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E Hāpai Ana i ā Mātou Uara mā roto i Te Mana Whakahaere
Raraunga hei Whakapūmau i te Mana Motuhake

**Utilising Our Values through Te Mana Whakahaere
Raraunga to Enact Māori Data Sovereignty**

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requirements for the degree of

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WHAKARĀPOPOTOTANGA MATUA

Whānau Ora has evolved from a policy position to a practice that provides pathways for whānau to achieve their own moemoeā. Across multiple projects and programmes Te Tihi o Ruahine Whānau Ora Alliance (Te Tihi) capture large amounts of whānau data. As kaitiaki within our data environment, it is crucial that we ensure the understanding of Māori data sovereignty, actualise it into usable tools, maintain a strength-based approach to data analysis, and implement robust security protocols. Additionally, maintaining the rights of whānau (those whom the data is about) regarding use, access, and dissemination is essential to Māori data sovereignty.

This research project seeks to understand Māori data sovereignty through the experience of a Whānau Ora provider by exploring the development of our data governance and management framework, *Te Mana Whakahaere Raraunga*, and its impact within Te Tihi as well as the wider mahi we engage with. Interviews from key informants who hold expertise in the unique knowledge of Te Tihi and/or Māori data sovereignty were thematically analysed with a deductive approach based on our organisation's values. The key findings of this research will be illustrated by examples of Māori data sovereignty such as within Kāinga Whānau Ora and Āta - our (data and communications) COVID-19 response, demonstrating how Te Mana Whakahaere Raraunga assists Te Tihi in upholding our organisational values that support our hāpori and whānau.

COVER ILLUSTRATION

Te Mana Whakahaere Raraunga is depicted on the cover page through an illustration of Te Āpiti, the Manawatū Gorge. It was formed when Okatia, a legendary tōtara tree with a desire to reach the sea, broke the mountain range in two. The remaining ranges became Tararua and Ruahine, and Te Āpiti is the pathway that continues to connect Rangitane o Tamaki nui-a-rua and Tanenuiarangi Manawatū together today.

Te Tihi o Ruahine, which means 'The Ruahine Summit', offers a vantage point from which the viewer is able to see all the lands under which Te Tihi o Ruahine Whānau Ora Alliance serve. The Alliance has a collective aim of 'Whakamana Whānau, He Oranga Motuhake' or supporting whānau to 'reach new heights'.

This beautiful mahi toi was crafted by artist, and Te Tuahiwi kaimahi, Nikau Tonihi. It represents the culmination of many hands that have contributed to the development of this framework, which was guided by our Pou Tikanga, Miriama Kereama, and our Pou Whakarae, Tawhiti Kunaiti, with the overall direction of the innovative work of Te Tuahiwi steered by the exceptional leadership of our Upoko Whakarae, Materoa Mar.

Te Mana Whakahaere Raraunga is a Māori data governance and management framework that brings together our data ecosystem through Kawa and Tikanga aligned with our organisational values. The framework is designed to exert Māori data sovereignty and will be the main focus of this research report.

Ko taku taumata ko Kōkōhuia, tere iho taku awa Waiarohia ki Te Puna o Te Ao Mārama, ki Hokianga. Ko au tēnei, he uri nō Ngāpuhi e mihi nei.

My Dad grew up in the winterless North in a large whānau, one of 12 tamariki. As a taitamariki, he moved south to join the NZ Army; within months he was fighting in Vietnam. My Mum of Scottish decent was born not far from here, in Kākāriki, southeast of Marton, where she grew up. She too joined the Army where my parents met. For Dad, this was during the time of Māori urbanisation and the shift into the city was a huge lifestyle change. He had already been told by his parents who were first language speakers, that te reo was a dying language and not worth learning, so he and his siblings never learnt it growing up. After 20+ years of service, our whānau went through the trauma of a car crash that left my dad a paraplegic. War had left mental scars, the accident physical. My whānau went through another trauma of losing our Mum in 1999 and our beautiful sister, our mātāmua, not many years later.

“Tēnei mea te aroha

The fibre of our being

Threads in a never-ending tapestry

Kāwai heke, whakapapa

Today, we’re the kairaranga

Like our māmā, our kuia before

Rubbing out the mamae in our strands

Weaving a masterpiece.” (Na Leah Te Whata)

Understanding the whakapapa of trauma and its impact on whānau and ngāi Māori allows us as a people to articulate the current position of Māori as we move forward together. Whānau Ora provides a framework of healing and taking back what colonisation has left us without, a space to dream. It is a culturally grounded approach to wellbeing that addresses the needs of the individual within the context of whānau, through shared moemoeā. It is underpinned by the actualisation of whānau potential through building whānau strengths and capabilities. Whānau Ora has a holistic view of wellbeing that highlights the multiple factors which contribute to one's health; the physical exists in concert with the mental, the spiritual and family life.

Holistic improvement of Māori wellbeing through evidence-based practice can inform emergent strategic solutions. To me this means harnessing the power of data. Guardianship (kaitiakitanga) of data needs to shift from a simple protector mindset to a growth mindset. Just as we expect smart investment with our finances,

so too should we expect smart investment with our data. I am interested in how tikanga (guiding principles) can be utilised to regulate our behaviour in the capture, storage, analysis, visualisation and dissemination of data.

This includes the development of tangible and pragmatic tools to ensure the safety of kaimahi, organisations and importantly our whānau, when engaging with whānau data. Māori data sovereignty in a Whānau Ora context means supporting whānau Māori to have more autonomy over their own data, and to access and to utilise their data to make informed decisions to facilitate better outcomes.

Data is the reflection of who we are, our history, our stories, our identity, and the parameters in place to forge our identity anew.

Therefore, beyond the need to measure outcomes and enable accountability, the data we capture tells us what is valued and what is not what narrative we want to reinforce and what we wish to silence.

Within my role as a kaimahi of Te Tuahiwi o Te Tihi (Te Tuahiwi) for the past eight years, I acknowledge my place within this kaupapa whānau and the complexities of insider research whilst completing this research project.

I would like to thank my daughter, my partner, and my whānau for your support; I love you all.

Huge mihi to my research supervisor for your patience and invaluable guidance throughout the research process.

To my reviewer, I appreciate you and all of the learnings over the years.

To the Te Tuahiwi team, the MVP's, for your amazing pūkenga and contributions to Te Mana Whakahaere Raraunga. Ehara taku toa he takitahi, he toa takitini.

Ka nui te mihi ki te mana whakahaere o Te Tihi, mō tō koutou kaha ki te tautoko i a matou i Te Tuahiwi.

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TE REO MĀORI TERMS

Te reo Māori is a deep and nuanced language which encapsulates whakaaro Māori and mātauranga Māori in a way that no other language can. Some of the ideas and kupu utilised throughout this research report are most effectively communicated through our reo rangatira.

Te reo Māori is one of three official languages of Aotearoa, New Zealand. A deliberate decision has been made not to provide an exhaustive list of Māori terms with English translations as the need for this is premised on the notion that te reo Māori cannot stand in its own right within academia which perpetuates further colonisation on our language.

I have incorporated te reo Māori where I am able, as I move through my own journey to reclaim the language of my tūpuna. I also encourage readers to continue their own reo journey and therefore, a link to an online dictionary <https://Māoridictionary.co.nz/> may support readers to seek out their own understanding of kupu Māori.

CHAPTER 1: WHAKAMĀRAMA WHĀNUI

This research project seeks to understand the impacts of Māori data sovereignty through the lens of a Whānau Ora Alliance, by exploring the development and utilisation of a data ethics framework (both data governance and data management structures) within the MidCentral rohe. The study will explore the challenges and opportunities created by Te Mana Whakahaere Raraunga. Key impacts to date include the frameworks application to support mahi in Kāinga Whānau Ora, Āta - our (data and communications) COVID-19 response and wider contributions to Māori wellbeing.

Te Mana Whakahaere Raraunga, was gifted its name by a Te Tihi Governance Board member as it showcases the opportunity to strategically scale our learnings to realise each Home Organisation's mana motuhake in the Alliance's collective aspiration to meaningfully exercise and maintain Māori data sovereignty.

Our moemoeā is that data and digital continues to be a lever to exercise Māori data sovereignty; providing kaupapa that meets the needs and aspirations of whānau and for whānau to effectively manage their own pathways for oranga.

Outline of the Research Report:

- **Chapter 1: Whakamārama Whānui** - An exploration of the background knowledge that is integral to engaging with the framework including: the Treaty of Waitangi, Te Tihi o Ruahine Whānau Ora Alliance, Whānau Ora, Collective Impact, and an Overview of Te Mana Whakahaere Raraunga.
- **Chapter 2: Arotakinga Mātākorero** - An exploration of literature on indigenous data sovereignty, Māori data sovereignty, ethics and tikanga, and the development of Māori frameworks.
- **Chapter 3: Aramahi Rangahau** - An exploration of the key research considerations for this research report.
- **Chapter 4: Kitenga me ngā Matapakinga** - An exploration of the development of Te Mana Whakahaere Raraunga, key informant interview findings, and discussion of these in the context of the framework.

We begin the next section with a discussion of the Treaty of Waitangi and its application within Māori data sovereignty and Whānau Ora.

Māori data sovereignty is a critical issue for Māori, as it allows for control over our data and its use (Hudson, 2021). However, the government often utilises data in a manner that perpetuates discrimination and fails to promote positive outcomes for Māori, thereby hindering the attainment of Māori data sovereignty. Māori data sovereignty serves as a mechanism to tell our stories, in the way we want to tell the story, to paint the picture of who we are as a people and inform the resourcing by which we support our own people. Data has become a highly valued and sought after commodity (New Zealand Productivity Commission, 2019; Oliveira, Rodrigues, & Henriques, 2005). Te Tiriti o Waitangi and the Treaty of Waitangi are fundamental founding documents in New Zealand, which established a partnership between Māori and the Crown to safeguard Māori rights and interests, including autonomy over Māori data (Reid & Rout, 2020, Kukutai, 2018).

Te Tiriti o Waitangi and the Treaty of Waitangi, while containing the same three Articles, differ significantly in their wording and interpretation. For instance, in Article 1 of the Māori version, Māori leaders granted the Queen "te kawanatanga katoa," or complete governance over their land, meaning that Māori retained their sovereignty. Meanwhile, the English version stated that Māori ceded "sovereignty" to the Crown (Hudson, 2021). Another significant example is the meaning of the word "tino rangatiratanga" in Article 2. The Te Tiriti version guarantees Māori "te tino rangatiratanga o ō rātou whenua, o ō rātou kainga, me ō rātou taonga katoa," which is often translated as "the full exercise of chieftainship over their lands, villages, and all their treasures." Given the rule of contract interpretation *contra proferentem*, an ambiguous contract should be construed against the drafter of the contract; therefore, "tino rangatiratanga" should be interpreted as full sovereignty or self-determination, rather than just chieftainship (Durie, 1998). Discrepancies such as these examples, coupled with inadequate awareness of New Zealand's colonial history, result in ethnic divides that negatively impact Māori individuals and systems (Reid & Rout, 2020). A study by Reid (2011) found that many New Zealanders showed little shame in their ignorance of the Treaty or Tiriti. Such issues perpetuate discrimination and hinder the attainment of Māori data sovereignty. However, in recent years, Te Tiriti o Waitangi has gained greater influence in incorporating iwi, hapū, and hapori Māori in Crown systems.

The politicisation of the Treaty/Te Tiriti relationship, grounded in the ability of tangata whenua to advocate for the original intent and vision of Te Tiriti and the priorities of the Government of the day, has resulted in a more robust and pronounced presence of Māori Rangatiratanga and Māori mana motuhake in policy, legislation, and strategies across all sectors (Kukutai, 2018; New Zealand Productivity Commission, 2019). Nonetheless, the Crown continues to primarily focus on providing redress for historical grievances, rather than transforming political power structures and changing their behaviour (Reid & Rout, 2020). To achieve Māori data sovereignty, the Crown must uphold its Tiriti obligations to enable Māori to fully exercise our Tiriti rights. This requires utilising Te Tiriti as a constitutional mechanism for redress and Māori-led solutions.

One such solution is Whānau Ora, which has evolved from a mere policy position to a best practice approach grounded within te ao Māori (Durie, 2018). Whānau Ora provides comprehensive pathways for whānau to achieve their own moemoeā, contributing to significant improvements in the health and social standings of whānau Māori and closing the gap created by colonisation.

Te Tiriti is central to all discussions aimed at rectifying the intergenerational socio-economic and cultural disparities that have maintained poor outcomes for Māori. It recognises the unique position Māori have in New Zealand and has been an important driver for Whānau Ora as a Māori led solution, which will be discussed in the next section.

The Whānau Ora policy was initiated by Hon Turia in 2009 from her role as a prominent Māori Party Minister. It is a culturally grounded holistic approach to wellbeing that addresses the needs of the individual within the context of their whānau, through shared aspirations. It is underpinned by the actualisation of whānau potential through building whānau strengths and capabilities (Task Force on Whānau Centred Initiatives, 2010; Te Puni Kokiri, 2015; 2016). Boulton and Gifford (2014) studied the understanding of Whānau Ora at a whānau level to ascertain the degree of congruence between Māori families' definitions and those espoused by the government's Taskforce. The results indicate that the term Whānau Ora is, at a whānau level, diverse and variable, as we would expect from a whānau led solution.

Boult, Tamehana and Handley (2013) suggest "the practice of delivering services according to a Māori worldview and in accordance with Māori principles and values was occurring throughout the country by the late 1990's" (p.23). However, it was not until the early 2000's that the policy environment supported Māori health service provision, and until 2010 when the Whānau Ora policy was officially launched. The 2010 Taskforce was delegated to develop an evidence-based framework for a whānau-centred approach to whānau wellbeing and development. Twenty-two regional hui were held, consisting of both whānau and iwi, and service providers (Taskforce on Whānau-Centred Initiatives, 2010). The resulting report led to the establishment of Whānau Ora in Government, along with a dedicated funding stream.

The Whānau Ora: Transforming our futures report (Ministry of Health, 2011) aimed to restate what Whānau Ora is, how it was developed, and the progress achieved in implementing the new approach to health and social service provisioning. The Hon Tariana Turia indicated "the process to date reflects a sea of change in thinking around service provision" and how "interaction between whānau, hapū, iwi and service providers has improved markedly" (MOH, 2011, p.3). An analysis of phase one of Whānau Ora showed "Whānau planning, and the valuable work of navigators are the two 'stand out' enablers of the Whānau Ora approach" (TPK, 2015, p.6). The second phase, which focused on building whānau capability and commissioning for outcomes, was reviewed in 2018. The review showed that, despite a high level of external scrutiny, it was producing great outcomes for whānau (Whānau Ora Review, 2019). It was also noted that there were difficulties among Government agencies to understand, and engage with Whānau Ora, some hesitant, or questioning its validity and robustness as an agreed government approach (Whānau Ora Review, 2019), again, highlighting mainstream institutional racism. The 2023 report from the Office of the Auditor General revealed that although some public organisations have attempted to support whānau-centred approaches, these efforts have primarily been small and temporary. There has been little systematic change or consideration of when and where such approaches are suitable.

Additionally, expectations of outcome reporting shifted to performance monitoring and creating opportunity for whānau, hapū and iwi voices in the process. Ensuring the measurement of outcomes are “meaningful at both the community level and at a central government level, endures as a major challenge for this unique and innovative policy” and “the recognition that Whānau Ora outcomes may be iwi (tribe) and hapū (subtribe) specific” (Boult et al, 2013, p.25).

Whānau Ora supports a data and evaluation framework that advocates for the better alignment of cross sector outcome measures. Whānau Ora maintains a holistic view of wellbeing highlighting the multiple factors that contribute to one's wellness; the physical exists in concert with the mental, the spiritual and family life (Boulton et al, 2013; Heaton, 2017; Kingi & Durie; 2004; Task Force on Whānau Centred Initiatives, 2010; Te Puni Kokiri, 2015;). This construction of wellbeing requires sector constraints and barriers that facilitate a siloed approach to be removed. This will enable outcome measurements to meaningfully reflect a holistic understanding of flourishing whānau (Boulton et al, 2013; Te Puni Kokiri, 2015).

This policy also gave health and social service providers “a formal mandate to work across traditional sector boundaries in a co-operative and collaborative manner and place the whānau and whānau needs at the centre of any and all care plans” (Taskforce on Whānau-Centred Initiatives, 2010). Durie describes the development of Whānau Ora since 2002, as a philosophy and as a model of practice “shifted attention from individuals to collectives, from sectoral interventions to intersectoral collaboration” (MOH, 2011 p.5). The Chief Executives of Te Puni Kokiri, Ministry of Social Development, and the Director-General of Health also indicated how Whānau Ora pursued “collaborative, strengthened and integrated service delivery” (MOH, 2011, p.18). There are many synergies with the five conditions of successful Collective Impact initiatives (as discussed by Kania & Kramer, 2011) present in New Zealand’s Whānau Ora programmes.

The North Island Whānau Ora Commissioning Agency (WOCA), previously Te Pou Matakana, began funding Collective Impact initiatives from 2015 (Te Pou Matakana, 2018). Since its establishment, Collective Impact has been widely critiqued and since revised by the Tamarack Institute (Cabaj & Weaver, 2016). Whānau Ora is a transformational framework that aligns with an emergent approach to service design and delivery as it is agile to emergent solutions and bringing them to scale quickly (Te Pou Matakana, 2018). Whānau Ora Commissioning Agencies are committed to funding Whānau Ora practices and initiatives, not service provision. The WOCA Collective Impact approach promotes Whānau Ora by utilising indigenous knowledge and cultural frameworks to facilitate collaboration across multiple sectors and to ensure that services and support are comprehensive, integrated, and designed to promote the best possible outcomes for whānau (Te Pou Matakana, 2018).

Additionally, Māori health and social service providers including Whānau Ora providers have developed localised models of practice and localised definitions of Whānau Ora over time. Boulton and Gifford discuss implications of this diversity “in terms of measuring the success of the Whānau Ora approach” (Boulton & Gifford, p.3, 2014). Throughout the Te Tihi process of developing Collective Impact initiatives to deliver services, products, processes, and projects that are whānau centred, we have adapted the framework to integrate Whānau Ora (Te Tihi, 2018).

Kāinga Whānau Ora, is the Te Tihi (2018) flagship Collective Impact initiative, established in 2016, focused on whānau living in social housing. Collective Impact as an approach argues that no single intervention or entity can solve the increasingly complex problems that our whānau and communities face (Kania & Kramer, 2013). On this premise, it is realised it will take multiple entities from different sectors to abandon their own agenda in favour of a joint common agenda to achieve sustainable outcomes.

Collective Impact as an approach was introduced within the Stanford Social Innovation Review in 2011 and has since continued to build traction internationally. Large-scale social change requires broad cross-sector co-ordination, yet the social sector remains focused on the isolated intervention of individual organisations. Through the focus of five key conditions: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication and backbone support organisation, Collective Impact initiatives are producing positive and sustainable results (Kania & Kramer, 2011).

