

SCIENCE FOR
TECHNOLOGICAL
INNOVATION

Kia kotahi mai –
Te Ao Pūtaiao me
Te Ao Hangarau



Data ILG

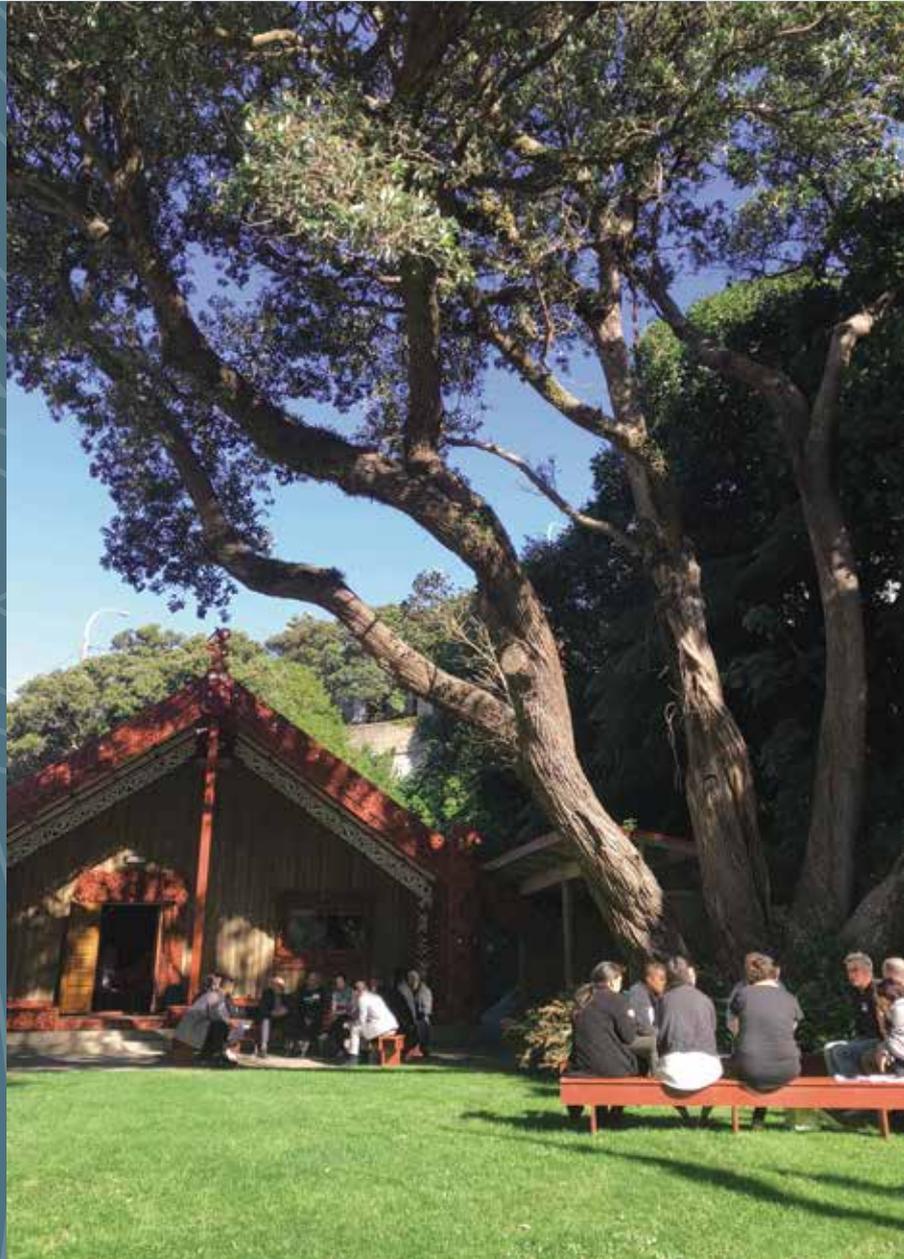


MĀORI DATA FUTURES

HUI REPORT

9 MAY 2018

TE HERENGA WAKA MARAE
VICTORIA UNIVERSITY



*Wharenui are one of our original data repositories:
they have held our stories, our mātauranga, and depending
on your pūkenga, you have the ability to translate that data
into knowledge.*

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The workshop notes were compiled by Jo-Anne Hazel. This report was written by Jo-Anne Hazel and Willy-John Martin, with guidance from Kirikowhai Mikaere and the SfTI Kāhui Māori.

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Finally, sincere thanks to all who attended and contributed their thoughts to the discussion.

1. INTRODUCTION

How do we define data in a Māori context and why does it matter? In a world of open government data, blockchain, big data, and Google, what are the key issues and challenges in a mātauranga Māori data landscape? How do we ensure appropriate tikanga around digital guardianship, data sovereignty, data security, and respectful use?

This one-day hui brought together Māori data thought leaders, iwi and hapū representatives, Māori researchers and practitioners, rangatahi, and data specialists to explore a number of questions, including:

- What does the ideal future look like for Māori data? And what are the relevant opportunities?
- What does data empowerment look like?
- What are our biggest priorities for data?
- How do we move towards our ideal data future?
- How can Māori organisations, researchers, data specialists and practitioners best work together?
- What considerations should non-Māori have when working with Māori data?

The hui was hosted by the Vision Mātauranga team from the Science for Technological Innovation National Science Challenge, in collaboration with the Data Iwi Leaders Group and te Whare Wānanga o te Ūpoko o te Ika a Māui. Facilitated by Kirikowhai Mikaere, the day began with a series of presentations by an expert panel from the University of Waikato: Assoc. Prof. Māui Hudson, Prof. Tahu Kukutai, and Dr. Te Taka Keegan. Attendees were then asked to consider two questions about the future of Māori data, before the day closed with thoughts from rangatahi.

