori	Māori world
Tikanga	Correct procedure; customary system of values and practices that have developed over time and are deeply embedded in the social context
Tino rangatiratanga	Self-determination, sovereignty, autonomy, self-government, domination, rule, control, power
Tohunga	Skilled person, chosen expert, priest, healer – a person chosen by the agent of an *atua* and the tribe as a leader in a particular field because of signs indicating talent for a particular vocation

Kupu Māori (Māori word/phrase)	Tikanga (Translation)
Tukutuku	Ornamental lattice-work used particulary between carvings around the walls of wharenui. *Tukutuku* panels consist of vertical stakes (traditionally made of *kākaho*), horizontal rods (traditionally made of stalks of bracken-fern or thin strips of tōtara wood), and flexible material of flax, *kiekie* and *pīngao*, which form the pattern. Each of the traditional patterns has a name
Tūpuna	Ancestors, grandparents
Waiata	Song
Waka	Kinship groups descended from the crew of a canoe which migrated to New Zealand and occupying a set territory
Wānanga	Seminar; conference; forum
Whakaaro	To think, plan, consider, decide
Whakairo	Carvings
Whakapapa	Genealogy, genealogical table, lineage, descent
Whānau	Extended family; family group
Whare wānanga	traditional places where tohunga taught knowledge of history, genealogy and religious practices
Wharenui	Meeting house; main building of a marae

The source of each translation is www.maoridictionary.co.nz.