Shared measurement as a condition of Collective Impact forms the basis for evidence-based practice within Kāinga Whānau Ora. This condition ensures measurements are established by all partners and informs how success will be measured and reported on (Kania & Kramer, 2011). Data collection and measurement that is consistent across shared indicators ensures data is aligned, creates accountability, and provides learnings from each partners contribution (Kania & Kramer, 2016). Shared Measurement looks to validate the courage

to work cross sectorally towards a Common Agenda (Kania & Kramer, 2011). In contrast, traditional collaborative approaches have failed to align goals and measurement across sectors, continuing to measure their individual outcomes in isolation, producing short-term outcomes rather than sustainable change (Kania & Kramer, 2011). The main focus of Shared Measurement is on what data is captured, ensuring it is aligned, and illuminating the relationship between shared interests and the common goal. Traditional Collective Impact has less focus on how this data was used, what was learnt from it or how it could inform emergent strategic solutions (Cabaj & Weaver, 2016; Kania & Kramer, 2013;).

The Tamarack Institute (2016) suggest a formal shift to a Strategic Learning approach as the key focus rather than a feature of Shared Measurement. A Strategic Learning approach will ensure data is more openly used to inform decisions, evaluate the initiative, and continuously improve emergent solutions (Kania and Kramer, 2013; Cabaj and Weaver, 2016). Strategic Learning as a broader condition necessitates measurement systems that need to: provide real-time feedback on multiple outcomes; be manageable; have robust processes for sense making and decision making; and can evolve with strategies. In this way Shared Measurement is treated as a component of a larger system of continuous learning and on-going evaluation (Cabaj and Weaver, 2016).

Te Tihi is capturing large amounts of whānau data across multiple projects and programmes. Te Tuahiwi o Te Tihi are developing data infrastructure including for use by Māori and iwi providers in our rohe, to improve our unique strengths and build capability and capacity to ensure maximum leverage of Māori data.

TE TIHI O RUAHINE

Te Tihi o Ruahine Whānau Ora Alliance (Te Tihi) was established in 2013, with eight local iwi/ Māori health and social service providers, hapū and marae voices and local branches of national Māori organisations in the MidCentral region (Horowhenua, Tararua, Palmerston North, and Manawatū). In 2019, a ninth iwi provider joined the Alliance. The flagship development of the Alliance was the development of a Whānau Ora Navigation service – now known as Te Ohu Whakaaraara. Te Tuahiwi provides back-office function to the Alliance as well as pursues wider Kaupapa Māori and Māori centred innovation solutions. The members are:

Table 1: Home Organisations of Te Tihi o Ruahine Whānau Ora Alliance

	Ngā Kaitiaki o Ngāti Kauwhata Incorporated
	Te Wakahuia Manawatū Trust
	Muaūpoko Tribal Authority
	Raukawa Māori Wardens
	Two branches of the Māori Women's Welfare League - Rangitane and Ngāti Kauwhata
	Best Care (Whakapai Hauora) Charitable Trust
	He Puna Hauora Incorporated
	Rangitane o Tāmaki Nui a Rua
	Ngā iwi o te reu reu - Te Rōpu Hokowhitu Charitable Trust

Table 2: Te Tihi o Ruahine Alliance Structure

 <p>TE OHU WHAKARAARA</p>	<p>The Te Tihi Alliance share the strategic direction for the equitable dissemination and utilisation of Whānau Ora resource through the Te Ohu Kaiwhakaraara, across seven service providers:</p> <ul style="list-style-type: none"> • Te Wakahuia Manawatū Trust • Ngā Kaitiaki of Ngāti Kauwhata • Te Kete Hauora • He Puna Hauora • Best Care Whakapai Hauora • Muaūpoko Tribal Authority • Raukawa Māori Wardens <p>Te Ohu Kaiwhakaraara engage with whānau using a unique, strength-based whānau engagement model, Te Ara Whānau Ora, to connect with whānau through Advocacy, Brokerage and Coaching. The workforce currently includes 22 full-time employees (FTE) based across the rohe.</p>
 <p>Te Tuahiwi</p>	<p>Whānau Ora</p> <p>Te Tuahiwi provide or support the back-office functions for the Te Ohu Kaiwhakaraara, which includes contracting and procurement, recruitment, workforce development, Te Ara Whānau Ora training, and quality improvement.</p> <p>Kaupapa Māori and Māori centred Innovation solutions</p> <p>Te Tuahiwi mobilise wider Kaupapa Māori and Māori centred innovation solutions through the design and development of processes, programmes and products that are committed to realising the aspirations of whānau, hapū, iwi and hapori Māori.</p>
 <p>Te Tihi Reaching New Heights</p>	<p>Development and Innovation</p> <p>Outside Te Ohu Kaiwhakaraara (Whānau Ora Navigation Service) Te Tihi Home Organisations also pursue wider Kaupapa that are underpinned by Whānau Ora principles.</p>

	<p>Building Capability and Capacity of Te Tihi o Ruahine Alliance Members</p> <p>Te Tihi Alliance members are supported by Te Tuahiwi to pursue opportunities that build the capability and/or capacity of the Alliance Home Organisations. Te Tuahiwi play a support role for the Alliance members: co-ordinating and writing shared funding proposals, and where required the back-office maintenance of resources within shared kaupapa including establishment and co-ordination of the shared reporting and data requirements.</p>
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Over the last 5 years, Te Tihi have been strengthening our data and digital ecosystem, including our data governance and data management policies, and the aligning tools including our mātauranga Māori reflective tool for on-going assessment, learning, and improvement of our ecosystem. Development of our data environment is underpinned by the guiding principles of our Te Tihi Alliance, ensuring our data ecosystem encapsulates and prioritises a Māori world view. An overview of our data ecosystem is discussed in the next section.

OVERVIEW OF TE MANA WHAKAHAERE RARAUNGA FRAMEWORK

Te Mana Whakahaere Raraunga is the Te Tihi data ecosystem based on Māori data sovereignty. As a Māori framework, it provides a foundation to ensure that data capture is supported by systems that reflect the holistic nature of individuals, collectives, and populations. This ensures that outcome measurements are meaningful and reflect a holistic understanding of flourishing whānau. Consistent data collection and measurement across shared indicators ensures alignment of data, creates accountability for service providers, and provides insights from service providers' inputs. Additionally, data should facilitate strategic learning, informed decision-making, evaluation, and contribute to the continuous improvement of emergent solutions. The following provides a brief overview of the key elements of the Te Tihi data ecosystem, Te Mana Whakahaere Raraunga.

Nga Kawa me ngā Tikanga o te Mana Whakahaere Raraunga

Ngā Kawa me ngā Tikanga o te Mana Whakahaere Raraunga are developed to transform our kawa, our aspirations, into tangible tools to support our kaimahi, organisation and importantly our whānau when engaging with Māori data. The tikanga are dynamic to the aspirations, needs and context of whānau. A te ao Māori focused data ecosystem acknowledges the many factors and elements that work interdependently to ensure we maintain the mana of whānau, hapū and iwi. These include the hardware, software, processes, and guiding principles within the organisation and the kaimahi and the whānau who are at the core will benefit from effective data management. A holistic approach will ensure all opportunities are seen, considered, and leveraged when mutually beneficial.

This will also result in more standardised ways of data management and a more robust comparison across our projects and organisations.

Vision and Objectives – Kawa me ngā Tikanga

- Maximise whānau data.
- Support whānau engagement with their data.
- Ensure the safety of kaimahi.
- Protection of Māori data.
- Māori principles guide data practice in a practical manner.
- Support self-development and reflection.
- Establish a process to understand the current resources and challenges, enabling the prioritisation of improvements within our data ecosystem.

We have identified three levels of our ecosystem in order to visualise the integral components and how these are interrelated:



Figure 1: Ngā Kawa o te Mana Whakahaere Raraunga

Ngā Kawa o te Mana Whakahaere – Raraunga

“Visually represented by the whenua, our land is the solid foundation sustaining our people for generations, an ever-present force whose beauty evolves slowly overtime. The cloaking of korowai across the whenua symbolises rangatiratanga with the components gathered from natural elements. These components form a protective coverage by our data ecosystem to providing shelter for our data Sovereignty to grow, just as the ferns adorn the riverbanks of Maru, protecting the awa from pollution and erosion, and providing habitats of growth. Ngā Kawa o te

Mana Whakahaere – Data Governance, strong and steadfast overtime, grounded in values imbedded in te ao Māori to guide the way Te Tihi and Partners interact with Māori data to create better outcomes for whānau.” (Appendix A: Ngā Kawa o te Mana Whakahaere – Raraunga, 2020).



Figure 2: Ngā Tikanga o te Mana Whakahaere Raraunga

Ngā Tikanga o te Mana Whakahaere – Raraunga

“Visually represented by the coloured waterway, Maru, Hinemoana and Tangaroa are the oceans, rivers, and tributaries. The puhoro traverses the awa reflecting the swift, agile ecosystems, rich with diversity that shape and are shaped by the world around them.” (Appendix B: Ngā Tikanga o te Mana Whakahaere – Raraunga, 2020).

The tikanga are focused ‘how to’, operational and tangible statements transformed from the more aspirational values-based kawa. The tikanga suite also includes data collection standards to further guide and assist kaimahi to develop key steps in data related project management activities such as programme logic modelling, monitoring and evaluation frameworks and survey development. The idea is not to disrupt innovation but to ensure base standards and good practice is adhered to and to reduce duplication where there may be replication but also to allow for new ideas to emerge.



Figure 3: Te Hīringa Mahara

Within Te Tuahiwi, our data team is small and therefore has limited capacity. Therefore, it is important that other kaimahi also develop the skills required to safely and effectively handle data where appropriate.

Te Hīringa Mahara – Raraunga

“As visually represented by the blue sky, Ranginui represents space and time; an opportunity to reflect and aspire. Manu Aute once flew across his expanse, a traditional communication system that alerted whānau, hapū and iwi of kaupapa that were eminent. Our kaitiaki, the Hōkioi, emulating the upper realm of aspiration reflects where we aspire to be.” (Appendix C: Te Hīringa Mahara – Raraunga, 2020).

Te Tihi o Ruahine believe guardianship of data moves beyond privacy and protection to the mobilisation and return of whānau data. Like the Manu Aute, data should transcend the bounds of organisations to roam the skies visible to whānau, hapū and iwi, to reflect, make informed decisions and aspire to better days. Te Hiringa Mahara is a self-reflection tool utilising the Manu Aute as a framework.

Vision and Objectives – Te Hiringa Mahara

- Develop a tikanga-based framework for the continuous improvement of our data ecosystem.
- Facilitate wānanga to explore and create a shared understanding of organisational values and how they guide our data ecosystem.
- Create a tool to determine and quantify the current and aspirational state of our data ecosystem.
- Encourage active reflection and the development of clear aspirations for our data ecosystem, with the aim of advancing Māori data sovereignty.
- Develop a tool to identify and implement data improvements within our organisational work programme.

Te Tihi operationalise Te Hiringa Mahara in Te Tuahiwi by utilising Aroha, Tika and Pono. These values were defined through a culmination of literature review, engagement with kaumatua, conversations with whānau at Te Hui Ahurei o Te Tapere nui o Whātonga kapa haka festival in Feilding (2021), and wānanga within our Te Tuahiwi team to apply them as a values-based measurement system. Aroha, Tika and Pono are interconnected principles that affect and effect the expression of each other. Each stand in their own mana motuhake, but all are connected to each other. *Aroha* as the underpinning principle of relationships and guides our interactions both with whānau and their information. *Tika* is defined as doing what is right according to a Māori worldview, and *Pono* is the enactment of Tika, doing what you say you will (see the methodology section for further discussion).

The prototype of Te Hiringa Mahara was designed through a series of in-house wānanga aimed to support Māori organisations to reflect upon their own data practices and prioritise improvement as they see fit. In line with this whakaaro, we believe that an organisation should employ their own value set as the measurements within this tool. This framework provides the structure to pursue this approach. Therefore, the below serve to provide a tangible example on which to model your own values. Te Tuahiwi have had the privilege of working alongside another Whānau Ora provider to utilise Te Hiringa Mahara to carry out a stocktake of their data ecosystem utilising their own value base as defined by them. This approach resulted in a more meaningful and value-driven approach to data aspirations, guided by their values.

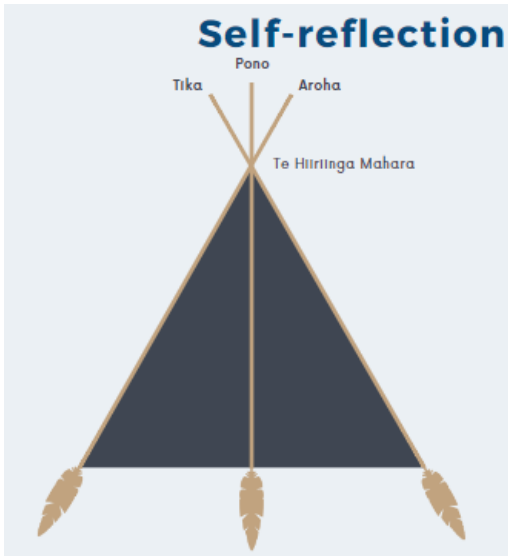


Figure 4: Self-reflection

The purpose of Te Hiringa Mahara is to self-reflect on the current status and resources available in order to perform a stocktake, with the view of identifying not only areas that require improvement but also identifying resources that may influence the ability to prioritise them in the context of their own capability and capacity. This stocktake can inform a focused planned process for improvement. It is recommended to be repeated at set intervals, this may align to organisational or service goals or may be set at a more generic review period.



Figure 5: Principles & Ethics

The principles that underpin our kawa and tikanga are depicted by the raupō of the Manu Aute. Raupō are interweaved across and through the whole structure of the Manu Aute to provide strength which can withstand the tempests of the skies, harnessing the gales to dance upon the winds.

Ngā Kawa me ngā Tikanga utilise ten uara based on the principles of Te Tihi. These are interweaved across all the mahi whānau, kaimahi and organisation do, in their interactions and treatment of data. Supporting and guiding stakeholders within any context. The role of the many hands and lives data touches is depicted by the raukura that adorn the Manu Aute. Blowing beautifully in the winds, these adornments highlight the beauty and pūkenga of all those involved.

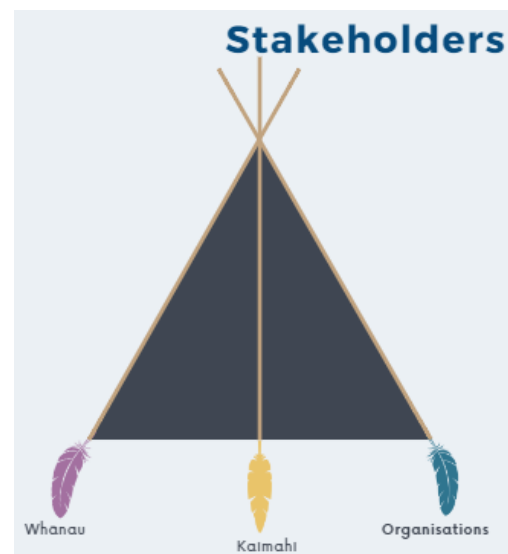


Figure 6: Stakeholders

The next chapter will discuss the existing literature of indigenous data sovereignty and the re-frame of ethics to tikanga as components of Te Mana Whakahaere Raraunga, to explore its application within the mahi of Te Tihi and to seek further understanding of the challenges and opportunities it presents.

CHAPTER 2: AROTAKINGA MĀTĀKORERO

INTRODUCTION

The New Zealand government often uses data to depict Māori in a negative light and make decisions that may not always benefit whānau and ngāi Māori. As the government will continue to rely on data-driven policies and practices, it is crucial to incorporate whakaaro Māori to challenge the dominant perspective and shift away from harmful stereotypes. Māori data sovereignty can serve as a tool to re-establish balance in data-driven decision-making and prevent further negative impacts on Māori.

In addition to Crown engagement, Māori data sovereignty is a broad concept that can inform wider aspirations of Māori to use Māori data for the betterment of our people, pursue our collective moemoeā and exercise our mana motuhake as tangata whenua. This review examines existing literature on Indigenous and Māori data sovereignty, which aims to give whānau Māori greater control over their own data, access to their data, and the ability to make informed decisions that lead to better outcomes. It also has a broader impact in facilitating informed data decisions that affect ngāi Māori outcomes.

This review also investigates existing research ethics in relation to tikanga, to understand how tikanga can guide our behaviour, practices, and processes when interacting with Māori data. It highlights key themes and frameworks considered by Te Tihi in the adoption of an ethics framework for Māori data, which were contextualised within the existing Te Tihi data management policy and have been instrumental in the development of Te Mana Whakahaere Raraunga.

DISCUSSION

Indigenous Data Sovereignty

Indigenous data sovereignty is defined as the right of indigenous peoples to determine the means of collection, access, analysis, interpretation, management, dissemination, and reuse of data pertaining to the indigenous peoples from whom it has been derived, or to whom it relates (Kukutai & Taylor, 2016; Snipp, 2016). Indigenous data sovereignty and indigenous methodologies are closely linked as they both represent a movement towards the decolonisation of knowledge and the recognition of indigenous peoples' rights to control their own data and research. The field of indigenous methodologies has grown since Tuhiwai Smith's ground-breaking 1999 *Decolonising Methodologies* (Walter & Suina, 2019).

Walter and Suina (2019) observed in the two decades since Smith's work, indigenous methodologies have been predominantly qualitative. They also propose the absence of quantitative methodology and indigenous presence in data production has led to an overwhelming statistical narrative of deficit perspective. Furthermore, the underlying belief and value systems, epistemological approach and ontological assumptions of such data are largely drawn from a non-indigenous relational positioning. Walter and Suina highlight this as a contributory factor maintaining wider inequities; a country's policy base is often formed

from quantitative evidence. Māori children being overrepresented in state care in New Zealand is an example of a policy based on deficit Māori data. The government has used negative statistics about Māori families, such as higher rates of poverty, domestic violence, and substance abuse, to justify this policy (Webster, 2020). However, Māori advocates have criticised this policy as being based on systemic racism and a failure to recognise the strengths of Māori culture and community (Durie, 2019).

Came (2014) informed by critical race theory suggests institutional racism in public health policy in New Zealand alongside colonisation and inequitable access to health determinants perpetuates the systemic and longstanding existence of health inequities between Māori and non-Māori. Her paper identifies five specific sites of institutional racism including majoritarian decision making, the misuse of evidence, deficiencies in both cultural competencies and consultation processes and the impact of Crown filters. Policy makers need to consciously be vigilant against racism especially when advice for policy is based on quantitative data that has not had Māori involvement.