While there is much discussion about indigenous data sovereignty globally, many of the event's participants were new to this kōrero. It was envisioned that this hui could be a catalyst for bringing together parallel but sometimes disconnected work being done in the area. There is also potential to facilitate a national series of hui in the future to help increase the public understanding of Māori Data Sovereignty, and provide a platform for exploring what data sovereignty means for individual iwi and rōpū. As a direction for the future, discussions from these hui might serve as a national resource for others working to ensure data practices assist Māori in achieving their aspirations, and inform the creation of a collective statement or set of guidelines.

This report outlines some of the key ideas generated during the day, as well as the many questions raised.



Kirikowhai Mikaere, Consultant, Data Specialist

Tūhourangi, Ngāti Whakaue

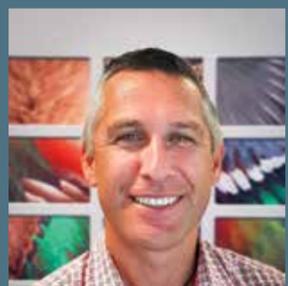
Kirikowhai is an independent consultant advising different Māori and Iwi organisations on their statistical and information needs, including the use of data to inform tribal development and service delivery. In a former life, Kirikowhai was a senior advisor to the Government Statistician and Private Secretary Statistics to the Minister of Statistics. She is a technical advisor to the Iwi (tribal) Chairs Forum - Data Leadership Group.



Prof. Tahu Kukutai, University of Waikato

Ngāti Tipa, Ngāti Mahanga, Ngāti Kinohaku, Ngāti Ngawaero, Te Aupōuri

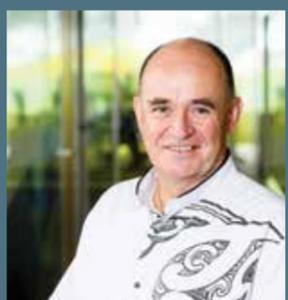
From the Waikato town of Ngāruawāhia, Tahu has degrees in History and Demography from the University of Waikato, and a PhD in Sociology from Stanford University. She is Vice-President of the Population Association of New Zealand Council, is a founding member of Te Mana Raraunga. Tahu also serves on the Royal Society Te Apārangi Council, and the Social Policy Research and Evaluation Unit Whānau Reference Group.



Assoc. Prof. Māui Hudson, University of Waikato

Whakatōhea, Ngā Ruahine, Te Māhurehure

An Associate Professor in the Faculty of Māori and Indigenous Studies, Māui is also a member of the Whakatōhea Māori Trust Board; Director for two of its companies, Te Pou Oranga o Whakatōhea, and Eastern Seafarms Ltd; and a member of Te Mana Raraunga. His interdisciplinary research applies a Mātauranga Māori lens to a range of areas including new technologies, health, the environment, innovation, data access, and data governance.



Dr. Te Taka Keegan, University of Waikato

Waikato-Maniapoto, Ngāti Porou; Ngāti Whakaue

A Senior Lecturer in Computer Science, Te Taka's projects on Māori language and technology include: the Māori Niupepa Collection, Te Kete Ipurangi, the Microsoft keyboard, Microsoft Windows and Microsoft Office in Māori, Moodle in Māori, Google Web Search in Māori, and the Māori macroniser. In 2009, he spent 6 months with Google in Mountain View as a visiting scientist assisting with the Google Translator Toolkit for Māori. He is currently the Kaihautū of the SfTI Kāhui Māori.

2. EXPERT PANEL

KIRIKOWHAI MIKAERE

Māori Data Sovereignty is Already Making Progress

The Data Iwi Leaders Group has been doing a lot of thinking in the data space and brings solid expertise to the discussion. Equally, rangatahi are an extremely important part of the conversation and are expected to contribute fresh thinking to the conversation.

Questions that are relevant to the kōrero:

What is Māori data, how can it be used to generate benefit for Māori, and how can it be used in the right way?

There are already many different perspectives here, many to be discussed through the hui.

How do we understand and encapsulate the relationship people have with the data?

Data is not just numbers but comes from and represents people and the environment. Data is essentially a piece of you and describes places, things, and relationships.

Work in this space involves looking towards a future where people are enabled. This requires that the discussion grows and develops in ways that support the kaupapa to advance.

Māori Organisations Thinking About Data

The Data Iwi Leaders Group (Data ILG) was established by the Iwi Chairs Forum at Waitangi in February 2016. It was formed in response to the increasing need for iwi to better harness the potential of data to enable our development and to advance the data kaupapa with the Crown. The Data ILG has identified iwi data priorities in its strategy set around the 'ITI Framework', which guides the objectives and goals as well as ensuring a focus on what is most important:

- Information – this is about access, governance and control over data about us and our resources.
- Translate – how we create and build capability in our organisations to engage, use and design data.
- Infrastructure – future-proofing the data infrastructure for Iwi so we are not reliant on anyone else.

[Te Mana Raraunga](#), New Zealand's Māori Data Sovereignty Network, is another key organisation in terms of both thinking about the issues and taking a practical approach to changing the way data is collected, stored, accessed and used. It was established in a response to a [2015 data hui](#).

“It's not about getting our children ready for the world, but rather getting the world ready for our babies.”

Indigenous Data Sovereignty

There are many reasons [why Indigenous Data Sovereignty is so important](#). For example, there is currently a great deal of data collected about Māori, but without our involvement in the design phase. This means it has not been captured in a way that is relevant to us. We want the data to reflect us, and to do that, the right kinds of data have to be collected. Further, data is often collected to help government deliver their services, in other words, for their purposes. When it is reported, the data tends to tell a story of deprivation and desperation using statistics about Māori, but ideally we want more of the positive data related to and measuring progress towards our aspirations. For this to occur, we need to be integrally involved in governance.

