Culture and Climate Change adaptation

A study of future-proofing Māori tourism businesses

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Abstract

This thesis explores how prepared Māori tourism businesses are to adapt to climate change and how Māori values may influence the business's perception of responses to climate change. As climate impacts are growing in New Zealand, as a result of increasing extreme weather events, how can Māori tourism businesses protect their taonga (resources)? Taonga in the context of this study includes Māori values, lands, seas and their businesses. Furthermore, the literature indicates that Māori tourism significantly contributes to the economic, social and cultural wellbeing for Māori and wider New Zealand (NZ Māori Tourism, 2018).

At a specific level, the study focuses on three Māori tourism businesses. Two of the businesses are North Island-based whānau-owned enterprises, one on Kāpiti Island and the other in Napier. The third is a hapū-owned business located in Kaikoura in the South Island. Drawing on kaupapa Māori frameworks built on Māori struggles for tino rangatiratanga and mana motuhake (self-determination), the study adheres to kaupapa Māori principles of carrying out research by Māori to benefit Māori. The primary data for the study was collected through semi-structured interviews with each of the businesses, taking care to ensure the cultural safety of the participants and using appropriate tikanga (protocol) in each interview.

The findings of the study show that Māori tourism businesses are adapting to environmental changes but are unsure about the pace of climate change. The uncertainties are due to a lack of access to information and competing priorities within their businesses. The research also shows how decisions made by local government as well as business perceptions of local and central government institutions negatively impacts on the ability of businesses to adapt to climate change. While there were differences in the businesses' treatment of science and scientific information, all of them prioritised Māori cultural values. Significantly, these values underpin all the activities of the businesses, including, environmental enhancement and

protection. An emphasis on Māori values in facilitated partnerships between tourism businesses, government bodies, and other community stakeholders on co-designing climate change adaptation strategies can help the tourism sector to prepare for a changing climate.

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"Ehara taku toa I te toa takitahi, engari he toa takitini" My strength is not that of an individual, but that of a collective.

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Glossary

Awa: Lake

Hāngi: Earth oven to cook food with steam and heat from heated stones.

Iwi: tribe

Kaipakihi: Business

Kaupapa: Topic or Purpose

Kaitiakitanga: Guardianship

Kawa: Protocols

Kohanga Reo: Full – immersion Early Childhood Education

Kotahitanga: Unity

Kura Kaupapa: Full-immersion Secondary School

Mahinga Kai: Food-gathering Place

Mana motuhake: Separate identity, autonomy, self-government, self-determination, independence

Manaakitanga: Hospitality

Matauranga: Māori knowledge systems

Marae: Tribal meeting house

Mātauraka : Ngai/Kai Tahu dialect of Mātauranga Māori)

Mauri: Lifeforce

Moana: Ocean

Ngahere: Forest

Ngai Tahu: Tribal group of the South Island of New Zealand

Pā: Fortified Village

Papakāinga: Original home, home base, village, communal Māori land

Papatūānuku: Earth mother, wife of Ranginui. In the Maori worldview, all living things originate from them.

Ranginui: Skyfather, In Te ao Māori Ranginui is the husband of

Roto: Inside of a space

Papatūānuku: From which union originate all living things.

Tākata (Ngai Tahu dialect): People of the land

Takoto: To lie down

Tāne Mahuta: God of the forests

Tangata Whenua: People of the Land

Tangaroa: God of the sea and fish

Taiao: Environment

Taonga: Treasure

Taonga tuku iho: Cultural property or heritage

Te Ao Māori: The Māori worldview

Tapu: Sacred

Tātou: We, us, you (two or more) and I

Te Tiriti o Waitangi: The Māori interpretation of New Zealand's founding document and agreement – The Treaty of Waitangi of 1840, signed by representatives of the British Crown and by some Māori rangatira (chiefs).

Te Reo Māori: Language of the Indigenous people of New Zealand

Tiaki: Care

Tikanga: Custom

Tino Rangatiratanga: Self-determination

Tīpuna: Ancestors

Ukaipotanga: Source of sustenance

Uta: to load or put on

Wairuatanga: Spirituality

Whakaiti: Humilty

Whanaungatanga: relationship, kinship

Whānau : family

Whakapapa: Genealogy, lineage,descent

Whenua: Land

Chapter 1

Research Overview

Introduction

Māori have engaged in tourism since the early 19th century, where they first welcomed overseas visitors to the hot springs in Rotorua, Māori tourism enterprises continue to express their culture in places of significance to the Māori people (Zeppel, 1997). Today, there are many Māori tourism businesses across New Zealand, from the Far North to Stewart Island, with a variety of offerings for visitors to experience the Māori world. Some of those offerings include;

> land and water based guided tours, hangi and marae visits, arts and crafts, retail outlets, transportation providers, accommodation and concerts (NZ Māori Tourism, 2018, para 2.)