Indigenous data does not need to emerge from mathematically grounded analytical techniques but rather from the indigenous standpoints. Social, racial, and cultural assumptions determine the collection of some data and not others, interrogation of some objects over others, and investigation of some variable relationships over others (Kukutai & Taylor, 2016). Linking multi-dimensional data sets, including health, schooling, justice system, welfare and/or mining other data does provide a bigger ball of data, but this does not always equate to a more informed position. No matter how sophisticated linking or analytical techniques are, if only deficit-focused variables (e.g., unemployment statistics verse employment opportunities) are included, strengths-based approaches will be difficult (Walter, 2018).

Snipp (2016) highlights the desire and capacity of nation-states to manage data in ways that are consistent with their cultural laws, practices, and customs. In the past, this has been beyond the reach of some indigenous nations because they tend to be small, have limited resource and have less political influence than mainstream funded service providers. Snipp also maintains that unless this is addressed it makes little sense to talk about a fully postcolonial world. However, postcolonialism may be better considered as a continuum, instead of a simple binary; indigenous peoples can claim greater control over data connected to them (Snipp, 2016). Rainie, Schultz, Briggs, Riggs, and Palmanteer-Holder (2017) comment on an American experience of indigenous mistrust of the use and collection of data. Nonetheless, their tribal leaders depend on that data to inform decision making for their communities. Reliance on data that does not reflect tribal needs, priorities, and self-conceptions threatens tribal self-determination. Tribal data sovereignty through governance of data on indigenous populations is long overdue.

Kukutai and Taylor (2016) conducted a study on the emerging developments of indigenous sovereignty in the CANZUS group (Canada, Australia, New Zealand, and the United States) with a focus on potential supports

for indigenous development as described in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Their findings revealed that there are varying levels of support for indigenous sovereignty and development across the four countries. Canada and New Zealand have made some progress in recognising indigenous sovereignty and rights, while Australia and the United States have been slower to do so. Bruhn (2014) investigates the on-going effects of colonial relationships, experiences of vulnerability of decision makers and claims of jurisdiction in regards to indigenous data sovereignty among Canada's First Nations by mix modal method, utilising both survey data and existing literature. The report found that around the world, the number of initiatives who are actively sharing data, are growing both in number and size. This acknowledges agencies realisation that data held by one organisation is often required for another to fulfil its core functions. Furthermore, as with some initiatives in the past involving Māori, Bruhn also highlighted indigenous views of feeling 'researched to death', much data had been taken with little or no indigenous collaboration. Martin and Mirraboopa (2003) share similar experiences of Australian Aboriginal peoples over-researched leading to mistrust, animosity, and resistance. In the past research was conducted without permission, consultation, or involvement of Aboriginal people. They were objects of curiosity and subjects to be seen, but not asked, heard, or respected (Martin & Mirraboopa, 2003). From an indigenous perspective, this outlook is recognisable to many other indigenous populations.

A New Zealand national survey by Came, Doole, McKenna and McCreanor (2018) identified inconsistencies and bias by comparing government funded contracting processes for Māori public health providers including significant variation in length of contracts, intensity of monitoring, compliance costs and frequency of auditing. Contracting practices of New Zealand health funders were contributing further to mono-culturalism and institutional racism. Through the use of data, Māori organisations can also be scrutinised inequitably which may further burden finite resources. There are continued problematic issues of power and control embedded in funder discourse that maintains an imbalance and restriction or Māori providers to self-determination.

Te Mana Raraunga, the Māori data sovereignty network, believe there is a need for new methods and indicators in the international measurement of indigenous development and wellbeing. There is also a need to meet the challenge of welcoming indigenous epistemologies and worldviews in developing the legal and practical frameworks and limits of data sovereignty. This could include the impact of free trade agreements such as the Trans-Pacific Partnership Agreement; the construct models of developing data governance and capacity; the exploration of implications of collective rights for data retrieval and mechanisms for consent given the shift towards integrated government datasets such as the Integrated Data Infrastructure (IDI) in New Zealand (Taylor & Kukutai, 2015). The IDI was considered by Te Tihi (2018) within the Collective Impact initiative Kāinga Whānau Ora as a tool for comparative evaluation but due to bureaucratic challenges, this has not yet been realised.

Re-framing ethics to Data Tikanga

Tikanga and ethics are closely related concepts that guide human behaviour, decision-making, and relationships. As a broader concept, tikanga can be seen as a Māori based extension to ethics. Tikanga refers to the traditional customs, practices, and values of Māori, while ethics refers to a set of moral principles that govern human behaviour. Tikanga utilised in the capture, analysis and dissemination of Māori data must be thoroughly thought through to determine which practices are acceptable and unacceptable.

Mātauranga Māori is also entwined within tikanga. Mātauranga Māori is not a static repository of information, but a tool for thinking, organising information, considering ethics and appropriateness, and informing us about our world and our place in it (Durie, 1994; Heaton, 2018; Mead, 2016; Martin & Mirraboopa, 2003). Mātauranga Māori holds an aspect of tapu which ties it firmly into the system of beliefs and values of Māori. Tikanga can be understood as ngā mea tika, or things that are right and appropriate according to mātauranga or Māori ways of knowing. Therefore, it is through mātauranga Māori that we can adopt protocols that are derived from the notion of the tapu and tikanga. Mead (2017), a prominent Māori scholar who has written extensively on Māori knowledge, aligned mātauranga Māori and tikanga to existing ethical frameworks to create the 'Five tests' framework of whakapapa, mana, kaitiakitanga, kotahitanga and wairua to enable the assessment of specific issues through a kaupapa Māori lens. Mead (2017) focused on how tikanga is informed by the past whilst acknowledging the current social, economic, and cultural considerations of the present for particular groups or individuals. In this way tikanga though traditional in nature, is fluid and changes based on the challenges and opportunities within contemporary environments.

The Pūtaiora Writing Group (Hudson, 2010) developed the Te Ara Tika Māori ethical framework to address the extensive ethical issues present within health and wellbeing research that impacts Māori. The framework to support Māori on ethics committees to fulfil their roles as kaitiaki, drew from principles of tikanga Māori and mātauranga Māori to construct a process that could recognise risks and highlight the relationships required to create and provide positive and mana-enhancing outcomes for Māori communities. Tuhiwai-Smith's (1991) work locates kaitiakitanga of whānau information at the feet of Māori as 'Kaupapa Māori research' by Māori for Māori and with Māori. Ethics are discussed within the context of exploring and discussing kaupapa or philosophies which were at the time redefining the way we thought about Māori research. Ethics is posited as being intimately related to the 'conduct' of a researcher and of a research project. Tuhiwai Smith highlights insider networks and power as two key ethical issues when conducting Kaupapa Māori research. Further, she strongly aligns ethics as a similar concept to the fluid nature of tikanga; maintaining dialogue and feedback should continually inform research as an activity to inform new ethics that reflect the social realities of researchers.

Cram, Pipi and Paipa (2008) critiqued current westernised research methods, based on their combined years of experience, and an ambition to decolonise evaluation practice in New Zealand by including a kaupapa Māori lens. A cultural mismatch of worldviews was thoroughly discussed alongside the importance of relationships and connections, with whakawhaungatanga the first element in the process of the Kaupapa Māori approach. The research encouraged Māori organisations and hapori to think outside westernised evaluation, to incorporate traditional pathways of decision-making including tikanga for service delivery, improvement, and monitoring of outcomes, whilst still meeting their funding obligations.

SUMMARY

Iwi and Māori organisations often struggle to access timely, relevant, and accurate data to achieve their self-determined development aspirations. Limitations in infrastructure and people capacity can restrict the amount and quality of data that indigenous groups can collect and manage independently, leading to a reliance on official statistics. This also comes with challenges; as seen with cases around the world, there is a lot of data about, but not much data for or by indigenous people. Collective Impact as a framework specifically focuses on Strategic Learning between partnering agencies, which can increase the reach and capacity of Whānau Ora providers to collect, manage and dispense data in a way that aligns with Māori values and practices. Te Tihi (2018) is working to support whānau to exercise data sovereignty by providing easy access to their own data and information. Tikanga are protocols that help us navigate all situations, guiding our practice and ensuring the appropriate behaviour is observed to maintain the mana of all involved. Consideration of tikanga in Māori ethical frameworks can inform and guide our behaviour as kaitiaki of Māori data. This research project seeks to extend the available literature around the foundations and development of a Māori data sovereignty framework and its application in a Whānau Ora context.

The next chapter, the research approach will be described, which includes the research question, methodology, success criteria, unanticipated changes, dissemination plan, ethical considerations, study limitations, and research methods. This chapter will provide the necessary background for the succeeding chapter on research findings and analysis.

CHAPTER 3: ARAMAHI RANGAHAU

INTRODUCTION

In the case of data, ethical responsibilities through utilising a Kaupapa Māori / Māori centred understanding can translate to use of tikanga within research, to ensure the way the information is collected, analysed, and insights are drawn, maintains the mana motuhake of whānau, hapū, iwi and hapori Māori. This chapter outlines the research approach taken to explore our understanding of Māori data sovereignty through the development and utilisation of our own data ecosystem, Te Mana Whakahaere Raraunga, for Te Tihi, Whānau Ora, and ngāi Māori katoa.

The methodology utilised in this study is based on the same approach utilised to develop the tool. Success criteria are applied to Aroha, Tika, and Pono to align to the values also developed (through literature and wānanga) as part of the creation of Te Mana Whakahaere Raraunga. The interview transcript findings are aligned with the *uara* of the framework and to create further alignment and to ensure the results are meaningful to Te Tihi. This chapter will also cover a discussion of insider research, the research question, aim and objectives, the unanticipated changes, dissemination of results, ethical considerations, study limitations and a detailed description on the process of key informant interviews and the deductive thematic analysis process utilised.

INSIDER RESEARCH

In kaupapa Māori research, insider research (participatory research), is becoming more common and is seen as a benefit rather than a disruption to objectivity (Bishop et al., 2003; Smith, 1999). The inclusion of insider perspectives allows for a more nuanced and culturally fitting approach, contributing to a deeper connection and understanding of the kaupapa being studied (Bishop et al., 2003; Smith, 1999). This aligns with the principles of kaupapa Māori research and challenges dominant western research paradigms that prioritise objectivity over connection, contributing to the decolonisation of research practices.

As a kaimahi in Te Tuahiwi for the past eight years, I have moved through various roles to my current position as Kaitohutohu Raraunga - Strategy, Insights and Analytics Advisor. Through my mahi I have research experience in both design and implementation. Within this research project and Te Mana Whakahaere Raraunga I acknowledge my place within the team and the complexities of insider research. As this report presents a retrospective appraisal of a project I have been involved in, I will need to reflect on my position as a researcher, taking into account how my participation and perception might have influenced the results. However, because I belong to this kaupapa whānau I am also better positioned to understand inherent behaviours, social structures, and shared beliefs of this specific cohort of Māori. Because of this connection to Tihi mahi as *our work* as I feel connected not just as a kaimahi who has contributed to this work but also as a Māori wahine with a worldview that feels connected to the founding values that sit behind it.

RESEARCH QUESTION

The focus of this research is to explore our understanding of Māori data sovereignty through the development and utilisation of our own data ecosystem, Te Mana Whakahaere Raraunga for Te Tihi, Whānau Ora, and ngāi Māori katoa.

Aims:

- To gain insight into the impact that data has on key factors that influence whānau wellbeing.
- To deepen understanding of the role of kawa me ōna tikanga in Māori data governance and management.
- To increase understanding of Māori data sovereignty within the context of Whānau Ora.
- To make a valuable contribution to the knowledge of Te Tihi on how Te Mana Whakahaere Raraunga can support future mahi.
- To provide support and guidance to other Māori organisations who aspire to pursue Māori data sovereignty.

Research objectives:

1. Describe the process of developing Te Mana Whakahaere Raraunga, including the principles, values, and protocols used to guide the framework's creation.
2. Analyse feedback from key Informants on their experiences, observations, and insights regarding the development and implementation of Te Mana Whakahaere Raraunga.
3. Evaluate the impact of Te Mana Whakahaere Raraunga on Te Tihi operationally and its ability to achieve its Whānau Ora objectives, as well as support collective aspirations of Māori data sovereignty.

METHODOLOGY

Whānau-centred is a fledgling approach to research design that has its roots in Kaupapa Māori, Māori Centred, Action Based Research and Participatory design methodology. It was utilised by Te Tihi to drive the development of Te Mana Whakahaere Raraunga and will also be utilised here to align to the research project approach. The Whānau-centred Approach as a whole system talks to the values and principles and actions that guide how information is captured, stored, analysed, and acted upon within the project. The Whānau-centred Approach should not be misconstrued as a methodology alone; it is also an approach to project management.

Te Mana Whakahaere Raraunga was developed using a whānau-centred approach, with a focus on promoting collective wellbeing and whānau beliefs. However, the use of framework enables whānau to shape and interact with data, encouraging whānau-led interactions. The infrastructure provided by the framework also supports the development of programmes and services that further enable whānau-driven interactions, allowing the whānau to lead and drive their own wellbeing aspirations (Royal, Stafford, & McMillan, 2017; Smith, 2012).

Mō wai: (For who)

“Whakamana Whānau, Oranga Motuhake”

This work will be grounded in a culturally holistic approach to wellbeing that places whānau at the centre and addresses the needs and aspirations of the individual within the context of their whānau(tanga), hapū(tanga), iwi(tanga) and Māoritanga. Ultimately, whānau hold the mandate to design their own solutions.

He aha ai: (Why)

“Iti te korero kei runga, nui ngā hua kei raro”

This philosophy pushes the boundaries of research and design and demands actions that move beyond scholarship and have tangible outcomes for whānau, hapū, iwi and hapori Māori.

Nā wai: (With who)

“Ko te amorangi ki mua ko te hāpai ō ki muri”

Whānau-centred research demands Māori leadership across all levels of its design and implementation to ensure tikanga Māori and whānau remain the foundation for decision making. Importantly, a whānau centred philosophy acknowledges non-Māori skill sets and allows partnership with non-Māori. All kaimahi are viewed as catalysts for whānau solutions.

Me Pēhea: (How)

“Tōku reo, tōku ohooho, tōku māpihi maurea”

Māori-led and whānau-centred ensures te ao Māori is central to the mahi and can be applied practically. This ensures that the use, analysis and outcomes of Māori information maintain Māori mana motuhake and contribute to holistic Māori advancement aspirations and to the wellbeing of ngāi Māori.

Our behaviour and how we will work

The Pikorua refers to the eternal emerging paths in life. The eight-shaped single twist symbolizes the strength of the bond between two people, their loyalty and friendship – likened to the interconnection between the whānau and organisations whose interactions should be governed by the principles

of Aroha, Tika and Pono (Appendix D). Te Tihi developed the Pikorua Approach which superseded the Double Diamond design approach after the development of Te Mana Whakahaere Raraunga (further discussed within the research findings). The below are the Te Tihi working definitions of these values that were brought together through a process of literature research, engagement with kaumatua, conversations with whānau and Te Tuahiwi wānanga. The values guide the way in which we work.

Aroha

Aroha ensures the relationship and interaction with our whānau, as well as their information and stories, are maintained with mana.

- Aroha is inclusive of caring, kindness and consideration that should be expressed ā kanohi (face to face) when we are engaging with whānau.
- Equally, (acknowledging the sacredness of whānau information and stories) when using whānau information for analysis and the presentation of insights and findings.

Tika

Tika is defined as doing what is right and underpinned by the values of Aroha.

- Actions that are deemed right are informed by mātauranga Māori and developed alongside Māori.
- Tika is clearly defining what you are doing, how you are doing it and why.

Pono

Pono is the enactment of Tika, and therefore also underpinned by Aroha; it is the action of doing what you say you will.

- Maintaining honesty and trust between kaimahi and those the information is about, e.g., Te Tihi collecting data from whānau, such as a survey.
- Being Pono in our actions, shows whānau the movement and progress with actionable steps that have value to those whānau the information is about, by prioritising and advocating for their lived and aspirational experience.

SUCCESS CRITERIA

Table 3: Research Success Criteria

Success Criteria	Indicator
Enacting practices of Aroha	<ul style="list-style-type: none"> Engagement between the research and other stakeholders will provide a conducive environment for critical analysis and innovation. The researcher will cultivate spaces that are engaging, and participants feel encouraged to share their experiences. Engagement with participants will be respectful of their lived experience. Participants' information will be accurately documented, and their identity will be protected as effectively as possible. Analysis of aggregated information will maintain the intent of the individual parts.
Enacting practices that are Tika	<ul style="list-style-type: none"> Oversight from leadership is clearly defined. Clear timeframes are jointly developed. Any changes to the project direction will be jointly agreed.
Enacting practices that are Pono	<ul style="list-style-type: none"> Implementing processes for active reflection on all actions within the research project e.g., debrief sessions with supervisor. Implementing learnings into future processes for on-going continuous improvement.

UNANTICIPATED CHANGES

This research was scheduled to begin in February 2021 with the final outputs anticipated to be completed by November 2021. However, Te Tihi continued to have a high workload into 2021 due to our role in the regional COVID-19 response supporting vaccination efforts with the Māori and iwi providers through data insights and analytics. This also added an additional opportunity to pivot this study to include applications of the framework including how access to COVID-19 data has been inequitable and impedes Māori data sovereignty.

Originally, key informant interviews were to be conducted specifically for this research project; however, interviews of a similar nature with many of the same key informants were conducted during the development of a Te Tihi digital resource during this time. Upon discussion with Te Tihi governance and the supervisor and with consent from the key informants it was decided to reduce replication and to embody the Te Mana Whakahaere Raraunga uara to maximise the potential of the interview material and include it in the analysis for this project.

DISSEMINATION OF RESULTS

The results of this research will first be disseminated through internal reports shared with Te Tihi Governance and then Te Tuahiwi as well as the wider Alliance members. The nature and extent of public reporting and

academic articles will be decided in collaboration with Te Tihi. Research outputs and data will be aggregated and unidentifiable, and so we do not foresee there being any confidentiality or privacy issues in this research. This report will be submitted as evidence to the completion of a master's degree and will be made available to Massey faculty and students as a learning resource.

ETHICAL CONSIDERATIONS

The Te Tihi Governance Board has given approval for the development of this research project, including access to and the analysis of existing interview transcripts to inform the research. Consent from Te Tihi was crucial as they hold the authority over the kaupapa being discussed in this project report. Additionally, the interview participants were contacted for consent regarding this secondary use of their data.

Key ethical considerations were also discussed and reviewed with Massey University Māori academic staff through a robust process, and the project was categorised as low risk. Therefore, formal ethics approval was deemed out of scope as this project utilised existing interview transcripts from field experts.

STUDY LIMITATION AND SCOPE

The limitations of this research project included a short timeframe, limited resources, and the restricted academic scope imposed by a small word count. Furthermore, due to the recent development of Te Mana Whakahaere Raraunga, its utilisation to date has been limited to a small number of projects and organisations. Additionally, it has not yet been scaled outside of Te Tuahiwi to the Alliance.