“Sovereignty as tribal nations was given to us by the Creator. It is sacred. Data to exercise our sovereignty is also sacred.”

American tribal leader, quoted at NCAI Tribal Leader/Scholar forum 2015

TERMS

Māori Data is that which is collected from us, by us, with us, for us, or from our environment that we have connections to.

Data Sovereignty typically refers to the understanding that data is subject to the laws of the nation within which it is *stored*.

Indigenous Data Sovereignty is about the rights of a nation (including tribal nations) to govern the collection, ownership and application of its own data, *no matter where it is stored*.

Māori Data Sovereignty recognises the right of Māori to access, use, and have governance and control over Māori data.

The **[Social License to Operate](#)** (use data) is concerned with how data integration and sharing affects the social contract between government and society, including Māori citizens. The social contract relates to the expectation that the government will act in the interest of its citizens. This may be most relevant to *individuals* and privacy, including individual Māori.

The **Cultural License to Operate** (use data) focuses on the impact of data integration and data sharing on the social contract that exists between Crown and Iwi through their Treaty relationship. It is about the rights of *the collective* and the bigger picture.

ASSOC. PROF. MĀUI HUDSON

Data Can Help Māori Development and Decision-making

When considering Māori futures, we should ask: How do we design things for our future and what is the role of data in this story? Recent shifts to data linkages and merging of technologies, as well as the opening up of the data space, means that context is changing as the data space changes. This is a good time for us to pause and think about Māori data sovereignty, and the rights and opportunities associated with these ideas.

[A Mana-Mahi Framework](#) guides the work of Te Mana Raraunga, which aims to advance this area in terms of both governance and operations. We are attempting to:

- Influence the wider data system – to be the most supportive and enabling environment for us to operate in
- Build Māori data capacity – to control data and how it’s used
- Create opportunities to use data for our advantage, including how to align data with new technologies to create advantage.

Essentially, data is about development through enabling people to make better decisions. Data can also be seen in terms of its links to ‘dollars’. More specifically, data is important because it helps us to access funding and investment, to be more efficient, and to allocate resources. In the same vein, the Treaty requires that government speak with iwi when they are making decisions about iwi - this includes data as a resource, for example, when setting fishing quotas or implementing 5G. The government is spending a lot of money on creating data infrastructures, including ‘commons’ for research institutes and government departments; data is reorganised across different use scenarios and this necessitates that certain decisions are made around data use. How do Māori get involved in influencing how Māori data can and can’t be used? The relationships iwi have with the Crown can ensure we are having the conversations and influencing decisions to access and control our data and resources.

“Māori data is that which is collected from us, by us, with us, for us, or from our environment that we have connections to.”

“We want more of the positive data related to and measuring progress towards our aspirations”

PROF. TAHU KUKUTAI

Applying Māori Philosophy to Transform Data Practices

We can express a greater appreciation of the depth of knowledge that already exists. Māori, iwi, and indigenous communities around the world have always been data gatherers and data protectors. However, these practices have always been in the **context of the collective, and this is in opposition to the western individualised data philosophy**. This is a major challenge for Māori. It requires a radically different way of thinking about data, and one that cannot be shoe-horned into what is a very narrow, individualistic legal framework.

While technical skill is important, it needs to be contextualised based on relevant knowledge and insights. Tech could be said to be racing ahead of tikanga in New Zealand. Our challenge is to bring them together in a meaningful way that allows the **two knowledge systems to work together**. It is not simply about bringing Māori up to speed with technology.

Data privacy is a major issue globally, and we have recently observed Europe enacting the [General Data Protection Regulation \(GDPR\)](#). For collective cultures, the individual framework of privacy does not work. Currently, individual data is used to tell stories about iwi, and create policy; and iwi have no control over that story, or how they are being represented. Relevant questions here include: ‘Does it have proper tikanga?’, and ‘Is it appropriate?’.

Data is about value, and while this does include economic value, other types of value are also apparent. **We need different models for recognising value** that are not restricted

by a narrow economic model. For example, the value of whakapapa data is in knowing our connections to each other; and that is so grounding and so powerful and so important that you cannot place a dollar value on it. Certainly, data can be used for financial purposes and benefits, but the primary value of data is to understand ourselves, each other and how we connect. From that, our collective identity is strengthened.

Finally, we are currently considering the question of whether we try to fix a broken system, or think about new systems that do not currently exist that would ensure data meet our needs. The challenge for rangatahi is to tell us what we need for a future that does not yet exist.

DR. TE TAKA KEEGAN

Success Through Technology Partnerships

There is a multitude of opportunities to assist Māori on our journey towards achieving data sovereignty. At the heart of this mission sits an underlying theme: if you want to see something happen, **you have to do it yourself**. Māori have to do it for ourselves.

Of course, we do not have to do it alone. For example, the Science for Technological Innovation National Science Challenge ([SfTI](#)) offers the opportunity to explore the area of Māori data and how we can make it work best for Māori. The work already carried out by the Challenge shows that Māori data and knowledge can be applied across many areas.

Currently, a new Spearhead (large, multi-year research project) is being developed which is particularly relevant to the current discussion. Called Ātea, this mission has been

designed by Māori, for Māori. The project, led by Hēmi Whaanga, is focused on the question of how Māori want tech to work for Māori. The overarching idea is to create an avenue where Māori can connect: to each other, to our knowledge, and to our data. Four specific areas include: Core system and structure that is secure and appropriate to us; Te reo; Telepresence/VR etc; and Data governance, sovereignty and best practice. SfTI has funding to help, and Hēmi can be contacted by those who have a science or tech-related idea to explore.