Māori tourism businesses range in size, mainly small-medium sized enterprises, and they are a platform for Māori to share and preserve their culture, share their connection with the natural world and to create a prosperous future for their local communities (NZ Māori Tourism, 2018).

As a sector of business that is reliant on the environment, the sights and sounds of nature, tourism is increasingly facing the risks of climatic changes such as extreme weather events, higher temperatures, and difference in seasonal patterns (Becken & Clapcott, 2011; Kaján & Saarinen, 2013).The impacts of climate change are even greater for Māori tourism businesses because they also pose a threat to Māori ways of life ,culture, and places of spiritual significance to Māori communities (NIWA, 2016). Climate change impacts will create further challenges and opportunities for iwi/hapū/whānau and Māori enterprises in the years to come. It will require Māori communities to adapt to climate change by developing new strategies to ensure long-term sustainability of communities and activities (NIWA, 2016). But how prepared are Maori tourism enterprises in adapting to climate change, future-proofing their businesses, and safeguarding their cultural values? Māori businesses are

guided by Māori values, including, kaitiakitanga – a sustainable journey with a clear view of guardianship, manaakitanga, whanaungatanga and whakaiti (Haar, Roche, & Brougham, 2018). How can they draw on their deep cultural insights to meet the challenges of a rapidly changing climate? This research addresses both these questions by centering culture to explore how cultural values and complexities affect the readiness of Māori tourism businesses for climate change adaptation.

Māori society and climate change

Statistics New Zealand (2016) *Māori groupings* literature review, discusses the diversity of Māori Society which impacts different groupings connection with place. Understanding of Māori society is crucial in providing context for Māori tourism businesses, how, where and for whom they operate, and how prepared Māori tourism businesses are to adapt to climate change. The literature on Māori groupings had identified two perspectives on identity for Māori-tribal identity versus pan-Māori identity. Tribal identity refers to one's identity being strongly affiliated with the history of their iwi (tribe). Pan-identities are where several ethnic minority groups unite to form a collective identity, which is based on shared experiences, such as, oppression. Generally, the groups live in a society which has a larger dominant identity, which may not entirely resonate with all ethnic groups (O'Regan, 2001).

Pool, (1991) states that the urban migration had a significant impact on the Māori culture and way of life, as Māori moved away from their tribal ancestral lands to urban communities. The study also highlights the following statistics & impacts of urbanisation, in the 1930s, 80 percent of the Māori population, lived in rural areas and tribal homelands but by the 1970s, a large percentage of Māori were urban dwellers. Urbanisation had a significant influence on the structure of Māori groupings and Māori identities (Pool, 1991). According to Rarere (2012) & Durie (2005) there are several reasons for Māori moving to urban centres, including a decline in the rural economy, overpopulation versus available land resources and the appeal of urban life. In addition, the study highlights the consequences of this migration was that Māori could no longer participate in traditional

tribal life, which led to a weakened iwi identity. Many Māori who live in urban areas in the post-colonial contexts can struggle with reconnecting with their Iwi and hapū. The complex nature of Māori groups suggests that the impacts of climate change are felt and responded to in different ways by different groups (King, Penny, Serverne, 2010).

In order to understand Māori tourism businesses' capacity to adapt to climate change, it is important to briefly trace the history of Māori tourism development, opportunities for Māori and involvement of Māori in the sector (McIntosh, Zygadlo & Matunga, 2004). Māori tourism experiences started in 1838 in Rotorua, in the form of guided tours in thermal areas (Zeppel, 1997). *The Māori tourism conference "Te Putanga Mai*," was held in 1997, the Māori queen Dame Te Atairangikaahu opened the conference. Her speech recognised that Māori were in "less well-paid tourism jobs, left out of tourism management but Māori were welcoming in visitors" (Zeppel, 1997, p.78). She also mentioned the Aotearoa Māori tourism Federation would be formed, to give Māori opportunity to develop Māori tourism and "reclaim their share of New Zealand tourism (Zeppel, 1997, p.78)." Other challenges Māori have faced, include, having control over their own cultural expression. Māori were marginalised in the wider tourism sector, through cultural expression of for example, kapa haka, they were represented as attractions, rather than managers of their cultural expressions (Amoamo & Thompson, 2010). However, since treaty settlements began in the 1980s, there has been an increase in Māori management, development and promotion of tourism experiences (Carr, Ruhanen & Whitford, 2016), with more than 350 Indigenous themed or Māori-Owned and managed operations across the country and 13 Māori Regional tourism operators (Carr, Ruhanen & Whitford, 2016).