RESEARCH METHODS

In February 2022, Te Tihi proposed the development of a digital resource, the *Digital Resource – Advancing Māori Aspirations* to capture the experience and learnings of the rohe across several key areas. One of which was Māori data sovereignty.

The Te Tihi Governance agreed to the utilisation of the corresponding interview transcripts to inform this research project, to gain a deeper understanding of Māori data sovereignty within our mahi.

The key areas of the findings include:

- 1. Key Informant interviews**
- 2. Deductive thematic analysis**

1. KEY INFORMANT INTERVIEWS

Participants were identified through existing professional relationships with Te Tihi. They were selected on their first-hand knowledge about the topic of interest and their knowledge of the community. A wide range of perspectives and points of view were sought, including selecting from different key stakeholders. This

involved representation from Te Tihi and some of the partners we have worked with including those from Government agencies to illustrate the wider context of the Kaupapa.

Te Tihi worked with Māori production contractors to co-design interview questions, to design a set, to film, to edit and create professional video content to publish to an online learning platform to share with others who have similar aspirations.

In defining the scope, Te Tihi aimed to explore the below constructs:

1. Inter-Iwi / Māori / provider leadership and relationships
2. Inter-agency relationships
3. Whānau Ora & Health
4. Collective Impact Initiatives
5. Whānau Voice
6. Data & Digital innovation, data sharing

These formed six kōnae or areas of discussion related to the above areas. Kōnae six was later reframed to *Data Sovereignty – Innovation in the Digital Space*. As the Kaitātari I was able, alongside others in Te Tuahiwi to give feedback to help shape questions within this and other kōnae. Due to the similarities in the questions that were asked during these interviews to what was proposed in this research project, it was decided that it would be contradictory to our Tikanga of valuing the time of others, and not asking about information that we already know to pursue the originally proposed method of interviewing. However, also within our tikanga and privacy law, it states data should be used for the purpose that it is collected. Therefore, with Te Tihi Governance approval another level of consent was sought from those who participated in the digital resource project to ask for permission for their interview data to be accessed and utilised within this research project. Consent to participate in additional interviews where gaps were found was also sought. However, the information from these existing interviews proved to be sufficient for this project, therefore this was not needed.

Over a period of three weeks, 25 interviews were conducted at the Wallace Development Company Theatre, Palmerston North. These ranged in time depending on the number of kōnae the individual was speaking to but were on average approximately 60 minutes long. Kōnae 6 had seven key Informants comprised of one Government representative, one iwi based kaimahi, one Te Tihi board member, and four kaimahi from Te Tuahiwi: these four kaimahi comprised of two senior leadership positions, one project focused kaimahi and myself as the Kaitātari. All the key informants in this kōnae were Māori. These are the interviews that have been utilised within this research project.

Another advantage of utilising the interview material was the ability to distance myself from the process and reduce the impact of insider researcher and minimise the likelihood of key informants being influenced by

myself. Interviews were conducted by an independent third party and I was not present during the interviews.

Interview transcriptions were also completed by a third party. Along with written transcripts, I was also supplied with links to uncut, unedited video footage of the interviews. This allowed me to correct the transcripts where needed to ensure their accuracy and the accuracy of quotes that I utilised. It also allowed me to see facial expression and body language to gauge emotion and non-verbal cues. This was an important aid in understanding the meaning that the Informants were trying to communicate.

2. DEDUCTIVE THEMATIC ANALYSIS

Deductive analysis can be beneficial for Kaupapa Māori approaches because it allows researchers to test hypotheses or theories that have been informed by Māori knowledge and worldview (Hokowhitu, 2019). Accordingly, a deductive approach was utilised to assess the degree to which the information met the parameters of Ngā Uara o Te Tihi. Theming was used to categorise qualitative data by identifying common intent, attributes, or characteristics. Major themes were further broken down into sub-themes. This approach is beneficial when summarising a broad range of information and providing a condensed and clear summary of key findings (Smith & Osborn, 2008). While ngā uara were selected as the primary theme categories, all data was evaluated from an innovative perspective, with an open mind to identifying relevant information that may fall outside of these categories.

Utilisation of the principles that structure Te Mana Whakahaere Raraunga and are the founding principles of the Te Tihi Alliance to frame the discussion of the research will ensure the approach recognises the Māori paradigm from which the framework was developed. It means that the values of Te Tihi are seen, considered, valued and guide the discussion.

The interview responses were analysed by breaking them down into key ideas and summarising them in a table format. The table was then color-coded to align with Ngā Uara o Te Tihi. This approach allowed for easy visualisation of the breadth of information and its correlation to the kaupapa of Māori data sovereignty. Key quotes were then selected to further stimulate discussion and elicit thinking about the impact of Te Mana Whakahaere Raraunga and the mahi Te Tihi are undertaking in the data space.

The development of the Te Mana Whakahaere Raraunga framework with comment from key stakeholders about Māori data sovereignty are presented in the next chapter.

SECTION 4: NGĀ KITENGA ME NGĀ MATAPAKINGA

KITENGA

In 2019, the need to further develop our data ecosystem began with a review of our existing data management policy. From there, it was clear that in order to fully achieve our aspirations of autonomy of our data we required a much deeper process to occur. This findings and discussion chapter explores the development of Te Mana Whakahaere Raraunga and the use of uara and the implications of customising these to a data specific context as Te Tihi expand into other areas of expertise. Uara are further explored through the later revision of these to ensure they are agile to other areas of Te Tihi mahi. Additionally, the revised uara have been adopted as the deductive themes for the framing of the key informant interview findings and discussion to ensure alignment to the framework as well as the values of the organisation.

The following first section of this chapter covers an in-depth exploration of the key frameworks, people and processes that were utilised to develop Te Mana Whakahaere Raraunga.

THE DEVELOPMENT OF TE MANA WHAKAHAERE RARAUNGA

Design Process

Te Mana Whakahaere Raraunga was developed through a collective effort. A working group was brought together based on expertise in project approaches, research methodology, design thinking, data analysis, data application and input. All contributors were kaimahi of Te Tuahiwi, all except one were Māori. I provided leadership for the project and worked alongside others who also had key roles to coordinate the development process, resolve feedback from participants, define the research of literature, draft and iterate the documents, design the framework including artistic visualisations and work alongside external organisations such as Statistics NZ (StatsNZ) for peer review.

To operationalise the Action / Reflection cycle within Action Research (Baker, Pipi & Cassidy, 2015) the design process utilised was an iterative process, the Double Diamond (Appendix E) (Better by Design). The double diamond is a design and innovation process which is inherently whānau-centred as it is informed by the need to understand their lived experience to create innovative and creative solutions. The Double Diamond enables an in-depth understanding of the mechanisms that support improved outcomes for whānau and how these can be measured. This model represents a process of exploring an issue more widely (*divergent thinking*) and then taking focused action (*convergent thinking*). Iteration across the diamond illustrates the ability to move back and forth across the diamond phases and should not be viewed as a linear process.

Diamond 1: Discover & Define - The first diamond is focused on empathy, understanding the journey of the user, and identifying the problem, gathering insight from spending time with those affected through lived experiences, and to *define* the challenge in a different way that reflects their needs and realities.

Diamond 2: *Design and Develop & Prototype / Test* - The second diamond encourages the generation of ideas and concepts to respond to the challenge, seeking inspiration from diverse sources and designing a solution with a range of stakeholders and users through iterative prototyping and testing.

The workshop participants and working group were split into two groups. Within the context of this research, this working group acted as a focus group. Focus groups as a method allows the bringing together of multiple participants whilst creating an environment that encourages critical thinking through both challenge and validation of knowledge and information through structured sessions (Duggleby, 2005; Vaughn, Schumm, & Sinagub, 1996). Further, focus groups provide an environment to bounce whakaaro across participants allowing more knowledge to be revealed (Morgan, 1988). A common flaw of focus groups can be the artificial building of consensus as a product of the group dynamic (Crabtree, Yanoshik, Miller & O'Connor, 1993), for example, the strong opinions of a few can permeate and influence other participants to reach consensus where in other instances they would have thought and engaged differently. The long-lasting and enduring nature of the relationships across the participants within this focus group mediated these effects.

Within a Māori context this method could have been classed as wānanga, however, Te Tihi have since defined wānanga as a more traditional method of Māori knowledge transmission through the flow of Kōrero, rather than operating within the confines of set activities and timetables (Smith, 2012; Hokowhitu, 2019). As a reflection, this process contained both elements of wānanga and focus group activities.

Development of the Te Mana Whakahaere Raraunga framework

Within the *Discovery* phase the working group looked at existing Māori ethics frameworks and research to create annotated bibliographies.

The working group and workshop participants came together to identify key themes across the annotated bibliographies. The identification of key themes utilised inductive analysis; themes were determined by the content of the summaries. Therefore, themes were emergent (Thomas, 2006). These key themes became talking points to wānanga in terms of the relevance to the creation of a Te Tihi data ethics framework.

After identifying the key themes, we compared them with the existing points in the Te Tihi data management policy. We removed any duplications and re-categorised the remaining themes under the principles and purpose statements.

These findings were fed back and validated by the workshop participants. Findings within the *Define* stage provided the group with the composite parts that were important to be included within a Te Tihi ethics framework.

Workshop activities & Analysis

Mo wai: (For who)

We ran a series of workshops, the first was to consider who the framework would be most relevant to and for. The groups considered were Te Tuahiwi, Te Tihi, Māori Organisations, and non-Māori organisations that work with Māori. It was decided that non-Māori organisations were out of scope. The workshop participants also decided that Te Tuahiwi would be best suited to trial the newly developed tool to test and ensure its suitability.

He aha ai: (Why)

It was decided that the audience for this ethics framework would be Māori organisations. This decision was based on the understanding that Māori organisations often face resource constraints in comparison to mainstream organisations. Additionally, it was deemed important to ground the framework firmly in Kawa and Tikanga. As a result, it would not be appropriate to allow non-Māori or mainstream organisations to access and utilise the framework, as there is a risk that they may not fully understand the whakaaro behind its component parts.

Mo wai: (For who)

We discussed the advantages and disadvantages of *Kaupapa Māori vs Māori Centred* approaches to developing the framework – utilising a conceptual marae as developed under Kāinga Whānau Ora (KWO) in the publication *Outside Insights* (2019)). *Outside Insights* brought together the experiences of whānau and organisations in KWO to understand their engagement, employing an empathetic approach by these agencies to create improved whānau outcomes.

Discussion points:

- Who does the conceptual marae belong to?
- Who decides the tikanga and kawa?
- Who are the manuhiri? What role do they play?
- When going onto the marae, if they don't speak the language what happens?

Through this process of wānanga, we were able to explore and reflect on our own roles and the role of our organisation as an alliance of Māori and iwi organisations; of a charitable trust, and of an organisation that works with non-Māori organisations, including government agencies.

Secondly, we looked at the existing data management policy and wānanga covered the appropriateness of utilising our Alliance principles at a national level then explored how we could relate the principles to a data context. Creating purpose statements, which essentially articulate our aspirations for data.

Thirdly, we looked at existing Māori ethics frameworks against our existing findings to ensure we had covered all important aspects and added further content where appropriate. The purpose statements became integral to placing tikanga within the right principle. However, it became apparent that the principles were highly interconnected, and that they were more easily distinguishable by the stakeholder who holds responsibility or has a strong sphere of influence.

Considering a data lens on our data eco system we felt that monitoring and evaluation was important to front foot. Coupled with a Whānau Ora lens and pragmatic understanding of existing resources within our communities, we needed a tool that supported self-reflection on practices in data.

Lastly, we recognised the complexity of the data continuum and the need to visualize the framework in order for the user (kaimahi, whānau, organisations) to have a comprehensive view across roles and responsibilities. It is important for everyone involved to understand the interconnectedness of each component and that an action has a knock-on effect in the chain of events across the data eco-system.

Through wānanga, three different models were considered, pātiki, pikorua and Manu Aute. It was through this team wānanga that the 3 models were discussed, and consensus agreement was reached on the Manu Aute to represent our data tikanga. However, the two other concepts have since been developed into frameworks in their own right and support further mahi in Te Tuahiwi.

Te Mana Whakahaere Raraunga – First iteration of Uara

The principles and their corresponding statements were referred to as *ngā uara*, which helped maintain the structural integrity of the framework and ensured that a holistic approach was taken. This also ensured a clear distinction between Aroha, Tika, and Pono, which became the value base used to measure and monitor our tikanga within the data ecosystem. Ngā uara that were initially utilised in Te Mana Whakahaere Raraunga were developed through the above wānanga, by evolving the Te Tihi Guiding principles to be specific in a data context. However, as Te Tihi expanded into other areas of expertise, it was recognised that these purpose statements needed to be much more flexible to guide the six other wāhanga that frame Te Tuahiwi mahi.

These are:

- **Puna Ora** – focused on Māori advocacy both within Puna Waiora (hapū, marae and Māori organisations within Te Tihi Alliance) and Puna Wānanga (iwi/ Māori contract service providers);
- **Service Delivery** – focused on services designed and implemented from within Te Tihi such as Kāinga Whānau Ora;
- **Te MataRau** – focused on digital infrastructure and solutions;
- **Communications** – focused information development and distribution;

- **Kaupapa Innovation** – focused on co-designed solutions; and
- **Pikihia te Poutama** – focused on Māori workforce advancement.

Below is a comparison of the data-specific 2020 uara (and principle statements) with the updated uara reviewed in 2022 when the wāhanga Pikihia te Poutama began exploring another distinct iteration of these. Te Tihi became aware of the risk of confusion both internally and with external partners of applying too many layers of frameworks within our mahi and the risk of creating a convoluted tool which is not user friendly and therefore harder to adopt. These reviewed uara will be adopted by the other wāhanga over time as they establish infrastructure.

Table 4: Ngā Uara o Te Tihi

	Ngā Uara o Te Mana Whakahaere 2020	Ngā Uara – 2022 (to be utilised by all wāhanga
1	Tino Rangatiratanga - Māori data sovereignty recognises that Māori data should be subject to Māori governance and supports tribal Sovereignty and the realisation of Māori and iwi aspirations.	Tino Rangatiratanga - Māori Sovereignty recognises that Māori information should be subject to Māori governance and supports tribal Sovereignty and the realisation of Māori and iwi aspirations.
2	Rangatiratanga - Our data ecosystem will enhance whānau capacity to the rights of choice and self-determination.	Rangatiratanga - Te Tihi will cultivate Leadership through opportunities of choice and self-determination grounded in our traditional wisdom as Māori.
3	Whanaungatanga - Our data ecosystem will ensure whānau qualitative narratives enhance holistic outcome measures and quantitative data sets.	Whanaungatanga - Our systems will ensure whānau aspirations direct our mahi.
4	Pūkengatanga - Our data ecosystem acknowledges unique strengths and builds capability and capacity to ensure maximum leverage	Pūkengatanga - Te Tihi celebrates and shares the unique strengths, experiences, knowledge, and skillsets of Kaimahi and whānau to further the knowledge and learning of the collective.
5	Kaitiakitanga - Te Tihi will be responsible for maximising the potential of data we hold to benefit whānau.	Kaitiakitanga - Te Tihi will be responsible to maximise potential within our area of influence – to inspire change, navigate shifting environments and systems, and innovate new ways of seeing and being.

6	Kotahitanga - Our data ecosystem is built on a foundation of unity, trust and the strategic vision of Te Tihi.	Kotahitanga - Te Tihi will be intentional in building, maintaining, and celebrating strong connections of trust and unity with iwi, hapū, and the wider hapori.
7	Manaakitanga - Our data ecosystem acknowledges the mana of those of who the data is collected about and keeps the integrity of their stories.	Manaakitanga - Our systems acknowledge the mana of those we engage with at all times.
9	Wairuatanga - Te Tihi will ascertain which data sets should be noa (open access), tapu (controlled), or have a rāhui in place (restricted access).	Wairuatanga - Active protection acknowledges and facilitates spaces of noa (open access), tapu (controlled), and / or rāhui (restricted access).
10	Ūkaipōtanga - Te Tihi ensure the quality and integrity of our data ecosystem through proactive systems that ensure sustainable monitoring.	Ūkaipōtanga - Te Tihi will nourish, nurture, and maintain integrity through quality infrastructure that sustains and is sustainable.

Ngā Uara o Te Tihi were also important in the theming and structure of the key informant interviews. It is important to acknowledge the interrelatedness, and at times overlapping of key themes. However, for simplicity of this report, the findings and discussion have been laid out in a more linear fashion (see table below).

In reality, intricacies may mean all uara are applicable to a concept. Also, the way the tikanga are arranged into the uara is by understanding the stakeholder (refer to Te Hīringa Mahara) and their sphere of influence. For example, in Rangatiratanga, the tikanga are about whānau self-determination. However, at times for this to occur, there are also processes that kaimahi must ensure are tika, these processes would feature in Kaitiakitanga.

Ngā Uara o Te Tihi	Key Discussion Concepts
1. Tino Rangatiratanga	Data Governance – the Treaty of Waitangi; the role of the Government and the role of iwi/Māori in Māori data sovereignty.
2. Rangatiratanga	The role and rights of whānau regarding their data and privacy.
3. Whanaungatanga	Understanding how whānau aspirations can lead data.
4. Pūkengatanga	Exploring data to inform workforce advancement through the development of Na te Wānanga.

5. Kaitiakitanga	Utilising data you have access to, as shown with the Māori health reforms.
6. Kotahitanga	Reviewing our relationship with Statistics New Zealand.
7. Manaakitanga	Using measurement scales to change data discourse.
8. Whakapapa	Te Mauri Moemoeā – collecting data from whānau.
9. Wairuatanga	Āta - (the Te Tihi data and communications) COVID-19 Response.
10. Ūkaipotanga	Kāinga Whānau Ora and the Data Exchange.

The next section aims to provide a deeper understanding of the operational context of Māori data sovereignty. Through the analysis of the key informants' kōrero and relevant examples from Te Tihi mahi, we will explore key concepts and themes that emerged from our research, highlighting the significance of Māori data sovereignty in the current context and identifying ways to advance this critical area.

MATAPAKINGA

The discussion chapter of this research report as previously discussed is structured around ten ngā uara (guiding principles) of Te Mana Whakahaere Raraunga, which serve as a framework for exploring the challenges and successes encountered in our journey towards realising Māori data sovereignty. To provide relevant examples, we draw upon the insights shared by our key informants. We also integrate the literature discussed in the previous sections to deepen our understanding of this complex and evolving field. By doing so, we aim to contribute to the ongoing conversations around Māori data sovereignty and support the efforts of those working towards its realisation. This discussion will provide insights and recommendations for those working towards achieving Māori data sovereignty in practice.