Finally, when thinking about the future, the nature of human-computer interaction is a key area of focus. The future is not in typing: **we will interact with technology and computers via speech**. For this reason, now is the time to explore how Māori language can be used. Te reo does not currently feature in speech recognition tools, so we must work towards making this happen ourselves. This will require a great deal of Māori language data to which machine learning can be applied. We will look to the Ātea project to assist in developments here.



The Panel: Kirikowhai Mikaere (facilitator), Assoc. Prof. Māui Hudson, Prof. Tahu Kukutai, and Dr. Te Taka Keegan.

“The primary value of data is to understand ourselves, each other, and how we connect.”

“You have to do it yourself...of course, we do not have to do it alone.”

3. WHAT DOES THE IDEAL FUTURE LOOK LIKE FOR MĀORI DATA?

Attendees were asked to break into smaller groups to discuss what the ideal future for Māori Data looked like to them. Four interconnected themes arose. The following summarises the discussions from this session.

A. We will have a Shared Understanding of what Data Encompasses within a Māori Framework

While data is a Western kupu, we will widely acknowledge that we have always been gatherers of mātauranga. A key aspect of our ideal future is that we have decolonised and reconceptualised what data means for Māori wellbeing. Ideally at this point, tech will catch up with our tikanga.

Even now we may be able to see that data is more than statistics – it is panels, kōrero, karanga, stories, data that is important to women and important for men. Bringing this to the forefront of the Māori data space will help everyone understand data better.

“We can liken data to water. It flows from a tap and it’s going everywhere. Everyone is grabbing what they can without valuing it, but we value it because we understand what it means to us. We want to own the tap and the pipes, so we can control where it goes to, and determine the value. It isn’t just access; we need to control what is going in and where it flows to in ways that are good for us.”



Hui Participants Listening to the Expert Panel

B. We will have Mana/Control over our own Data and what Happens to it.

In the future we will have control of all the systems, what our data can be used for, and who can access it in order to ensure positive outcomes for our communities. This will be achieved via several mechanisms, including:

- Culturally appropriate and outcome-focused collection processes
- Integrating kaupapa Māori into data collection practices that will effectively grant us permission/consent to use it for Māori purposes by Māori.
- Data accuracy and integrity
- Access to our data via a single portal
- Breaking down barriers to sharing knowledge, for example, no longer having to go through multiple sources to access our data
- Free and unfettered access to a data system built upon whakaaro Māori.
- Security and safety of our data
- Having the power to stop the government collecting and using data in ways that are useful for them but not necessarily for us.

C. Data will Assist Māori to Reach our Aspirations

This begins with a shared understanding of what the value of data is for Māori, and how data and technology can directly feed into and support the achievement of positive outcomes for Māori.

“What makes us tick? What makes our children’s hearts sing about their identity?”

There will be a particular role for data in assisting (re)connections between generations, for example, through preserving knowledge held by older generations before they pass on. Te teina (younger generations) have knowledge of technology and how knowledge can be preserved, while older generations have the knowledge that we want to preserve. How do we make this relationship work?

We will also be able to use data to (re)connect iwi. It will help our communities to heal.

“Facebook raises serious concerns on who is getting benefit. We feel okay to offer data if we’re getting benefit, but aggregated and used in unintended ways can be nefarious.”

“Data is just a tool to help us improve our people’s wellbeing. We must always ask: How does this help the wellbeing of our people?”

Attributed to Dan Te Kanawa – Tūhono/Te Mana Raraunga

4. HOW DO WE MOVE TOWARDS THIS FUTURE?

D. Our People will have High Capability and Strong Partnerships for Relevant Skills and Resources

An important part of this will be spreading the word throughout the Māori world about what data is and how to control it. It is also having conversations about how it is valuable in terms of creating benefits and wellbeing, but also about commercial value.

Rangatahi are a key piece of the puzzle. Our young people will be leaders in using technology to help Māori achieve wellbeing.

Additional Questions and Potentialities that Arose

Another consideration is that data is often the by-product of a service, and this in itself creates opportunity. This is perhaps a better fit with Māoritanga because we are not centralised (despite how the government thinks/acts). We are everywhere and different groups have different needs.

There is a significant opportunity in Māori-to-Māori interactions and transactions that produce data – the data generated can stay inside without needing to be shared outside, including with government.

How do we develop processes and tools that will capture data that is of use to Māori?

How do we identify existing data streams that nobody is capturing yet?

What is the role for Te Reo in the data space, and what are data-related terms in te reo Māori? Is it important to create a kuputaka to break down concepts and share information about the data space, essentially democratising this base knowledge? Do we need to examine the potential for te reo Māori in the data space to enable cultural strengthening?

Because data comes from people, it is important to respect people: Mana tangata.



Hui Participants Discussing the Future of Māori Data



Attendees were asked to break into smaller groups again to discuss how Māori can work towards the ideal future identified.

As a stepping stone to accomplishing this future, some thought it important to establish a national representative collective. Of course, the Data Iwi Leaders Group already have a mandate from the Iwi Chairs Forum (and the 75 iwi that affiliate to the forum), while Te Mana Raraunga represents an established network of individuals already working in this space as well.

Four sets of interconnected tasks were identified. Developing an inclusive, outcomes-focused strategy that acknowledges each of these strands of work was also considered vital to ensure impact for Māori. Part of this work will likely involve taking stock of what Māori already have and can use in terms of information/data and/or infrastructure, and the value that can already be realised. Everyone agreed: we have to do this ourselves.