> Furthermore, Māori tourism is seeing growth each year, with 1,065, 791 visitors. The visitors have engaged in and visited a site of significance to Māori, ate Māori cuisine or engaged in an activity which included Māori culture. The Māori tourism sector is one of the key contributing sectors to the Māori economic asset base (NZ Māori tourism, 2018, para.2).

Culture is at the heart of Māori tourism. Defined by Adger, Barnett, Brown, Marshall, & O'Brien (2012) culture encompasses "the symbols that express meaning, including, beliefs, rituals, art and stories that create collective outlooks and behaviours, and from which strategies to respond to problems are devised and implemented" (p.1). Adger, et al., (2012) go on to state that culture is often tied to "places (physical spaces which are given meaning by people)" p1. And that climate change impacts in places may lead to significant loss due to changes in culture and communities.

Mātauranga Māori is a knowledge system, developed over many years, through transmission of knowledge through generations. Mātauranga Māori includes all aspects of knowledge, including, "values, beliefs, methods, technology and practices" (Barlow 1993; Durie 1998; Harmsworth 1998; Harmsworth et al. 2002; Mead 2003; Waitangi Tribunal 2011) as cited in Harmsworth & Awatere (2013, p. 275). Overtime, Mātauranga Māori has further expanded to include more knowledge forms, including, local and indigenous knowledge.

Indigenous knowledge is people and place specific, accumulated over generations and sets the direction for Indigenous societies in their interaction with their environments (Nakashima, Krupnik & Rubis, 2018) in the context of global climate change, there is a significant interest in the perspectives and knowledge of Indigenous peoples, however, there is more work which needs to be done to understand and meet the concerns of Indigenous peoples (Nakashima, Krupnik & Rubis, 2018). In addition to mātauranga Māori, other Indigenous peoples have their own ways of knowing and being, Whyte (2017) talks about his peoples worldview -the Anishnaabe, look at the world as interconnected, similar to Mātauranga Māori, there is no separation between the environment and people. Their knowledge system also sets out responsibilities for their clans and families to protect their environment. Mitchell, 2013 & Gross, 2012 refer to these interconnections as cited in Whyte (2017, p.2) in a saying in Anishnaabek which is "Bimaadizi – to live in a good and respectful way."

Specific to Māori and climate change adaptation is what is called Māori Ecological Knowledge. According to Carter (2019), Māori Ecological Knowledge (MEK) is defined as "Iwi -Specific knowledge for managing relationships" p. 26. Through MEK Iwi share traditional stories with each generation about their ancestors' teachings and actions. MEK also outlines the significance of place, reaffirms one's identity attached to place and kaitiakitanga responsibilities are an important component of MEK (Carter, 2019).

In relation to Māori tourism business, Māori values underpin Māori-centred tourism with Māori tourism businesses aiming to protect and develop their Māori tourism products on their own terms (McIntosh, Zygadlo & Matunga, 2004).

Gaps, purpose, and rationale

Given the inextricable links between land and identity and the strong association between nature and culture among Māori. Businesses run by Māori communities are particularly susceptible to the impacts and implications of climate change. Yet, there have been very few studies on Māori and climate change adaptation even though Māori stakeholders wish to learn more about the links between "climate adaptation, natural hazards and sustainable development" (NIWA, 2016, para. 1). Furthermore, there have been a limited amount of studies on how climate change may impact the individual communities that make up Māori society.

More importantly, there has been very little work on the Māori Tourism Sector and its capacity and preparedness to adapt to climate change adaptation. As defined by the Intergovernmental Panel for Climate Change (IPCC, 2018), Climate change adaptation is an "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects." P.6. It is important to mention that adaptation varies in respect to climatic, and non-climatic conditions," (IPCC, 2018). As Adaptations are not isolated from other decisions, it can, therefore, be difficult to separate climate change actions and decisions from actions initiated from other social or economic events.

This study aims to contribute to the literature on culture, tourism, and climate change adaptation by focusing on how Māori tourism enterprises may protect their taonga from a rapidly changing climate. It seeks to better understand Māori tourism enterprises' positions on climate change adaptation and looks at how Māori tourism enterprises make decisions based on varying cultural values and how this may help them create and, implement effective climate change adaptation strategies.