1. TINO RANGATIRATANGA

Māori Sovereignty recognises that Māori information should be subject to Māori governance and supports tribal Sovereignty and the realisation of Māori and iwi aspirations.

Te Tahi define Māori data sovereignty as the inherent right of Māori to autonomy and self-determination otherwise known as tino rangatiratanga, in relation to the collection, stewardship, and application of Māori data. Māori data is data that is produced by Māori, data that is about Māori, or data about the environments that we are connected to (Kukutai & Taylor, 2016). Māori utilised data long before Aotearoa was colonised, as a way to record and convey information, including oral traditions (such as karakia, waiata, and stories), visual arts (such as moko, weaving, and carving) and Māori astronomy including maramataka and navigation. Māori data continues to be a valuable resource for Māori.

“... I think we [Te Tahi] could see the power in the data ... we wanted to have Sovereignty. We want to be able to define for ourselves how we are going to utilise the data that is available, but more importantly also look for opportunity to redefine some of the data...”- Informant 7.

The quote from Informant 7 highlights the crucial issue of Māori data sovereignty and the need for Māori to have control over how their data is utilised and defined (Snipp, 2016). This issue is grounded in the Treaty of Waitangi and Te Tiriti o Waitangi, which play a foundational role in regulating the Crown's responsibility in regard to Māori data sovereignty. Under Article 2 of Te Tiriti, Māori authority over taonga is recognised, which includes intellectual property based on heritage and culture (Taiuru, 2022). Recently, data has been officially recognised as a resource that fits within these definitions (Oliveira, Rodrigues, & Henriques, 2005). The Data and Statistics Act 2022 gives specific reference to the Treaty and Tiriti, outlining the Crown's responsibility to “provide for the interests of Māori” in data collection, production of official statistics, access, and use for research. This Act also directs the Government Statistician to engage early and meaningfully with Māori, establish partnerships, and build the capability and capacity of Māori.

“... the Government data system has had no Māori thought leadership in its design ... not designed from a Treaty perspective at all ... we're trying to retrofit the airplane while it's flying and transform it into a data system that actually does understand the obligations under Te Tiriti for iwi and Māori rights”- Informant 3.

Informant 3's statement from the position of a government agency kaimahi, highlights the lack of Māori thought leadership in the design of the government data system, and the challenge of retrofitting it to align with Te Tiriti obligations for Māori rights. These power imbalances persist and contribute to the under-resourcing and under-representation of Māori organisations in data-related discussions, limiting their access to decision-making processes (Reid & Rout, 2020). This increases the risk of potential misuse of Māori data, including misrepresentation, cultural appropriation, exploitation, stigmatisation, and inadequate resourcing.

“Māori have been shut out of the process and our values aren't integrated into the data system. We don't always know if we're going to be the beneficiaries of the data, and we're certainly not a part of the decision-making processes and the governance of that data” - Informant 3.

Informant 3 elaborates the previous insight by highlighting the exclusion of Māori organisations in the decision-making processes resulting in a lack of Māori values and perspectives in the design and governance of the data system, and potentially missing out on the benefits of their own data. This reflects the persistent power imbalances between the Crown and Māori (Cram, 2014). The Crown's "nanny state" behaviour further exacerbates this issue by disregarding its partnership with Māori and perpetuating a paternalistic approach that fails to consult, collaborate, or recognise Māori authority in data-related matters. Māori organisations are also subject to greater scrutiny and oversight, creating additional obstacles to autonomy and participation in Māori data (Came, Doole, McKenna & McCreanor, 2018).

“... as long as Governments see data sovereignty as a threat, then we'll always be on two sides of the fence. Actually, it's an opportunity to understand the needs from communities to have greater control of their data and therefore, their destinies” - Informant 3.

Further to this, Informant 3 highlights the importance of Māori data sovereignty in enabling Māori and iwi to have greater control over their data and therefore, their destinies. Without Māori data sovereignty, the ability to govern data to fulfil Māori and iwi aspirations is difficult (Kukutai & Taylor, 2016), and government may view data sovereignty as a threat rather than an opportunity to understand the needs of communities. The following quote from a kaimahi of a government agency reinforces Māori and iwi ideals that Māori data sovereignty must be defined and led by Māori and iwi:

“... I think it's really important to make the distinction that for Government it's not for us to determine what Māori data sovereignty is. We know our place and that conversation is to enable and support those aspirations among iwi Māori to achieve Mana Motuhake through data. For us

it's around ensuring that we listen, and we hear and understand what those aspirations are, and then we get behind them and lean in support and ensure that we're enabling a system that is Treaty centred" - Informant 3.

According to Informant 3, the Government's role is to enable and support iwi Māori aspirations to achieve mana motuhake through data, and to ensure a Treaty-centred system. One way to achieve this is through the preservation and support of mātauranga Māori, which is deeply connected to Māori culture, history, and values (Mead, 2016). Māori data can be used as a tool to achieve this, as well as to define data in a more nuanced and complex way to meet the needs and aspirations of Māori. This is supported by Hudson and Jordan's (2018) research on the importance of mātauranga Māori in data collection and analysis.

"When government agencies provide us with data, it's often just data insights that we can't use to tell our own stories. Data sovereignty means giving us access to the actual numbers so we can make our own insights. To be a good treaty partner, the government just needs to give us data access. We have the skills and capacity to do our own data analysis and figure out insights for ourselves." - Informant 4.

Within a data ecosystem we can take our understandings of data and mātauranga Māori to develop an approach that will result in better outcomes for Māori whānau and communities. Our understanding of data is as a mechanism to tell our stories, in the way we want to tell the story, to paint the picture of who we are as a people and inform the resourcing by which we support our own people. There is power in defining data, in deciding what data is important as this guides decisions and dictates policy (Walter & Suina, 2019).

"... in terms of creating your own data ecosystem, any organisation, Māori organisation, whoever that is, understand yourself first ... have an understanding of your values as an organisation ... and then think about okay how do those values guide me within my data activities and let that be the measure of success..." - Informant 5.

Informant 5 emphasised the importance of understanding one's values as an organisation and using them as a guide for data activities. This approach was crucial for Te Tihi, in creating our own data ecosystem through Te Mana Whakahaere Raraunga, enabling us to delve deeper into our data aspirations and challenges. The framework also facilitated engagement with the government and was key in our pursuit of Māori data sovereignty.

2. RANGATIRATANGA

Te Tihi will cultivate Leadership through opportunities of choice and self-determination grounded in our traditional wisdom as Māori.

The principle of Rangatiratanga is essential in ensuring that whānau can exercise leadership through self-determination and decision-making when it comes to their data. By involving whānau in all aspects of their data, including how it is utilised by organisations, whānau access, and whānau use, we can ensure that whānau are respected and their data rights are upheld.

“All of those touch points you and whānau have, all of a sudden you get a rich picture of who you are as a whānau and how the state is interacting in your lives and whether you want that or not. That’s the rangatiratanga data can give you as whānau” – Informant 1.

The above quote emphasises the value of collecting data from various touchpoints in the lives of whānau to gain a richer understanding of their identity and how the services interact with their lives. The Informant suggests that this type of data can provide whānau with rangatiratanga, or self-determination. However, this discussion is complicated by the fact that current privacy laws in New Zealand are underpinned by Western ideologies, such as individualism, which prioritise personal freedom with individuals as the primary unit of society. This philosophy also supports the right to privacy as a fundamental human right, along with neoliberalist views that advocate for minimal government interference and free market competition as drivers of economic growth, individual prosperity, and liberty (Fisher & Tauri, 2021). These ideologies erode traditional Māori social structures that have nourished and provided strength to our people as they are at odds with traditional Māori beliefs of the importance of community, interdependence, and cooperation. The philosophical and cultural differences mean the policy environment can make it difficult to support whānau collectively with their data.

“That [whānau consent] only allowed us to collect data on whānau behalf, it didn't actually allow us to give data back to whānau themselves. It's because data and privacy laws, it's all based on an individual basis. So yes we could get data for one person and give it back to that one person but that's not how we work in Whānau Ora and that's also not how whānau wish to operate either” – Informant 4.

To address the gap identified by informant 4, Te Tihi has developed our own data collection standards that prioritise involving whānau in decision-making regarding their data (Taylor & Kukutai, 2015). These standards ensure that whānau are informed of their data rights and responsibilities, program objectives, and the data collection process. Additionally, Te Tihi informs whānau of available alternatives if they do not wish to participate in the data collection process. Through this approach, Te Tihi aims to prioritise the needs and aspirations of whānau and their communities in data collection and decision-making processes.

“Our consent process has been developed with the Privacy Commission and with Stats New Zealand. Our consent is very robust. We have a checklist for Kaiwhakaaraara to make sure they've had all the right conversations with whānau. There's an explainer video for them to make sure that they're asking the right questions. We've also got what we call a whānau handout so that has all the technical bits for whānau to refer back to that's left for whānau, when they have that discussion. It talks about what roles will see their data within our own organisation, how those connect to the whole project and objectives. It talks about what types of data points that we're getting and from which agencies we're asking from “– Informant 4.

Informant 4 highlights that the Te Tihi consent process is thorough. Te Tihi has gone beyond the standard consent process and developed an additional process where whānau nominate a representative to receive their data. This allows whānau to make decisions together and look at their information collectively. Currently, in Kāinga Whānau Ora, whānau can only access their information alongside their Kaiwhakaaraara on Microsoft PowerBi. However, Te Tihi aspires for whānau to access their information on their own terms, without an intermediary. However, this is a trial process that requires evaluation.

3. WHANAUNGATANGA

Our systems will ensure whānau aspirations direct our mahi.

Whānau aspirations direct our data collection specifications. In 2016, Te Tihi, alongside Statistics NZ, developed our Kāinga Whānau Ora annual survey which incorporated questions from the General Household Survey (GHS), Census and Te Kupenga (the Māori wellbeing survey) alongside questions developed aligned to the Whānau Ora Outcome Areas. We linked this rich dataset with Te Ara Whānau Ora data that captures whānau progress towards their moemoeā in Whānau Tahī (a customised Microsoft Dynamics tool) to understand what whānau prioritise as important. This also directs what government administrative data we seek, provides a more comprehensive picture to often deficit-based information and helps inform solutions that are designed alongside whānau.

“When you're gathering information for whānau, it needs to be meaningful to them. If we're creating programs that we think are going to be great and they don't think it's going to be great, it's just not going to work, it's not going to make any sustainable long-term change. Data needs to be in a way that whānau can actually engage with it” - Informant 4.

Informant 4 emphasises the importance of collecting meaningful data that is relevant and engaging to whānau. This is crucial because programs or initiatives that are not aligned with whānau aspirations and needs are unlikely to succeed in creating sustainable long-term change. As Te Tihi follows the aspirations of whānau, we curate strength-based data that helps to balance learning and growing whānau capacity (Walter,

2018). However, Informant 4 notes that there is often an overemphasis on outputs (as opposed to outcomes) and participation in contracts, which may not be aligned with whānau outcomes. This can be challenging for Māori and iwi services with limited capacity to focus on data. When resources are overly consumed by reporting data, there may be fewer resources available to gain insights on whānau achievement or to innovate processes that provide better services for future whānau.

“Our people, and this is a global reality, get tired of giving their data over and over again. That's no different whether it's Government collecting it or our own people. We [StatsNZ] need to really respect people's privacy, but also their time to have their data collected from them” - Informant 3.

Informant 3 highlights the issue of data fatigue among people, including the Māori community, who are tired of constantly giving their data without any clear understanding of how it will be used (Bruhn, 2014). This is a common issue globally, and it's essential to respect people's privacy and their time (Nguyen, 2018). In the context of Te Tihi, this means ensuring that whānau are not burdened with excessive data collection or denied access to services for refusing to provide their data.

We have trialled many avenues to return data to whānau, including bespoke online platforms, Microsoft PowerBi reports, and printed A3 infographics. One whānau loved the infographic so much that they stuck it on their fridge because they could see the progress they had made towards their own aspirations and were proud of what they had achieved.

“it's important that whānau have access to their own data, because as whānau when we know our data, we can make choices that are within our own rangatiratanga” - Informant 1.

This quote highlights the importance of whānau having access to their own data to exercise their rangatiratanga, or self-determination. This insight is particularly relevant in the Whānau Ora space, where the kaupapa is centred around supporting whānau to create plans for better pathways towards their future (TPK, 2015). In contrast, when interacting with Government agencies, whānau often do not have access to the data that these agencies hold and use to make decisions about them. Therefore, providing whānau with access to their own data can enable them to better understand their situation, integrate this knowledge with their whānau aspirations, and create a comprehensive Te Ara Whānau Ora plan to achieve their goals.

“It's crucial for whānau to have access to their own data held by government agencies, as it is these agencies that make decisions that have a significant impact on their lives. Through our engagement process in Te Ara Whānau Ora, we work with whānau to create a sustainable plan for their future that can be passed down to future generations. By having access to this data, whānau can identify areas for improvement, for example, if their child is missing school, they can see the frequency and take action. They can also identify areas where they are doing well and share their knowledge with others.” - Informant 4.

As Informant 4 discusses, whānau having access to their own data helps them identify areas for improvement and where they are excelling, allowing them to take action and share their knowledge with others. Whānau aspirations play a vital role in evaluating the success of projects or programs. It is important to identify the success indicators set during the planning phase and understand why they were or were not achieved. Data and evaluation must be agile and adaptable to changing priorities.

4. PŪKENGATANGA

Te Tihi celebrates and shares the unique strengths, experiences, knowledge, and skillsets of Kaimahi and whānau to further the knowledge and learning of the collective.

In the context of Whānau Ora, Te Tihi have a unique position of innovation to explore new ways of working that encourage increased productivity, a sustainable work environment, improved wellbeing, strong whānau, and strong communities. Over the past two years, the growth of Te Tuahiwi team has increased from approximately 20 to over 35 kaimahi. This growth has highlighted an opportunity to develop a strong suite of data-informed tools that not only identify the current state of kaimahi proficiency but also their aspirations for further learning, knowledge, and capacity. This exploration provides effective quantitative pathways, mobilised through the autonomy of our own data, alongside existing organisational work programs and formal training environments to contribute to both the strategic direction of the organisation and the wellbeing of our staff.

“It's been a massive learning curve for us as an organisation, we've watched our data people grow and been able to achieve work and understand data much better, but also we've been able to lead initiatives that changes the way we do data, we're looking for positive outcomes, we're looking for positive information that's not all just about the deficit” - Informant 2.

Pūkengatanga within our data ecosystem pertains to technical and non-technical kaimahi capability by ensuring access to appropriate training opportunities relevant to their role as well as supporting kaimahi to build their Māori advocacy skills. Additionally, where there is no peer-equivalent employed within the organisation, Te Tihi will actively build relationships with external organisations to enable peer to peer learning.

“... it's important that we to start building our skills, so that we are not continuously at the mercy of the system telling us what is good for us, telling it in a way that we don't, I don't even know what you're talking about, it's not even important to me” - Informant 5.

Informant 5's quote emphasises the importance of building skills and knowledge within the Whānau Ora data ecosystem, which relates to the concept of pūkengatanga discussed in the previous paragraph. By providing appropriate training opportunities and Māori advocacy support, Te Tihi empowers kaimahi to take ownership of their data and make informed decisions. This avoids a top-down approach that undermines their ability to be self-determining, which traditional KPI measures do. Te Tihi believes in utilising the unique skills and knowledge of kaimahi to contribute to the organisation's strategic direction.

“Our data team are very agile in that space, they're very creative, they're not boring and that I think enhances people wanting to listen, to read, to understand the data now” - Informant 2.

Informant 2's quote highlights the creative and engaging approach of the Te Tihi data team, which has contributed to a greater interest in and understanding of the data. This is relevant to the discussion of the limitations of traditional approaches to measuring proficiency, which have focused solely on individual skills without considering other factors such as productivity and alignment with organisational aspirations. The development of our own suite of tools was a response to these limitations, which failed to provide holistic support for kaimahi development. By incorporating agile roles, peer support through the embodiment of Tuakana Teina, and alignment with the culture and strategic direction of Te Tihi, the new tool aims to promote a more comprehensive and effective approach to building kaimahi capacity.

“ you know Māori are on a journey in many spaces, to build their capability ... we're starting from the base and the reason why we're starting from the base is because the existing knowledge that is there is grounded in te ao pakeha and a lot of us are going well, we like the way you do it, but some of it I don't like, ... let's reconceptualise what that actually means to us as Māori, and then let's pick the bits that mean something right” - Informant 5.

Informant 5's quote highlights the need to reconceptualise western knowledge frameworks to better align with Māori values and ways of knowing (Mead, 2016). This concept is reflected in the Te Tihi development of Nā te Wānanga ko te Hauora, a Māori workforce advancement tool launched in 2021. This tool includes several core functionalities, such as My Profile, My Wellbeing, Reflect and Aspire, My Moemoeā, and My Mahi. Through the Reflect and Aspire function, kaimahi can self-assess their skills and knowledge relevant to their core functions, both aspirationally and in their current proficiency level. This allows for self-determination in terms of which skills to focus on and the level of proficiency to aim for, aligning with the Te Tihi approach to holistic professional development.

“I think there is a skill shortage for Māori working in data spaces and I think that's just because the way that the government prioritise funding and resourcing for Māori services and providers” - Informant 4.

Informant 4 highlights the issue of a skill shortage for Māori working in data spaces, which can be attributed to the government's prioritisation of funding and resourcing for Māori services and providers. As an example, the 2022 budget amidst the health reforms only allocated 2% of the new spend to hauora Māori and by-Māori for-Māori initiatives (McConnell, 2022).

While it may be necessary to utilise the support of tauwi in technical roles until Māori are able to fulfil all required roles, careful consideration is needed for leadership positions that require holding a vision or direction for the future. Technical roles that cleanse and maintain data structure may be suitable for non-Māori professionals, but roles that involve decision-making and providing insights on data require a Māori lens. It is crucial to consider the long-term sustainability of kaimahi and how to fill the skill shortage with Māori professionals for the future.

“Sometimes when we have skill shortages of Māori within data spaces, we need to bring in tauwi to fill those gaps. The important part there is that we bring them in, in a capacity that we are able to learn and utilise that skill and bring that into our own people and really nurture the rangatahi and other people that are coming through in those spaces ... that helps us to do our own internal Workforce advancement- Informant 4.

Where tauwi skill is sought, especially when peers are within different organisations, such as mainstream or government agencies caution should be taken over the applicability of the learning. All new ways of seeing and doing must be evaluated with its merits in te ao Māori and against the values of the organisation.

5. KAITIAKITANGA

Te Tihi will be responsible to maximise potential within our area of influence – to inspire change, navigate shifting environments and systems, and innovate new ways of seeing and being.