A. COMPLETE THE FOUNDATIONAL WORK OF DEFINING MĀORI DATA AND ITS VALUE WITHIN A MĀORI FRAMEWORK

We need to have a good understanding of the 'big picture': what should be counted as Māori data and what is the context for Māori data? This is required so that technicians and practitioners can then understand their role inside that context, and similarly, we want politicians to act according to the agreed context. A great deal of work has already been carried out here, so the current task may be to refine and disseminate.

Recognising the value of Māori data is an important task. One way to do this is to identify what Māori data is of interest to others – Te Reo is an obvious example, but other cultural knowledge can also fit.

While there are many kinds of value we can realise from our data, commercial or monetary value is important and there is still work to do in understanding how this can be used to greatest advantage for our people. Identifying potential threats is also part of this work.

Finally, it is acknowledged that Māori can take the opportunity to learn from the fringe and from subcultures and tribes that are also dealing with the complexities associated with data. There are many things happening that Māori can borrow from and form alliances around.

B. ESTABLISH A SET OF PROTOCOLS THAT APPROPRIATELY LINK DATA AND MĀTAURANGA MĀORI

An important discussion that many are interested in is whether Māori (as a collective) want to try to have the government acknowledge that we own

“Does data have Māori whakapapa?”

“Recognising the value of Māori data is an important task.”

our data, OR do we simply not trust them in this space and try instead to restrict their access? In terms of ensuring Māori data has integrity, we should 'look under the hood' before determining if and how we can work together with the Crown. There are a number of questions to consider, such as:

- Who and what is Māori? Are we a single grouping? What are the myriad subgroupings?
- If I hand over my whakapapa, how do I know others will recognise the true meaning and integrity of the data?

Developing a set of national protocols will require us to put in place tikanga (rules and protocols) that are appropriate at both national and regional levels.

Encryption is a complex issue that is directly relevant to Māori Data Sovereignty. Advances here will be important if we choose to store our data on others' infrastructure. Sophisticated encryption will also enable Māori to create layered data stories where different people have access to different levels of depth.

KŌRERO AND WAIATA AS DATA: WHAT ARE THE TIKANGA FOR THESE?

There was a great deal of exploration about how taonga that already exist in the Māori world - such as stories, waiata and wharenuī - might also be understood as data. These were some of the varied thoughts and questions raised.

Māori share different layers of the same story depending on the audience (this is a form of encryption). How do we take into account these different layers when it comes to technology?

What are the implications of coming to a single version of a story that is stored in a central repository versus having the story change as it is interpreted and told differently over time? Is there a single truth?

We've talked a lot about data accuracy, but how does that apply to a song or a story - do we want accuracy in these cases? Our approaches must take into account:

- There are naturally differences of the same story between iwi
- There are different versions for non-Māori
- Māori Multiple Realities.

How can regional data, stories and tikanga that are special to a region be captured, for example, via oral history? (Some oral histories are already in libraries).

Do iwi even want this kind of information recorded digitally?
How would it be accessed?

There are pockets of activity in terms of digitising stories, but these are not co-ordinated in terms of:

- Collaborating with other iwi.

- Getting clear within a particular rōpū exactly what protocol will be used for storing, accessing and using the data once it is collected.
- Acknowledging that different iwi have different protocols for accessing taonga.
- Data collection – there may be some hurdles, for example, older people may be nervous about being recorded.

C. ESTABLISH PHYSICAL INFRASTRUCTURE THAT IS GOVERNED BY MĀORI (INCLUDING THROUGH PARTNERSHIPS)

While the issue of infrastructure was the subject of much discussion in this session, it is clear that there is work to do around determining what needs to be created afresh, and what can be used that already exists; decisions must always return to the need to create positive outcomes for Māori.

In terms of making use of existing infrastructure and data, it may be possible to approach a multinational such as Google so they can explain how data infrastructure works and then we can re-examine and make it work for us. Adapting what is already available can save time and money.

Of course, sometimes we may need to start from scratch because what is already available may not be appropriate. Rangatahi can be a great resource to help us reimagine our future.

Whichever approach is favoured at different points throughout this journey, partnerships will be key. Creating connections and collaborations requires us to find partners in government and the commercial sector to help change things, to share resources, and to make larger

projects possible. Ātea (SfTI) has already been identified as providing an opportunity for partnering. As a proof of concept and innovation hub, Ātea has much potential for iwi if they see value in it, and this could be an important part of an overall strategy. Crowdsourcing software solutions was also raised as a good potential strategy for empowering communities to do tech projects using the help of many. Māori could access some of the best tech minds for a fraction of the cost of hiring consultants.



Hui Participants Discussing the Future of Māori Data

“If you have weaker forms of consent, you need stronger forms of governance to maintain trust in the system.”

“Rangatahi can be a great resource to help us reimagine our future.”

5. FEEDBACK ON THE HUI

D. BUILD CAPABILITY

There was robust discussion about the need to build capability. There were a number of themes and comments.

Build Foundational Knowledge

- Create a set of basic tech terminologies/ kupu and other resources to be widely disseminated.

Develop through Partnership and Knowledge Exchange

- Take an intergenerational approach
- There is much to be learned from two-way sharing as rangatahi share their technology knowledge and older generations share their cultural knowledge.
- Establish and build relationships with those who hold expert knowledge
- Māori can benefit both from working with these experts on specific projects and learning from them along the way.
- Important to remember this is not simply a tech challenge – this concerns everybody, so it needs collaboration across disciplines. For example, law and policy makers need to factor Māori Data Sovereignty into their work.

Learn by Doing

- A general shift from talking about data sovereignty towards enacting practical governance in collection, ownership, and the tech itself.