One way to exercise Kaitiakitanga is by maximising the data we already have access to, such as utilisation of open-source data to create our own insights and solutions to reduce Māori health disparities. Despite the slow transformation of the health system and national health policy, Māori and iwi services are already active within their communities. We can use the data we have, within our sphere of influence, to address current Māori health disparities and act on the findings of reports such as WAI2575 – the Health Services and Outcomes Inquiry. Recent health reforms, including the Pae Ora (Healthy Futures) Act 2022 and the establishment of Te Aka Whai Ora, Te Whatu Ora, and Iwi Māori Partnership Boards (IMPB), indicate a growing influence of Te Tiriti o Waitangi on the inclusion and role of iwi, hapū, and hāpori Māori in the health system.

In Aotearoa, health disparities between Māori and non-Māori are well documented. Within the MidCentral region, the regional Māori health strategies co-created with Te Tihi such as Ka Pō, Ka Ao, Ka Awatea (2010) and Ka Ao Ka Awatea (2021) are aimed at creating equitable outcomes. These examples are a part of a larger body of ongoing work to address disparities experienced by Māori in the health sector. These strategies serve as a means to foster stronger partnerships between Māori and Treaty partners, to collaboratively improve outcomes.

Māori have historically fought for strategies, policies, services, and resources that embody the principles of Te Tiriti o Waitangi and are responsive to Māori health needs (Reid & Rout, 2020). Contemporary advocacy for positive Māori health outcomes continues this work; with the Waitangi Tribunal now providing another avenue for advocacy (Elers, 2014). The Tribunal has recommended that the Crown mandate the legislative and policy framework of the New Zealand primary health care system, recognise the Treaty of Waitangi and its principles, and commit to achieving equitable health outcomes for Māori. While Wai2575 is a recent claim, earlier documents such as the Health and Disability Act (1994) and Resource Management Act (1991) have already embedded the principles of Te Tiriti o Waitangi.

Informant 4's insight below aligns to Waiter and Suina's (2019) work which warns the risks of Māori being under-represented in quantitative research and decision making.

“... predominantly Māori data is qualitative, so it's the stories how we share our information from one generation to the next and how we are able to interpret our natural world. Unfortunately, a country's policy base is usually on quantitative only and that means that other people are making a decision on what data points are important, to interrogate some variables over others and what relationships of the data are important to look at. If we're not involved in that quantitative space, then we're getting legislation created that doesn't really sit to create better outcomes for Māori”-
Informant 4.

Currently, Māori prioritisation through dedicated performance targets for health outcomes can be seen both nationally and regionally. However, this is not consistent across regions and is reliant upon the aspirations of what was the regional DHB board, now Hospital Specialist Services. This can result in different levels of access, utilisation and outcomes for Māori. Te Tihi have an opportunity to support our local IMPB Te Pae Oranga o Ruahine o Tararua to provide Māori data analysis and insights for our rohe. Whānau Ora as an over-arching philosophy will ensure more holistic Māori wellbeing is also considered through the data (MOH, 2011).

“... the restructuring of the health system, the WAI2575 Waitangi [Tribunal] case, that's really given Māori a different stance in data. We're already looking at how we can support the iwi and Māori Partnership Boards through data collection and analysis and insights, we are going to be using the Data Exchange to open up further than Kāinga Whānau Ora, to look at all of the Māori Health Data

from both Secondary and Primary Care and that will be a really big game changer for us and for Māori” – Informant 4.

WAI2575 highlighted the significant failures experienced by Māori within and between Primary and Secondary Care services. The failure of these services is reflected in the under-enrolment of Māori in General Practices and the over-utilisation of secondary services to provide primary health services. For whānau this leads to poor health outcomes, poor quality of care, dissatisfaction with their care and increased health costs to both the whānau and health system (Jatrana, Crampton & Richardson, 2011).

“At the moment we have very little data, we don't have access to Government administration data outside of Kāinga Whānau Ora, so that's only 100 households. There are 31,000 Māori enrolled just in the MidCentral, so we are getting a very small amount of information, when we move into the new space, it's supporting the iwi and Māori Partnership Boards, we're looking to get all of the primary and secondary health data for Māori in the region, utilising that Data Exchange system” – Informant 4.

Informant 4 is enthusiastic of the prospect to access quality data to influence Māori health outcomes. The Pae Ora (Healthy Futures) Act 2022 aims to enable an environment for Māori to choose what partnership looks like for them, in the development and establishment of kaupapa within the sphere of influence of Te Aka Whai Ora and Te Whatu Ora. Currently, this can be seen through simultaneous development of parallel systems and processes or active collaboration and/or co-commissioning on the same kaupapa. Although Te Aka Whai Ora are a Crown entity, this is the first time within the health sector there is a greater degree of separation from the Ministry of Health, and greater autonomy to genuinely mobilise Māori health and wellbeing aspirations. They have clear accountabilities to both Māori and the Crown, for the purpose of addressing health inequities, driving improvement in hauora Māori, and ensuring Māori are involved at every level of decision-making, an important step in safeguarding Māori health. Te Tihi have agreeance by Te Pae Oranga o Ruahine o Tararua (the local IMPB), among other activities, to analyse Māori data from across the rohe to address trends, issues and indicators of Māori utilisation and outcomes from the health system.

“That will mean that we're able to look at health outcomes, screening and long-term conditions, enrolment. We're going to be able to co-design that with our iwi Māori providers as well to see what is going to be meaningful to them within those spaces and be able to visualise that in a way that we haven't had before ... it's important for our Māori and iwi providers to have access to our health data so that they're able to make better decisions for our people” – Informant 4.

The above quote highlights the importance of co-designing health outcomes, screening, and long-term conditions with iwi Māori providers to ensure that data is used in a meaningful way. The Informant stresses the need for Māori and iwi providers to have access to health data to make better decisions for their people

(Snipp, 2016). Performance measures and targets for health outcomes are often set without considering the lived experience of Māori. For example, the national performance target for participation in bowel screening is set at 60 years, but at least half of Māori bowel cancer is diagnosed before 60 years of age, compared to 30% of non-Māori bowel cancer (Te Puni Kōkiri, 2021). This discrepancy shows that a utilisation rate of bowel screening targeted to those between 60-74 years old is not an effective measure of successful performance for Māori. Priorities should be determined based on both qualitative information such as Māori aspirations for health and wellbeing; and quantitative information, the extent to which Māori experience a health issue or wider determinant of wellbeing. Informant 3 further speaks of quality data and having access to the right data for long term change (Kania & Kramer, 2011).

“... having good quality data is the most important aspect of that and it's our [StatsNZ] role in Government to ensure that the quality of data is good, and that that data can be accessed by others to use, to make the decisions that they need to make, Working with iwi Māori, it's around making sure that the data suits their purposes and their needs as well, and that's part of the challenge going forward is making sure we collect the right data for iwi Māori” - Informant 3.

There is a clear shift in the transformation of the health sector, and the context of Kaupapa Māori commissioned services. With this shift comes the opportunity to develop systems and processes that reach much further than health. Wellbeing must incorporate wider determinants, understanding that wellbeing from a Māori paradigm is an interrelated phenomenon rather than an intra-personal one and in this way wellbeing acknowledges the mutually reinforcing and interdependent relationship across social, political, cultural, and economic aspirations and outcomes.

6. KOTAHITANGA

Te Tihi will be intentional in building, maintaining, and celebrating strong connections of trust and unity with iwi, hapū, and the wider hapori.

Within Te Tuahiwi, we have a small data team consisting of five kaimahi, each with unique pūkenga that come together across the data continuum, from the development of robust kawa and tikanga, to the capture and creation of data, storage and structure, analysis and learning, to sharing and application. While the existing roles complement each other's skill sets, no two data roles are the same. The uara encourage kaimahi to reach out to others in similar roles in other organisations to ensure peer-to-peer support and learning. We also encourage the Alliance to utilise Te Tuahiwi as a resource to foster peer learning. As a resource of Te Mana Whakahaere Raraunga, we have developed a modularised training package to increase the capability and capacity of data kaimahi in the Alliance, which we aim to make available to others. As an example of

Kotahitanga, Te Tuahiwi has established a relationship with Statistics NZ that has strengthened over several years and provides ongoing reciprocal learning opportunities that have advanced many kaupapa for Te Tihi.

“We [StatsNZ] launched a number of initiatives, and one of them was the Pilot Partnership Projects, which was an opportunity for StatsNZ to learn how to work collaboratively with community-based organisations, with iwi and with Māori and Te Tihi came through the process and was one of the successful applicants to participate” – Informant 3.

Informant 3 highlights the benefits of the partnership between Te Tihi and StatsNZ. By spending time in StatsNZ's Wellington office, Te Tihi had access to a wealth of resources and expertise to support the development of our whānau survey framed on the Whānau Ora Outcomes and aligned to Te Kupenga (Māori wellbeing survey) and other national surveys for later comparison. The opportunity to work closely with StatsNZ's staff was invaluable. We were able to take these learnings back to our team and apply them in various ways, benefiting not only the development of our survey but also our approach to data collection. The partnership with StatsNZ was a great success and facilitated knowledge-sharing and collaboration between our two organisations. We were grateful for the opportunity to work with such a dedicated team and look forward to the potential for future collaborations.

“I guess essentially in terms of the relationships with Community organisations, working with Te Tihi is to really support that development, the capability in the community. All very well and good for it to sit in Government, but actually our communities need that that level of skill and expertise as well and I think the beautiful part about working with communities who see the data, is that they can narrate the context and tell their story on top of it and then they become the directors of the pathway going forward, rather than leaving it in the hands of Government to determine” – Informant 3.

COVID and remote working have presented challenges to collaboration, resulting in slower progress. However, Te Tihi continue to partner with StatsNZ, with three current kaupapa in 2023, including a matched cohort study to evaluate the whānau survey previously discussed.

“I just think that often government organisations think that our people are coming as empty vessels, not always acknowledging what is the strengths, what is the knowledge that our iwi Māori providers bring to the table, and I think that has been demonstrated time and time” - Informant 2.

The quote from Informant 2 highlights the historical power dynamics that have existed between government organisations and Māori providers, where the latter's strengths and knowledge have not always been acknowledged (Reid & Rout, 2020). In contrast, Te Tihi approach partnerships such as with StatsNZ with

mutual respect, recognising and valuing the strengths and knowledge that both parties bring to the table. Through a strengthened Tiriti relationship, Māori can assume their rightful role as skilled peers, which will result in better shared outcomes and a more cohesive working relationship between organisations as Informant 3 mentions below.

“We [StatsNZ] would love to open the opportunity up for more Māori to come and build their capability with us. It's a big ask for an organisation. ... running the machinery of Government requires data and we are regularly outputting data for those purposes. But we know that there is a huge need out there to build capability among our people. But one of the things I think that is really important is getting alongside iwi who already have data strategies in place and learning from each other”-
Informant 3.

Informant 3 also discusses StatsNZ's core work, capacity restrictions, but willingness to collaborate with Māori and iwi. Te Tihi has also had the opportunity to work alongside other government agencies and participate in Lightning Lab, which involves short, mentored design sprints. Working in a non-kaupapa Māori environment can present challenges, especially when Māori knowledge systems need to be justified and other ways of knowing are prioritised, but through perseverance in building relationships, these opportunities can still provide valuable learning experiences and connections to additional resources (Cram, Pipi and Paipa, 2008).

“...when we're engaging with non-Māori and we want to leverage off their skill sets is to understand what is the value of that skill set to me, to my people, and how can I mobilise that skillset within my community in a way that is driven by my own values? - Informant 5.

Informant 5 emphasises the need to be discerning when leveraging non-Māori learnings and evaluating how they align with Māori values and mātauranga. This involves understanding the value of a skill set to oneself and the hapori and mobilising it in a way that is consistent with Te Tihi values.

7. MANAAKITANGA

Our systems acknowledge the mana of those we engage with at all times.

Te Tihi are actively changing data discourse. We believe the way that people speak about data and information changes the way we are able to interact with it. By acknowledging those that the data is about with mana and respect, they are better placed to utilise the information to achieve positive outcomes.

As Tuhiwai Smith (2012) argued, a strength-based approach can help to challenge negative stereotypes and historical injustices and empower Indigenous communities to reclaim control over their own data and narratives.

“The challenge for us in the Te Tihi space is that whānau should be able to see themselves in the data and how we use that data to tell their story. It's not just about the numbers, it's about the narrative that sits behind those numbers. How do we incorporate that into a Whānau Ora storytelling space?” - Informant 6.

As highlighted by Informant 6, over the years we have found many ways to do this, and we continue to evolve and find better ways to tell the stories of whānau. It is a way we can enrich and utilise government administration data alongside qualitative and survey data to ensure our stories and data insights show our aspirations.

“When we look at measurement, we need to reframe the discourse. When we created our measurement Frameworks within Te Tihi, we were looking at how we could translate our understanding of the world, looking at natural scales. So, you can think of things like music, or colour gradients and our environment” - Informant 4.

Informant 4 emphasises the importance of understanding that Māori engage with measurement on a more holistic level. By creating frameworks that align with Māori values and connect with both the people and the environment, engagement moves beyond a theoretical idea to something tangible that is felt and connected to. Māori have always utilised data in our traditional practices, such as planting and navigation, utilising te taiao to make calculated decisions about future actions, even if it wasn't called "data" in the modern sense.

When we re-frame western ideals of measurement to reflect aspects of the natural world we are able to transform the associated discourse, and the emotive engagement we have and build a mana enhancing, mātauranga Māori informed basis for not only measurement but also reflection and future improvement.

“Whānau are really interested in seeing their data and they're interested in seeing it in a way that they are able to connect. Using these kinds of measurement systems, that connect to our natural and real world, they're able to see themselves within that data and that really helps them to see it with a new light, with an aspirational lens. Most data is deficit [but] we can utilise that deficit data as long as it's alongside the other good stuff and it creates that holistic picture and whānau were able to see the good and the bad and make informed decisions. Reframing in this way definitely makes a change for how whānau see themselves and what they're able to do with that information” - Informant 4.

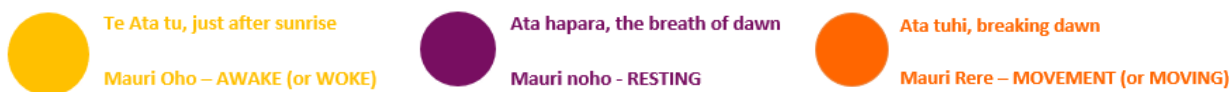
Te Tihi has experience in re-designing scales, where existing connotations of the scale were seen to evoke deficit-based insights of whānau. The *Sunrise System* developed within the Kāinga Whānau Ora (KWO) dashboards utilises the colours of a sunrise to represent a positive visual representation of whānau progress towards their moemoeā. Traditional scales use imagery such as a traffic light system where green is good and red is bad which applies deficit thinking.

KWO drew inspiration from the sunrise utilising Māori frameworks and imagery to validate Māori ideas (Mead, 2017). When we look at the potential that we all inherently possess, the transition of colours depicted in the dawning of a new day have been used as a metaphor for that everchanging horizon of life. The colours we witness are a representative of those states of mauri.

Mauri is a positive state that indicates 'movement'. *Mauri Noho* is aligned to the time and space before the breaking of dawn - a state of rest. *Mauri Rere* depicts movement neither positive nor negative more of a time of awakening as dawn is breaking on the horizon representing the unveiling of opportunities. *Mauri Oho* is the representative of the sun beginning to rise and the opportunity to pursue change.

The below picture identifies the different states of a sunrise. This is the guide to the scaling system used in the KWO dashboard.

Kāinga Whānau Ora Potential Scale



The table below is an example of how whānau could use the sunrise system to visualise change in key data points across the Whānau Ora outcomes, aligned to their own Te Ara Whānau Ora plan and movement towards their whānau moemoeā.

Kāinga Whānau Ora Dashboard

Understanding the sunrise system									
Whānau ID	Time in programme	Number in whānau	Status	Self managing	Healthy lifestyle	Whanau Cohesion	Participation in Te Ao Māori	Participation in society	Economically secure
FGN01738	1 year 4 months 29 days		Active	●	●	●	●	●	●
DEW04987	1 year 11 months 12 days		In Progress	●	●	●	●	●	●
DEW04984	1 year 11 months 12 days		In Progress	●	●	●	●	●	●
DEW04942	1 year 11 months 20 days		Active	●	●	●	●	●	●
DEW04941	1 year 11 months 20 days	(+2)	Active	●	●	●	●	●	●
DEW05069	1 year 11 months 24 days	(+1)	Active	●	●	●	●	●	●
DEW05068	1 year 11 months 24 days		Active	●	●	●	●	●	●
FGN00112	1 year 11 months 24 days	(+5)	Active	●	●	●	●	●	●
DEW00661	2 years 0 months 6 days	(+2)	Active	●	●	●	●	●	●
DEW03312	2 years 0 months 6 days	(+9)	Active	●	●	●	●	●	●
DEW00660	2 years 0 months 7 days		In Progress	●	●	●	●	●	●
DEW00654	2 years 0 months 9 days		In Progress	●	●	●	●	●	●

Another example of changing data discourse through measurement is the development of a wellbeing tool as discussed by Informant 4.

“We based our wellbeing tool on Te Whare Tapa Wha. We spoke to Mason Durie, he also thought what we were talking about was exactly what he intended in the first place. Not that all Taha needed to be exactly the same, its actually what people determine them to be and that creates balance for that individual, for that whānau”- Informant 4.

Te Tihi scaffolded off the previous scale and the fluidity of Mauri in another attempt to add richness and a whānau led approach to measurement evolved the traditional ideas of Te Whare Tapa Wha away from elements needing to be of equal importance to the focus on being self-determined. Our Wellbeing Tool, which is utilised as a quick whānau feedback tool, has resulted in positive whānau engagement. It acknowledges that:

1. Wellbeing is Self-Determined
2. Wellbeing is Different for Everyone
3. Wellbeing is Holistic
4. Wellbeing is Fluid over-time
5. Wellbeing is grounded in the perspective of the collective.

In our newest measurement scale, Nā te Hihiri, which is discussed under Pūkengatanga, Te Tihi has taken the previously developed elements and incorporated whakapapa as another dimension and a means for Māori to connect and comprehend the world, as highlighted by Informant 4 below and depicted in table 5 below.

“We look at whakapapa and how that adds an extra dimension into measurement. For Workforce advancement, we talk about a story of Tāne descending the heavens. We have a scale of one to five, we utilise colour, looking at Mahara through whakapapa from Hone Sadler and Māori Marsden”- Informant 4.