Build Rangatahi

- Offer tangible assistance and obvious pathways for young people.
- Developing rangatahi as technicians
- ‘Mentoring pipelines’ are useful – how do we better connect those with skills/capacity in the tech field to those who want to learn? People who inspire and demystify things in the data space will be crucial, for example, Nano Girl.
- Develop a taskforce to identify rangatahi already studying relevant science and tech, and create a talent register.
- Māori STEM students tend to be very talented, but they wouldn’t necessarily know about many tech initiatives. How could the university help in this?

IDEA: Create an ‘Iwi Data Innovation Hub’

Such an initiative might create a place where the right people can focus on understanding and developing what we want.

Who should be involved? MBIE? Callaghan?



Willy-John Martin from SfTI Addressing Attendees

RANGATAHI FEEDBACK

A small group of rangatahi were invited to attend the hui, including representatives of Ngā Rangatahi ā Iwi from the Iwi Chairs Forum. They were asked to participate throughout the day and then given specific time in the programme to share some kōrero on their thoughts and experiences of the hui:

What we liked.

There was a good range of speakers and interesting points made.

At first the topic felt a little daunting because we are not data experts, but using analogies, for example, the whare, helped us to understand some of these complex concepts.

Using te reo made the day and kōrero more relatable for us.

We are young and so it is great to sit in the room with current rangatira, doctors, and experts.

Keeping to time and having a program with short sessions was appreciated. Our attention spans are limited!

What didn’t work so well for us.

It would have been helpful to get more information before the hui to help us prepare and understand some of the ideas being discussed.

The panellists were more informative than the breakout groups:

“I didn’t know what my group was talking about.”

Some of us felt that the ideas we shared during the breakout groups were watered down by older people when reporting back to the whole group.

Please make content appropriate for all levels of knowledge on the topic – we didn’t understand everything.

We want to know about the history of this topic through a Māori lens.

We need more time to discuss solutions and what action can be taken.

There was too much Waikato on the panel.

The Future

We want to know where the waka’s going to next.

Consideration: Speed (how fast) v velocity (how fast in a given direction)... each hapū may be at a different velocity angle.

“When it comes to predictive data use to target people, this is a form of mākatu. What are the implications of this in the digital world?”

“We want to know where the waka’s going to next.”

Consideration: A global approach v local self-determination ... how do we manage this?

In the short term, we would like to have a rangatahi forum, part of that would be about pitching at a level that could be easily understood by all.

We recognise the need for intergenerational conversation – so important to have a rangatahi forum/space to allow for our contribution/ideas.

“Decolonising data, re-indigenising data – it’s the story of the data that’s most important to me.”

POST-HUI SURVEY

Participants were invited to take part in a survey where they could share their thoughts on the hui. A total of 34 responses were received, providing ratings (scale: 1-5 stars) and verbatim comments related to several questions.

Ko ngā Rangatahi. What importance do you place on rangatahi (youth) contributing to these hui?

Participants rated this at 4.56 out of 5 indicating a high level of interest in rangatahi participation. Specific comments included:

- I think it’s vital. Not just for their ideas, but children have to feel included in what their elders do, otherwise they won’t become a part of it.
- TINO TINO IMPORTANCE – I learnt a huge amount from the discussions with rangatahi and I loved their straight to the

point sharpness as well as being able to articulate pathways ahead.

- More rangatahi = more awesome.

Te haerenga whakamua. How interested are you in participating in future hui like these, to advance Māori Data kaupapa?

Participants gave a rating of 4.44 out of 5 for this question, indicating a high level of interest in attending future Māori Data hui. Specific comments included:

- I’d like to see where else it can make an impact for Māori.
- As one of the rangatahi said, I am more compelled by our stories or life experiences than ‘data’. However, if we are using the words Māori Data, perhaps we need to define its parameters and deepen buy in.

Hei Whakawhanaungatanga. How well did the workshop connect you with other people interested in Māori Data?

Participants also rated this factor 4.44 out of 5 indicating there was a high level of engagement between attendees, while the comments indicate this was considered a particularly valuable part of the hui. Specific feedback included:

- This was definitely the best part for me.
- Great balance achieved between lecture style/presentations versus workshopping. There was plenty of opportunity to meet, greet and korero. The dining room setup for morning and afternoon tea also encouraged networking.
- I made a few really valuable contacts and cemented some existing ones.

Ko ngā take whakahirahira. How well did the workshop draw out the important issues in the world of Māori Data?

Participants rated this factor 3.97 out of 5, however, some of the comments illustrate that this aspect of the hui was perhaps the most difficult to get right for everyone. Specific feedback included:

- A great start and some awesome initial insights of important issues but to score higher maybe some more space needed to wānanga on the issues.
- We discussed the development of our own independent data as iwi and/or hapū, or Māori organisations; we discussed mana tangata, i.e. respect for people who contribute the data; we discussed values and kaupapa; and the need to build capacity and capability.
- It worked well in airing basic principles. It didn’t get far in constructing realistic solutions or means for growing capability. Idealism trumped practicality maybe, but there were some great examples of things that have worked and perhaps we didn’t capture these well enough.

He pēhea te pai. How would you rate the workshop overall?

Overall, participants gave the workshop a rating of 4.38 out of 5 and provided good insight into what they enjoyed:

- It was well run, the talks were of a high quality and I felt like I learned a lot.
- Ngā mihi ki te rōpū e whakahaere tēnei hui.
- It was excellent, a treat for me as I work from home a lot of the time, and attend whānau, hapū and iwi meetings. But it broadened my perspective to a more pan-tribal, kaupapa Māori viewpoint.
- I felt the workshop just opened the door to give me an idea of what’s inside.
- Ka pai.