Table 5: Scale of development for Nā te Hihiri

	Nā te Hihiri ko te Mahara	From desire to the Remembrance	I am building foundational knowledge and would like support to apply this within my work.
	Nā te Mahara ko te Hinengaro	From the remembrance to the mind, seat of thought	I am turning my foundational knowledge into actionable steps, to achieve an outcome and don't need much support to do this.
	Nā te Hinengaro ko te Whakaaro	From the mind to thought	I am agile where needed in my approach and still achieve the desired outcomes.
	Nā te whakaaro ko te Whē	From thought came (debate) sound	I am active in building the learning and knowledge of the collective.
	Nā te Whē ko te Wānanga	From sound came Learning	I have a comprehensive knowledge of how this was informed and operationalised and adapt to find better ways to reach the same or better outcome

“Traditionally people would have said you're a one, or that's kind of stink. But to be able to say nah, we're sitting in this Mahara space of Papatūānuku, that's actually a really beautiful place to be and it's very important to make sure that you have that foundational base before you move into the other spaces of learning and before you able to share that learning with others and grow as a collective” – Informant 4.

As explained by Informant 4, traditional deficit data discourse undermines the skills and potential of Māori by solely focusing on deficiencies and limitations. This perspective fails to acknowledge the valuable skills, knowledge, and potential that Māori possess, perpetuating negative stereotypes and contributing to the ongoing marginalisation of our indigenous community. To truly support Māori success and well-being, it is crucial to move beyond deficit-based thinking and embrace a more comprehensive, strengths-based approach that recognises and celebrates the diversity and richness of Māori culture and expertise.

The following quote by Hone Sadler, recognises that Māori methodologies and tools are critical for expanding knowledge and analysing phenomena. Te Tihi has incorporated whakapapa into our measurement scales, including Nā te Hihiri to bring this methodology into data discourse.

“Within the Māori world there are available methodologies and tools for analysing phenomena so that a better understanding can be gained and thus adding to the epistemology to expand the knowledge and boundaries of his world. *Hakapapa* is the tool that enabled the *Tohunga* to open the mind to explore and to critically analyse new phenomena” (Sadler, 2010, p. 35).

By incorporating whakapapa and a whānau-led approach, Te Tihi aim to improve data discourse to a strengths-based position where Māori can tell their story through data, highlighting the importance of utilising Māori methodologies and tools for creating culturally responsive measurement practices.

We thought this whakapapa which spoke of a journey of learning was a great representation of one's current and aspirational state of proficiency, furthering the learning and knowledge of kaimahi.

The section of whakapapa utilised consists of the following five states:

- *Nā te Hihiri ko te **Mahara***
- *Nā te Mahara ko te **Hinengaro***
- *Nā te Hinengaro ko te **Whakaaro***
- *Nā te Whakaaro ko te **Whē***
- *Nā te Whē ko te **Wānanga***

The concepts of wānanga and the pūrākau of Tane are also integrated into Nā Te Hihiri through TAWO 2.0, a web-based modular platform developed by Te Tihi. Pūrākau, although commonly refer to as Māori myths and legends, in the wider sense are a traditional form of Māori narrative which contains philosophical thought, epistemological constructs, cultural codes, and worldviews that are a foundation for Māori identity (Lee, 2009). As such, pūrākau as an oral traditional can be a tool for us to describe and make sense of our modern world, this may extend to the way Māori are able to interact and make sense of Māori data. This tools draws in pūrākau through its colour palette inspired by Tāne's separation of his parents, with green symbolising Papatūānuku, blue representing Ranginui, and the shades in between representing the efforts of Tāne Māhuta to bring light to te ao marama to furthering reinforcing a shift to strength-based discourse.

8. WHAKAPAPA

Line of sight is maintained and is essential in the development of our systems and processes and future decision making.

Determining the whakapapa of data is crucial to understanding its origin and potential utilisation in the future, as well as identifying who should have access to it. This process may vary depending on whether the data is personal, aggregated, or publicly available. At Te Tihi, we ensure that only reputable sources with appropriate permission are utilised, and all data sources are clearly defined.

“Within our data ecosystem the value of whakapapa is really important and the way that we use that is line of sight. Where did that data come from and therefore what can it be used for in the future. One thing with that is it's also within the Privacy Law, that the best source of data is the

data that comes straight from the person who it's about. That's the gold standard when it comes to data collection” – Informant 4.

As noted by Informant 4, Principle 2 of the Privacy Act emphasises that data should be collected directly from the individual it pertains to. This is because individuals are the best source of information about themselves, and it also ensures that they have some control over their data, which is related to Rangatiratanga. In cases where direct collection is not possible, individuals may authorise data collection on their behalf. Furthermore, when appropriate, Te Tihi strives to use publicly available data to inform their mahi to avoid overburdening whānau. As a result, data collection is defined at the outset of a project, ensuring that the intended application is clearly defined.

“... knowing where the data comes from ... knowing how it was collected and for the intention that it was collected for” – Informant 2.

Informant 2 points out the importance of knowing the source, collection method, and intended purpose of data, which aligns with Principle 1 of the Privacy Act. This is achieved at Te Tihi through clearly articulated program logic and a monitoring and evaluation framework with specified data sources and success indicators.

Te Tihi has been using the Navigator tool (Whānau Tahī), a customised Microsoft Dynamics system, since 2016 to record data related to whānau and their Te Ara Whānau Ora plan. This system is easily customisable by Te Tuahiwi, allowing us to provide support to Te Ohu Whakaaraara across the Alliance and configure additional health and social wellbeing contracts outside of Whānau Ora. This reduces the number of systems in use, improves data collection, and provides better access to data and insights. Additionally, this enables Te Tuahiwi to support the development of automated reporting as a back-office function.

Additional to the traditional mode of delivery of Te Ara Whānau Ora, there is also a self-directed journal, He Wakahuia Kaimanawa and more recently, a web-app is being developed, and is at beta testing stage. The web-app TAWO 2.0 is a modular tool of which multiple products will be further developed. Te Mauri Moemoeā (TMM) is a TAWO 2.0 product that utilises aspects of Te Ara Whānau Ora to encourage wellbeing through learning to dream, set goals and achieve them alongside the support of their hapori. TMM features both gamification (behaviour modification techniques) and games (interactive learning activities) as well as integrated mātauranga Māori through the use of pūrākau.

“When we're looking at tools like Te Mauri Moemoeā, whānau are able to put information straight into the web-based app in their own words in their own way tell their own story Kaiwhakaaraara usually are the ones who put the information into our Whānau Tahī system ... even though they do a really great job, there's some filtering that happens and the words are in the words of the Kaiwhakaaraara” – Informant 4.

As suggested by Informant 4, the best way to measure the success of a project or programme is to have whānau review their own progress against goals that they set themselves. This allows whānau to tell their own story, and this is important. Digital infrastructure, such as TMM, serves as a lever to enable data to be collected directly from whānau.

“The data that ... we are gathering now is coming from whānau and it's not about what's wrong with them, it's about where are they at, what are they doing, where do they want to go, and that's rich information that we don't get from other sources. It gives a positive way of building and not just going, well our people are so deficit, our people are so sick, our people are so everything negative. It's actually going well the potential of our whānau is pretty amazing because they can do these things and they've told us these things that's how we know” – Informant 2.

Whānau data recorded straight from themselves about their own aspirations is the best quality of data in terms of whakapapa. Whānau can express themselves freely without any input from kaimahi and provide their own measures of success, which aligns with the core tenants of Whānau Ora.

9. WAIRUATANGA

Active protection acknowledges and facilitates spaces of noa (open access), tapu (controlled), and / or rahui (restricted access).

Wairuatanga is enacted by ensuring that data use is tika (correct), and that data is accessed for the time that it is required, when the likely benefit is deemed greater than privacy and risk. This principle should not be interpreted as a reason to withhold data, but rather as a means of facilitating lawful and purposeful access to data, which supports informed decision-making, good program design, and effective delivery. The following example of the COVID-19 response illustrates both the national context and the struggle for data access, as well as the local MidCentral and Te Tihi COVID-19 response, to demonstrate the importance of this principle.

Āta Whakarongo, Āta Whakaarohia, Āta Whakamahia – Te Tihi COVID-19 Response

Globally New Zealand was praised for outstanding efforts in our pandemic response to COVID-19. However, the reality is that the inequitable vaccine rollout has exacerbated Māori health inequities. During the Delta outbreak in New Zealand from August to September 2021, Māori accounted for around 60% of all cases, 48% of all hospitalisations due to COVID-19, and 47% of all COVID-19 deaths in the country. Overall, since the pandemic began, Māori have made up approximately 41% of all COVID-19 cases in New Zealand (MOH, 2021). The COVID-19 response is the most recent example of how the Crown has not honoured their responsibilities under Te Tiriti o Waitangi to protect and partner with Māori, exposing us to significant and preventable risk.

The rollout of COVID-19 vaccinations in New Zealand was poorly designed, as it prioritised the 65 years + population, which consequently also prioritised the NZ European population. The Māori population, who have a median age of 28 compared to the non-Māori median age of 55, were not given equitable access due to an equality approach that assumes equal input results in equal outcomes. This approach failed to ensure fair access rates for Māori.

Additionally, as illustrated by the earlier example of increased health needs for Māori and the corresponding WAI 2575 claim, Māori were and continue to be at a disproportionate risk of all facets of COVID-19. Despite this information, the Crown disregarded expert advice to adjust the age targets for Māori to access vaccinations and failed to utilise the skills and connections of Māori to deliver health services to their people. As a result, access to government resources to effectively support Māori during the pandemic were delayed and at times denied.

“This became really obvious during COVID, when John Tamihere was asking for the data in regards to whānau that needed the support. If we don't have the information we can't target the resources to enable and strengthen whānau” – Informant 1.

As implied by Informant 1, a bid by the Whānau Ora Commissioning Agency (WOCA) was denied by the Ministry of Health to access relevant personal information relating to Māori who had not been vaccinated against COVID-19. After two consecutive High Court judicial review decisions in November and December 2021, the Director-General of Health back tracked his decision and released this data to WOCA with stringent conditions.

The Privacy Commissioner intervened in proceedings as an independent and made recommendations on the application of the Privacy Act 2020 in the context of COVID-19. The Courts found that the Ministry did not provide evidence showing that anonymised information was more effective than providing personal information. The Ministry failed to carry out an evidence-based assessment and instead focused on WOCA's COVID vaccinations successes without the data. The Privacy Commissioner submitted that decisions for disclosure in times of crisis need to be reasonable given the evidence of the risk at hand. The Ministry also made mistakes in applying the rule 11(2)(d) and did not fully address the right to the highest attainable standards of health. Access to data may have facilitated this. Additionally, the consultation process for iwi consent to disclosure was too detailed and lacked urgency, with an authorisation requirement added. The inclusion of WOCA could have expedited resolution.

Lady Tureiti Moxon, the CEO of Te Kōhāo Health, who provide Whānau Ora services in Hamilton made the below statement in an interview with Stuff, in September 2021. The interview discussed the release of Māori vaccination data, including the contact details of unvaccinated individuals, to Māori health providers to aid in vaccination efforts.

“There is taonga in life and health. If there is taonga in data, then that taonga must give way to life and health. Providing the contact details of unvaccinated Māori provides the best chance of respecting the taonga of their life and health” - Lady Tureiti Moxon (Stuff, 2021)

The court also agreed that the Ministry had committed to upholding Te Tiriti and its principles in the COVID-19 rollout, however modelling data at the time showed the impact for Māori to be more severe and the Government’s current vaccination programme had not achieved equitable outcomes for Māori. Under Te Tiriti principles, health and data are taonga and require active protection and partnership. The Ministry tried to argue to the Court that they had used their discretion to not disclose data to WOCA in lieu of more Te Tiriti-compliant alternatives.

The Privacy Commissioner argued that the Privacy Act serves the dual purpose of protecting and using data. He cited international privacy discussions regarding the pandemic, which emphasised that data protection should not hinder saving lives, and that the principles involved require a balance of interests. The Court found that the Ministry's actions did not align with the objectives and policies of the Privacy Act, and therefore granted WOCA access to Māori vaccination data.

Continual efforts to support our Māori communities during the Covid-19 period had seen Te Tihi secure a contract with the MidCentral DHB to develop reports with a specific te ao Māori lens and recommendations of where additional effort and resources could be most effective for iwi and Māori providers to operationalise support for Māori living in our rohe to access the Pfizer vaccine. Prior to this, Māori and iwi providers, as one would expect, had already begun to take responsibility for caring for our communities. This was done despite inadequate and delayed Government support, again showing disregard for Māori and another breach of the Treaty. It also demonstrated iwi/ Māori initiative and unwavering commitment to ensuring whānau, hapū, iwi, hapori had access to resources as highlighted by Informant 2.

“COVID is a great example of the mobilisation of our iwi Māori providers rapidly. so yeah I think it is about just acknowledging what resources and knowledge sits in those spaces” – Informant 2.

In response to data inequities and subsequent decision-making challenges, Te Tihi developed the *Āta Whakarongo, Āta Whakaarohia, Āta Whakamahia* framework. This framework applied whakaaro Māori to enable describing Māori experiences of the COVID-19 pandemic through data insights and social media, communicating with whānau in a way that was sensitive to the messages' impact. Āta guided not only behaviour during the pandemic but also the handling of data, as shown through the data access tikanga (Appendix F).

Although the rollout of Covid-19 vaccinations began in February 2021, this contract was not agreed on until October when Māori rates were visibly low. As of the 1st of September 20–29-year-olds become eligible, together with rangatahi, 12-29yrs. This meant up to 40% of the eligible Māori population for COVID-19

Vaccinations did not have access to these until eight months after the initial rollout had begun. The impact of Māori age structure and the vaccine rollout is further explained by Informant 4.

“Data is important because the government also utilises data to make decisions... Just in the MidCentral, we have about 31,000 Māori who are enrolled with a General Practice. That's the same number of non-Māori 65 plus. So, it wasn't really a capacity issue it was how they decided to use that” – Informant 4.

Publicly available data on low vaccination rates among Māori was shared on news and social media without proper context, contributing to racist backlash and blame. One example of this was an article published by The New Zealand Herald on May 25, 2021, which quoted Chris Hipkins, the then Minister for the COVID-19 response, as stating that Māori vaccine hesitancy is "damaging and dangerous" without providing context or acknowledging the systemic barriers that contribute to health inequities for Māori in New Zealand (Paton, 2021).

The largest age cohort of Māori were not eligible for vaccination as long as other groups due to the age-structured rollout, but this was not emphasised. Booking vaccination appointments online further exacerbates existing inequities, as many Māori lack access to technology and have limited work flexibility. A targeted, innovative approach is needed to encourage Māori to attend vaccination pop-ups. Data indicated an age skew across all ethnicities, but Māori and Pacific communities were particularly affected due to their population makeup. Pacific vaccination rates were higher than Māori, potentially due to the early church sub-cluster with Pacific individuals making up 63% of the Auckland cluster. The smaller number of Pacific individuals led to higher percentages being reported.

“During lockdown and the response to COVID in Aotearoa New Zealand, I think one of the things that we saw in action and that brought to light to the importance of data was when we saw iwi and Māori organisations mobilising and supplying whānau with services they needed. The kai and the means to sustain themselves during lockdown, but also the support and underpinning all of those responses at the community level was data. Government were providing data to Government agencies, but we saw a profound utilisation of data during that period at the community level. We know that our people have the ability to use data. We know that data helps to save lives and our people were using that data to do exactly that, to look after their whānau, their hapū and the iwi more broadly. We [StatsNZ] absolutely understand the need for communities to have that data at their fingertips for times like that and in the future even more so” – Informant 3.

As Informant 3 highlights, the COVID-19 response has led to iwi/Māori pushing back and gaining greater access to data, along with unwavering efforts to support whānau Māori through vaccinations and wider determinants of wellbeing. This has demonstrated Māori pūkenga and capabilities and shown that the

bureaucracy of government agencies and others can change for the better. There is now a greater expectation of them, even though it may be challenging to maintain this changed behaviour.

“These sorts of machinations are being given some credibility, through data that has been collected over generations and the definition of that data has been created without our participation. ... fundamentally successive Governments have managed to maintain some control, using data to define who we are as a people and how that then informs our own expectations and where we see ourselves over history and into the future” – Informant 7.

Informant 7's statement highlights how data collected without Māori participation has been used to maintain control and define Māori identity, perpetuating institutionalised racism (Came, Doole, McKenna & McCreanor, 2018). To sustain the gains achieved during the pandemic through collaboration and data access, a shift in power is required to create an environment that facilitates Māori-led solutions, including Māori data rights. Wairuatanga has guided Te Tihi to balance data access with privacy and risk, in line with Māori values, and prioritising benefits over potential harm. This approach has been evident in our successful COVID-19 response locally.

10. ŪKAIPOTANGA

Te Tihi will nourish, nurture, and maintain integrity through quality infrastructure that sustains and is sustainable.

Kāinga Whānau Ora (KWO) has been one of the greatest spaces of data learning and growth for Te Tihi. Due to the nature and extent of data sharing (and collection) with government partner agencies. It has created a space to practically implement many facets of Ngā Tikanga o te Mana Whakahaere Raraunga. This has included the development of quality infrastructure, both digital and process, such as a suite of robust documentation including: whānau consent developed with the support of the Office of the Privacy Commissioner (this has now extended from collection to sharing data back to whānau as a group); MOA (Memorandum of Agreement) and Dx (Data Exchange) sharing schedules; whānau data handouts; Information Sharing Protocols; consent restriction processes; and Request for Information process. These tangible tools, like the awa, which illustrates this component of the framework, are agile and have informed templates and resources for use in other projects and programmes within the organisation.

KWO is about addressing system barriers, not creating or utilising ‘clever tricks’ or ‘system work arounds’ that whānau or Kaiwhakaaraara may have had to resort to in the past. Because of this, Partner agencies have been more willing (through the use of data and design processes) to try alternative approaches to creating better whānau outcomes. Through the *Strategic Learning* Collective Impact condition, KWO partners have been able to align data indicators, share specific data points about individuals and utilise data to inform trials with tangible outcomes for whānau and look for ways to strategically scale these.

KWO has also been instrumental in the development of our current SQL database which we utilise across Te Tuahiwi mahi, it was initially built alongside the Social Wellbeing Agency (formally SIA). As our data requirements and aspirations increase there is a need to further develop this into a data warehouse so the structure is agile to our future mahi.

“The DX was created by number eight wire, a private software development group, who were invested with SIA, the Social Investment Agency. It allows encryption of data, so it's the safest form of transferring data between parties. Within Kāinga whānau Ora as partners, we were invited by SIA” – Informant 1.

Informant 1 highlights that the Dx, Te Tihi have so far invested six years into pursuing Data Exchanges with government agencies. However, only three of fifteen partners have joined. There is no set standard across Government and although this tool was endorsed for Government use with NGOs, we continue to be challenged by the lack of understanding of Whānau Ora (Whānau Ora Review, 2019), lack of engagement and little desire to prioritise this in their work programmes.

“a number of partners that have engaged with the DX and that data is working now, but there are other partners that, for multiple reasons, have not engaged with the DX and it's been really interesting as a part of the process having been in that kaupapa for a number of years now, the amount of protocols, policies, checks, security checks, privacy breaches, worst case scenario testing, that each of the agencies do. Why couldn't it be one for all?” – Informant 1.