Kia nui ake ai te pai. What would you like to see more of at future hui on Māori Data?

A common recommendation was to offer more practical guidance and real world examples.

“We want to know about the history of this topic through a Māori lens.”

“More talk about the doing, the pathway to getting to the desired state”

6. SUMMARY

- More talk around the doing, the pathway to getting to the desired state.
- Example partnerships or projects and discussion on how they were formed, pain points etc.
- I'd like to learn more about how to extend our appeal and registrations as whānau, hapū and iwi, i.e., how to get more rangatahi on board to share the mahi, the paepae, and keep our marae alive.
- Would be keen to talk about collection methods, and practical uses of data. We are all creators and users of data but we don't know what we don't know.
- Information on how flexible (or not) government is with respect to data gathering, use, etc.

Creating more opportunities to connect and collaborate with others was also seen as positive for future hui:

- Maybe some work on more specific/tangible directions to pursue? I'm in a position where I'd like to do/make something, so from non-technical people I'm really looking for a sense of what could have a meaningful impact, and from technical people I'm interested in collaboration. So more opportunities for technical people to collaborate would be awesome.
- Hui and information filtering down to our community level – Marae involved in and contributing to the conversation.
- Attendance by funding agencies as observers.
- It would have been useful to have a list of the presenters and participants, with their affiliations. This could be distributed prior

to the hui. Some participants may wish to connect with specific individuals and/or groups and this information could facilitate this?

Other suggestions related to structure, such as length, agendas and approach:

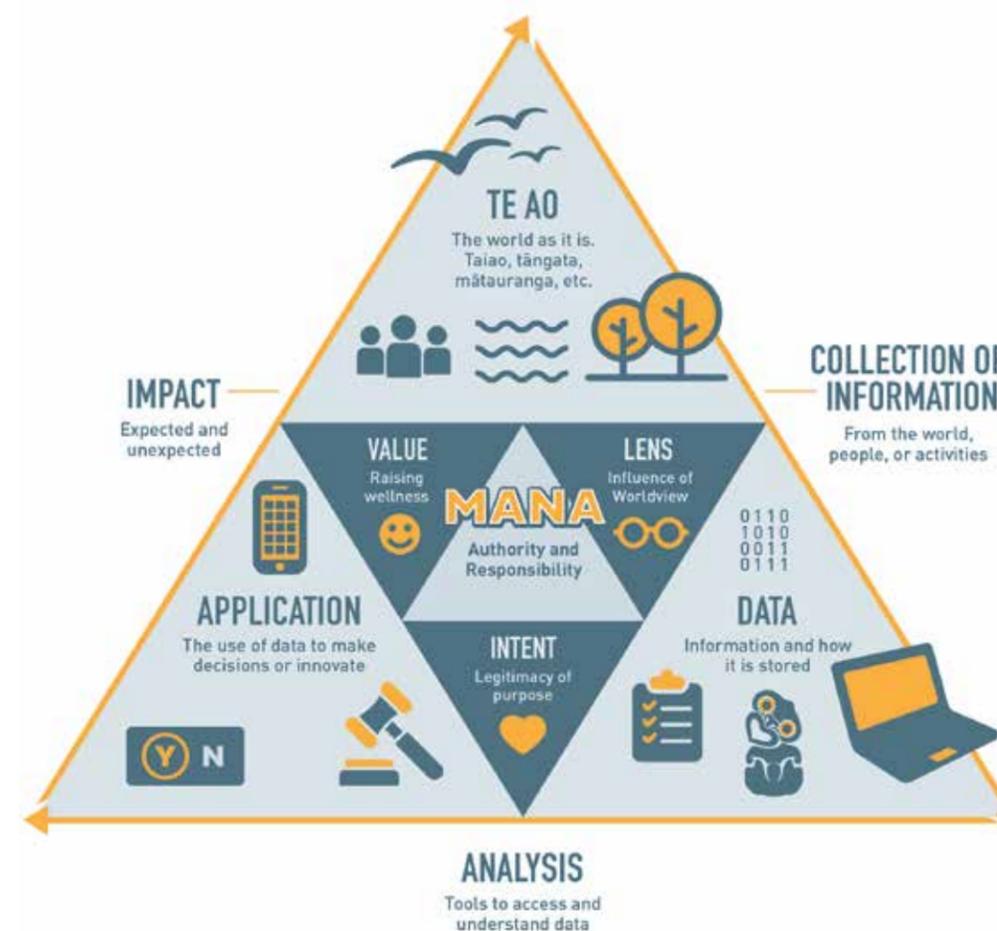
- More hui.
- More breakouts/longer timeslots for breakouts.
- Mātauranga Māori thinking. Our rangatahi summed it up well around staying in a Māori space, not always then translating the concepts to a Pākehā data language.
- Intro courses on data sovereignty, data, big data, AI, rules engines etc for our rangatahi. And Treaty workshops for our Pākehā colleagues, so we are on the same page before we start the heavy topics.
- Waiata :)

“Ko au te taupā, kīhai i puāwai aku moemoeā”

“I am the only boundary to the fruition of my dreams. “

Whakatauki

Figure1. Te Aonui o Raraunga Māori – The Māori Data Triangle



The diagram above represents the topic domains that emerged out of the discussions of the day, and how those domains relate to each other.

Firstly, it was recognised that data come from, and describe, Te Ao – the world. Te Ao encompasses Iwi Māori and our relationships, including whakapapa, iwi, hapū and whānau; Māori resources including whenua, awa, maunga, moana, mātauranga; and Māori activities, including cultural, economic, educational and health activities, social interactions, where and how we live, and so on.

The kinds of information that are collected is dictated by the lens, or worldview, through which Te Ao is viewed. There was a consensus that a tirohanga Māori is the most appropriate lens, so that any information collected from Te Ao Māori can truly reflect and represent Māori. It was often raised that a Western, non-Māori lens was ill-fitting for Māori and had regularly led to misrepresentation of us. It must always be remembered

The kinds of information that are collected is dictated by the lens, or worldview, through which Te Ao is viewed.

Mana sits at the heart of the Māori data world.

that data is only useful if it is accurate and representative.

One topic that was not extensively discussed at the hui was the appropriateness of *how* data is collected. A discussion for future hui could be around appropriate ways, tikanga Māori, for accessing and gathering Māori data. Some questions could be: are hui and wānanga more appropriate than other methods; are electronic data collections appropriate, and if so, under what circumstances; and what are processes for collecting culturally sensitive data, or information viewed as tapu.

Once data is collected, it can be stored and encrypted in various forms. There was a consensus at the hui that data might be stored not only digitally, but imbedded within kōrero, tikanga, waiata, or art. In all cases, access to data is not only influenced by where and how data are stored, but by who has jurisdiction over the data, and who can decipher it.

Much of the hui was focussed on why we should gain mana over our own data, and how Māori should be empowered to determine who has access to it, and why. Access to Māori data should be granted by the appropriate Māori representatives, based on the intent for which the data is to be used, and its benefit for Māori. Advocacy groups such as the Data ILG and Te Mana Raraunga are two groups attempting to push this agenda forward.

Good interpretations of data help us to make good decisions for our people and our resources. Analytical tools can help Māori and others to understand what data tell us about te Ao, and these tools are particularly important when data is complex. It was recognised at the hui that understanding the domain of data, the

terminology, the analytics, and technologies, was an area for education and development for Māori, and that rangatahi are a vital part of that development.

Data can be used to help generate new innovations, technologies, services and businesses. In this way, the right kinds of data interpreted in the right way, can lead to outcomes that are beneficial for Māori. These benefits could be financial, cultural, relational, or other. The hui clearly identified financial benefits as being desirable; however, raising Māori wellness was of the highest priority. It was proposed that this could be achieved by using data to reconnect Māori with our communities and resources.

Data-based decisions have the potential to impact and change aspects of the world. Whether the impact is on our people, the environment, the economy or otherwise, Te Ao is changed through applied data. The ideal is that these changes be desirable, beneficial, and expected. However, there have been many circumstances where data has been used in ways that are harmful, without consent or that have led to unintended consequences.

For these and other reasons, Mana sits at the heart of the Māori data world, just as Mana sits at the centre of the figure above and touches every other section. Mana considerations must be explored, understood and enacted in each domain of Māori data. Mana over Māori resources in te Ao, over data that are collected from te Ao Māori, and the use of Māori data. Mana over the lens used to collect data, and why and how data are being collected. Mana over how data are collected and analysed, the decisions that result, and the impact that data has on Te Ao.

DEVELOPMENT AREAS IDENTIFIED THROUGH THE HUI

Drawing on the workshop kōrero, and guided by the final hui discussion at the end of the day, seven areas for development have been identified for Māori and Māori data, presented below in the following statements.

Raraunga mana Māori

That Māori obtain control and authority over data about themselves and their resources.

Raraunga tirohanga Māori

That data be understood through a Māori worldview and using language, terms and symbolisms that are meaningful to Māori – mā reo, whakaaro, tikanga, etc.

Raraunga mata tini

That the many forms that constitute data be explored and recognised – digital, analogue, biological, kōrero, whakairo, etc.

Raraunga uara nui

That the far-reaching value of data, financial and otherwise, be explored and recognised.

Raraunga hiringa whakamua

That data be used in new and innovative ways to produce outcomes that Māori want, pushing boundaries while taking care not to be seduced by financial benefit alone.

Raraunga whakaora

That the responsible use of data leads to revitalisation and reconnection of Māori with each other, and with Māori resources, to elevate Māori wellness.

Raraunga whakaakoako

That education about data and data technologies be integrated with data usage and practice, and that training be made available to address the wide capability needs of Māori in data and technology.

We hope to explore and develop these ideas further in follow up hui around the country.

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7. GLOSSARY

hapū	subtribal group or groups
hui	meeting or gathering
iwi	tribal group or groups
kaitiaki	guardian, custodian
ka pai	well done
karanga	ceremonial call
kaupapa	topic, matter
kaupapa Māori	Māori ideology
kōrero	discussion, dialogue
kuputaka	glossary
mahi	work, activity
mākutu	enchantment, inflicting harm through non-physical means
mana	authority, influence and responsibility
mana tangata	human rights
marae	courtyard at traditional meeting houses
mātauranga	knowledge
paepae	orator's bench
Pākehā	Non-Māori, usually of European descent
pūkenga	skill
rangatahi	youth
raraunga	data
rōpū	group or groups
taonga	treasured object or information
tapu	sacred, private, restricted
tikanga	correct procedure
tino	very
tirohanga Māori	Māori worldview
Vision Mātauranga	A NZ Government science innovation policy
waka	vehicle
waiata	song or songs
wānanga	discuss and deliberate
whakaaro Māori	Māori thinking
whakapapa	lineage, genealogy
whānau	family and extended family
whareniui	traditional meeting house

Ko au te taupā

**kīhai i puāwai
aku moemoeā**

**I am the only
boundary**

**to the fruition
of my dreams**

Whakatauki

The image of Mangopare (Hammerhead shark) is a design from Tyler Dixon, Waikato-Maniapoto, Ngāti Porou, Ngāi Tahu, Ngāi Tahu.

It symbolises the strength in duality to be found in combining traditional Māori knowledge and modern western science.

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