Informant 1 shares some of our frustrations with the Dx. However, we have made some great strides forward with how we are able to collect and share data from partners and we remain focused on finding better opportunities to present data back to whānau to enable more informed decisions based on the data and information held about them by organisations.

“With the Data Exchange, we've worked with a couple of different Government agencies. it's changed hands a couple of times, also the main agency we were working with, has restructured a few times. There's a lot of roles and people in and out. It's really made it take a lot longer than it should have. What we would really like is for the Government to have one interface or one system or process for all of Government and non-government organisations to be able to interface with them. What is the standard that they're asking for? So, then we're able to meet that and get the Data Exchange up and running, it's been way too long” – Informant 4.

The interruptions as shared by Informant 4 with the Dx have caused further delay in getting data back to whānau. For example, in 2019, we developed (in conjunction with Synergia Ltd) online dashboards for whānau to have direct access to their data (previously discussed in Manaakitanga). However, although the platform looked and functioned great we had several challenges and delays with the flow of data from

government. To reduce costs, Microsoft PowerBi has been adopted as a way for whānau to access their information. Currently, this is only available alongside their Kaiwhakaaraara. Whilst this is great, it is not the ultimate goal of whānau accessing their information on their own time and terms.

“if the data exchange was working well in Kāinga Whānau Ora, it would have meant that our online dashboards for whānau would have had information in them and they would be able to access that information in the comfort of their own homes when they wanted to” – Informant 4.

Again, Informant 4 points out the significance of these continued delays for whānau; better aligned data may have also helped to ensure a more connected delivery of services to whānau who are engaged with multiple organisations (Cabaj, 2016).

“the DX is a really exciting Innovation for Māori data sharing and Māori data sovereignty because it allows for a data sharing protocol encryption end-to-end, which addresses a lot of the privacy concerns and limitations that agencies have put on sharing data. What the DX allows us to do is understand our whānau rich data picture, which means we can focus our energies and our resources to support whānau wherever you know it is that they need it” – Informant 1.

At times this has been a frustrating process as pointed out by Informant 1, with two steps forward and one back, taking a toll on our resources. On average, once an agency has given approval to utilise the Data Exchange it will take approximately two years before data is flowing regularly.

“we're currently relying on our kaimahi and those partner organisations to do that manually and that just opens opportunities for errors and for it to not be correct and so the Data Exchange is a way of opening those avenues really and allowing the flow of data” – Informant 2.

Despite frontline kaimahi from their organisation providing the same data through a time-consuming manual upload process, the organisation seems to lack interest in improving the process, as described by Informant 2. This disinterest is a waste of their own resources and results in poor quality and delayed data, which becomes less useful for whānau and the program to utilise.

“It's safe, secure, and approved by the government. However, it's not a hard line that they must use it, so therefore a lot of them try to push back they say oh, but we don't know, we need to do our testing, you know we haven't really looked into it yet” – Informant 4.

Although there is still hesitancy as described by Informant 4 and challenges in needing to engage on a case-by-case basis with agencies, Te Tihi is tenacious and continues to push through in this space with the belief that success in developing processes in Kāinga Whānau Ora will also progress our wider vision of Data Sovereignty for our region.

“the Data Exchange is a tool that the government back, and they need to be using it and we've had a lot of problems onboarding Government Agencies to the Data Exchange and even when I say onboarding them, why are they not onboarding us? Why are we the ones who are writing all the data sharing protocols? why are we the ones chasing them” – Informant 4.

We have leveraged the infrastructure we have created in this space, including the data sharing agreements mentioned by Informant 4. Kāinga Whānau Ora has been scaled, as a Collective Impact notion, to another Whānau Ora provider in another rohe but continuing to utilise the Te Tihi data infrastructure. Examples of this is our MOA and Dx schedules are able to cover both sites of the programme. Scaling in this way reduces the resources required in the perpetual pursuit of government data and the strain that effort creates on small organisations. This continues to be an area which is difficult to navigate with government and the additional scrutiny of our capability and infrastructure (Cram, 2014).

SUMMARY

The common experience of Māori of the use of our information has been to our detriment; not only in curating deficit-based narratives from information but utilising discourses within data ethics that are directly in contest to Māori understandings of our world, priorities, and interests. It is also common to see Māori frameworks utilise a Māori paradigm, then implement prescriptive service indicators that do not reflect the aspirations and needs of whānau. It is the continuation of standardisation across populations that falsely advocate an equity approach but, are promulgators of equality. Māori can unintentionally perpetuate the same systems and experiences forced on us by non-Māori but utilise our own tikanga and kawa to disguise the continuation of an assimilatory culture. This is often when aligning to service contract reporting indicators and requirements. Māori data sovereignty is an avenue to re-design traditional attempts to measure whānau wellbeing by determining what data is important to whānau Māori, hāpori and ngāi Māori and ensuring mandate of use and decision making about our own data.

Although Te Tihi see Māori data sovereignty grounded in Tino Rangatiratanga, it is activated through all ten uara o Te Tihi as an integral driver towards Māori aspirations and wellbeing. The examples aligned to the uara are utilised to tie the key ideas from both the interview quotes and the existing literature together to show the breadth of impact that data has within New Zealand and specifically for Māori. The examples demonstrate the real-life experiences of the informants within genuine projects and programmes of Te Tihi shedding light on the realities of our journey in pursuing Māori data sovereignty.

KUA TAKOTO TE MANUKA

These recommendations are aligned to the whakataukī that frame the Te Tihi o Ruahine Whānau Ora model of engagement, Te Ara Whānau Ora, which guides whānau in their pursuit of their own moemoeā. It is hoped that they are useful to Māori and iwi organisations who also have aspirations to pursue Māori data sovereignty.

Tuia te here tangata, ka rongo te pō, ka rongo te ao

Binding the ties of people in my world so they are sensed by night and day!

In other words, when people come together and work towards a common goal, their voices will be heard, and their aspirations will be realised.

Value partnerships, pursue opportunities to work collectively, in the pursuit of Māori data sovereignty. Collaborate with other Māori and iwi, include Crown and tauwi where there are skill shortages but ensure that learning is utilised for Māori workforce advancement.

Ahakoā he iti, he pounamu

Although small, it is still a treasure.

Despite Māori and iwi not having sufficient funding and resources for data management, it is crucial to acknowledge that even small amounts of data hold value and should be treated with respect.

Utilise open-source tools and platforms that are freely available and develop local capacity and skills to explore better outcomes for whānau now, don't wait for permission.

E hoki ki ō maunga, kia purea ai koe e ngā hauora o Tāwhirimātea

Return to your mountain and be cleansed by the life-giving winds of Tāwhirimātea.

This whakataukī calls us to maintain our unique ways as Māori. By doing so, we can ensure that Māori data is collected, possessed, and used in ways that are consistent with Māori values, principles, and aspirations.

Utilise tikanga and mātauranga Māori to understand data aspirations and exercise our inherent right as Māori to exert Māori data sovereignty.

WHAKAKAPINGA

Te Tihi o Ruahine advocates for realising Māori rights and interests in data and promoting ethical use of data to enhance our people's wellbeing, language, and culture. Thus, our data ecosystem promotes a holistic perspective for ethical and mātauranga Māori data governance and management, guiding our internal standards and guidelines for data creation, collection, analysis, access, security, and dissemination in line with our overarching principles.

Te Mana Whakahaere through *Ngā Kawa* helps to shape our long-term aspirations through an ever-evolving landscape and through *Ngā Tikanga* to adopt and create agile practices to ensure Māori data is utilised to its full potential. Currently, Te Tihi has limited access to data, funding, and resources to build our data infrastructure. Nevertheless, we have demonstrated a unique and valuable perspective on data collection, analysis, and utilisation, which aligns with our hapori priorities.

The key informant interviews revealed that pursuing Māori data sovereignty is a long and challenging journey, as demonstrated through the examples discussed. While these examples were not exhaustive, they provided valuable insights into the lessons learned thus far.

Tangata Tiriti have a responsibility, bound by Te Tiriti o Waitangi, to rectify the power imbalance in decision making and uphold Māori rights to data sovereignty. The Government is only now considering the meaning of partnership in this space and its role as a good Te Tiriti partner to ensure ample access to Māori data for advancing self-determination.

Te Tihi continually seek to improve our current and future environments. Our future vision for Māori data sovereignty, is for whānau, those the data is about, to access meaningful information directly and without intermediaries, so that they are able to lead in their own right and make informed decisions towards their own moemoeā. Our moemoeā for our data and digital ecosystem is that it continues to be a lever for us to exercise Māori data sovereignty; an enabler for us to provide kaupapa that meets the needs and aspirations of our hapori, and for whānau to effectively manage their own pathways for oranga.

TINO RANGATIRATANGA

Māori Sovereignty recognises that Māori information should be subject to Māori governance and supports tribal sovereignty and the realisation of Māori and Iwi aspirations.

NGĀ KAWA

Policy

Māori have an inherent right to exercise control over Māori data and Māori data ecosystems. This includes but is not limited to data creation, development, stewardship, analysis, dissemination and infrastructure.

Te Tihi have mandate to make legal decisions and judgements over data we hold on behalf of the whānau we work with.

Decisions about the physical and virtual storage of data will enhance control for current and future generations.

Through the Treaty of Waitangi, the Crown has a responsibility to devolve authority for Māori data stewardship to Māori and Iwi.

Te Tihi recognise ourselves in a role of stewardship of whānau information and not of ownership.

RANGATIRATANGA

Te Tihi will cultivate leadership through opportunities of choice and self-determination grounded in our traditional wisdom as Māori

NGĀ TIKANGA

Practices and Protocols



Whānau have the right to request the cease of collection of their data and the organisation must action promptly.



Whānau have the right to request access to their data and information and the organisation must action promptly.



Whānau time is valued therefore surveys will only seek to learn information unavailable elsewhere.



Data can be released to whānau as a group where collective consent is given.



Whānau collective consent will be collected where there is shared agreement, benefit, and outcomes.



Co-design will ensure whānau have the opportunity to validate the direction of projects, and the collection and use of whānau data across the data ecosystem.



Meaningful whānau engagement will ensure whānau survey and workshop data and information is available to whānau in a timely manner.



Free, prior and informed consent will underpin the collection and use of all data or about whānau we engage with. Data must be obtained from individuals 16 years of age and over.



Alternative opportunities to participate in Te Tihi lead programmes will be developed where whānau do not wish for their data to be collected.

TE MANU AUTE

Kua āhua heke te kite i te Manu Aute (Māori nei) i ēnei rangi, kua kore e kaha kitea. Aua atu! Hei whakarewa anō i a ia, ka whakareretia anō mā te angaanga Manu Aute nei mō te mahi raraunga te kaupapa.

Pērā ki te Manu Aute ka rere ki te rangi, me whakarākei ki ngā mea e tika ana hei whakapiki, hei whakahaumarū anō i ngā kōrero a ō tātou whānau tae atu ana ki te tikanga matatika. Koinei hoki te moemoeā o te angaanga nei.

I ngā rā neherā, ka noho ngātahi te tangata, ka mahi ngātahi, hei ranga, hei hanga i te Manu Aute – mā te whakaū o te whānau ki ngā tikanga whakahaere, arā, tōna pūnaha me ōna tukanga, e tutuki pai ai te whakaotinga atu.

Ko tētahi tikanga o te Manu Aute, hei tohu, hei whakaatu i tētahi take, tētahi kaupapa rānei ki te hapū. Ko tētahi mahi āna, he whakaara i te tangata hei whakamōhio atu he karere, he pārongo, he kōrero hoki kei te haere. Inā kite atu te tangata i te Manu Aute, he whakahoki ka puta ake, he mahi hei mahi, he whakautu ka whai atu. He pēnei anō te raraunga, he whakawhitiwhiti te mahi hei whakawhanake, hei whakapai ake rānei i tōna kaupapa..



Where once they scattered the skys, the Manu Aute and their stories are being lost to time. Inspired by their flight and function, Te Tihi have chosen the Manu Aute as framework from which to elevate the stories of our people. Breathing life back into our Manu Aute and lifting Māori information beyond a physical transaction of capture and analysis to understanding the Kawa and Tikanga that not only safeguard and protect the stories of our people but lift their stories to propel Ngai Māori to new heights.

"Kotahi te kakaho ka whati, Ko te kapuia e kore ai e whati"

Manu Aute could span 10 feet tall, hence their construction was completed by the hands of many. Like the creation of our Manu Aute, the guardianship for Māori stories lays within the hands of many. This is facilitated through a clear and shared understanding of what we are creating and why. Kawa and Tikanga can only be enabled through the collective, systems, tools, processes of people.

"Kia Hiwara, Kia Hiwara!"

Manu Aute were used as signals, a traditional communication system that alerted whānau hapu and iwi of kaupapa that were eminent. Hence once this alert was received whānau hapu and iwi commenced acts of reciprocity. Te Tihi o Ruahine believe guardianship of data moves beyond privacy and protection to the mobilisation and return of whānau data for whānau to make informed decisions.

Appendix D: Pikorua Cycles

Within each Phase the project team completes as many cycles as possible of the Pikorua required to fulfil the Phase objective. Every major milestone will have a corresponding output and will require one cycle of the Pikorua. A cycle includes:

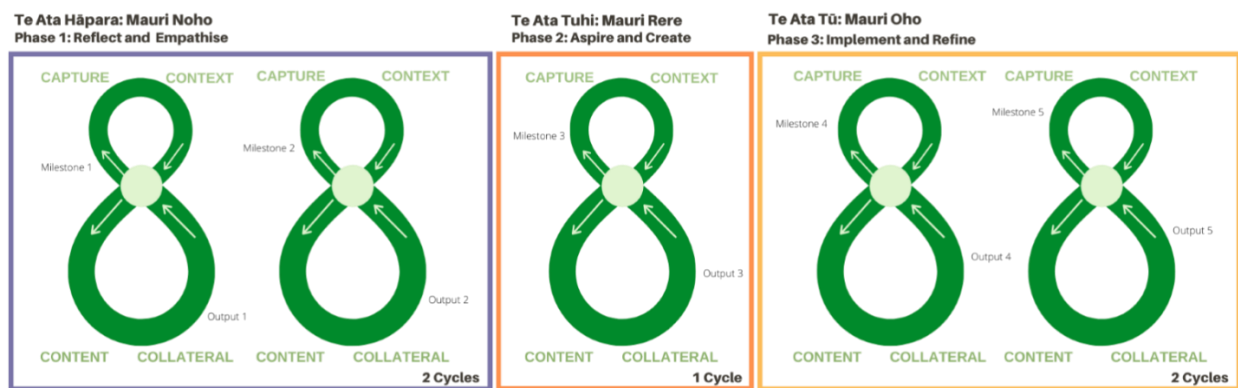
Capture - Discovering information about and from whānau and organisations utilising both quantitative and qualitative information.

Contextualise – Making sense of the information captured within the context of the project vision.

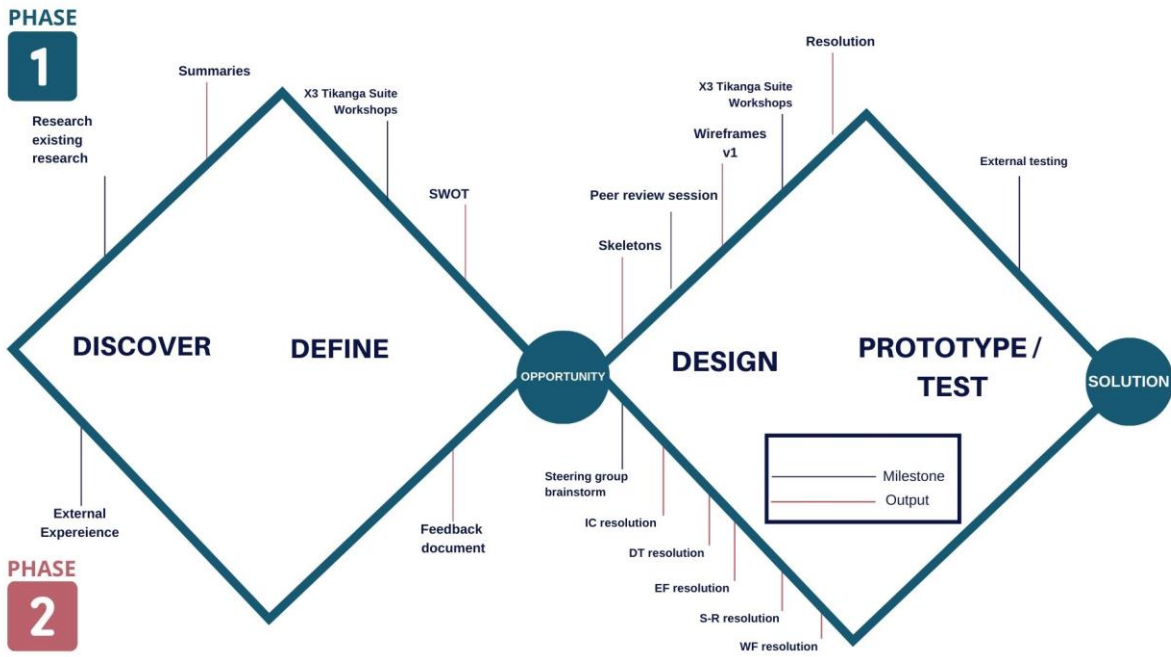
Content Development - The act of creating content based on the information that you have contextualised.

Collateral - The finalisation of an Output.

Figure 2 Example of the Pikorua process



Appendix E: Te Mana Whakahaere Raraunga – Double Diamond project approach



Ko te rau otaota o Maru he whakamarumarū - A protective layer of Tikanga

Access to reports developed by Te Tihi o Ruahine Whānau Ora Alliance is intended to support the governance, planning and design and delivery of services which improve and maintain the health and wellbeing of Māori who reside in the Manawhenua Hauora, MidCentral district.

Ka Ako

- Te Tihi will provide training to kaimahi around using the reports we publish.
- Kaimahi are responsible to understand the whānau context to the data and reports.
- Reports will enhance kaimahi understanding of ethnic disparity and how this relates to an equitable redistribution and allocation resource.
- Kaimahi are encouraged to provide feedback and input in the development of reports and insights.

Ka Tau

- Direct access to Te Tihi reports is for named users only.
- 2FA (two factor authentication) is required & Te Tihi can assist with setup.
- Kaimahi are responsible for setting rigorous passwords, utilising lock screens.
- Ensuring safe internal transfer methods are utilised (e.g., limiting unencrypted methods such as email).
- Kaimahi must proactively update Te Tihi if their role or position changes.

Ka Ora

- Te Tihi will support kaimahi to interpret the data to ensure that insights are accurate, complete, and up to date.
- Kaimahi must accurately present the data that they have access to, and appropriately acknowledge the origin of data in all authorised reports.
- Any caveats around data quality must be noted when providing information.

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