Outline of thesis structure

The thesis comprises five chapters. Chapter 1 introduces the topic of culture, climate change, and tourism in the specific context of climate change adaptation by Māori tourism businesses. Chapter 2 reviews the literature on Māori values and knowledge systems and climate change adaptation with reference to the tourism sector. It will cover the interplay of Māori ecological knowledge and scientific knowledge of climate change adaptation, Māori tourism cultural representation, and Māori tourism business and sustainability. Chapter 3 discusses the research design, conceptual underpinnings, and the methodologies and methods for the research, including the rationale for applying Kaupapa Māori theory and methodology to this study. Chapter 4 outlines the findings of the research while Chapter 5 analyses and discusses the findings. Chapter 6 ends with conclusions reached by the study, outlines its limitations, and provides a set of recommendations for Māori tourism operators as well as policy makers.

Chapter 2

Literature Review

Introduction

Ko Ranginui e tu iho nei: Ranginui is our Skyfather

Ko Tāne Mahuta nana te ngahere: Tāne Mahuta is our forest

Ko Papatūānuku e takoto nei: Papatūānuku is our earth mother

Ko Tangaroa nana te moana, i uta, ko ngā awa me ngā roto: Tangaroa is our ocean, our rives and our lakes.

Ko Aotearoa to tātou ūkaipō: New Zealand is our home (Tiaki New Zealand, 2019).

The passage above is used in the Tiaki promise, which encourages visitors to take care of the environment when visiting New Zealand. It introduces the guardians/gods of the environment in Te Ao Māori (The Māori world). Whilst I found it a challenge at first to get my bearings around my quest to explore climate change adaptation in the Māori tourism sector, the passage above helped me navigate to the heart of my research. It helped me understand that the impacts of climate change cannot be addressed and responded to without considering people and their cultural values.

Consequently, I decided to begin my research by trying to find out what is out there already on the specific impacts of climate change on Māori communities, their values, and their business initiatives, especially in the tourism sector. Given the breadth of the topic, this literature review comprises three discrete, yet connected sections. The first section reviews the literature on culture and climate change looking especially at Māori values and climate change. This section provides a context for Māori societys' current practices in adapting to climate change, what tools are missing and how important Māori values are in understanding the Māori world. In addition, this section outlines how Māori understand climate change and its impacts. The second section examines the literature on Māori ecological knowledge and climate change adaptation as well as the

communication of scientific knowledge and climate change adaptation. This section explores what Māori Ecological Knowledge is and what its connection is to climate change adaptation. It also looks at how scientific knowledge has been communicated to Māori and Indigenous communities. The final section reviews the literature on tourism and climate change, with a focus on the Māori tourism sector, and looks at the importance of representation, values, identity and sustainability for Māori tourism businesses. This section highlights the differences in approach to sustainability between the mainstream tourism sector and the Māori tourism sector.

Māori Society and Climate change

Social, economic, cultural systems of Māori society have strong links to the natural environment. However, the impacts of climate change on these systems vary across the many groups in Māori society (King, Dalton, Bind, Srinivasan, Hicks, Skipper, Home & Ashford-Hosking, 2013)."Māori society, constituting 15% of the New Zealand population, is diverse with 80% of Māori living in urban areas and the other 20% in rural environments" (King, Penny & Serverne, 2010, p.102). The study by King, Penny & Severne (2010) also discusses the complexities around Iwi affiliations and varying worldviews across Māori society. "There are high levels of economic, social and cultural deprivation and inequity amongst Māori, historically linked to loss of land and resources." P.102. This is a significant factor in understanding the capacity for Māori to adapt to climate change. In addition, different economic social, environmental & cultural factors have an impact on different groups' resilience to adapt to climate change, at the Iwi, hapū, government and business levels. There are also differences in the vulnerability and resilience of Māori depending on where they live or operate their businesses, i.e., rural areas versus urban centers. Other factors include the wider business context, environmental impacts, such as those caused by natural disasters and the resources available for each group. Few studies have been carried out on how Māori society is likely to be affected by climate change, and even these studies have mostly focused on certain sectors (King, Penny & Serverne, 2013).

Māori values and Climate Change

In 2007, the Ministry for the Environment consulted 13 iwi to discuss their concerns for climate change in their specific regions. The consultation report emphasized the need for the inclusion of Māori values, such as Kaitiakitanga, or the responsibilities to care for Papātūānuku (earth mother), in policies and business practices for positive environmental outcomes (Ministry for the Environment, 2007). This Hui also raised issues around iwi facing challenges which impacts their ability to practice their responsibilities of being kaitiaki of their whenua. These issues include policies being created which do not adequately meet the needs of urban and rural Māori. In addition, there was the concern that the needs had not been specifically identified (Ministry for the Environment, 2007). Furthermore, Māori values and climate change resilience were highlighted in a study carried out by King, Dalton, Home, Duncan, Srinivasan, Bind, Zammit, McKerchar, Ashford-Hosking & Skipper (2012), which explored the vulnerability, resilience and adaptation to climate variability and change in the Ngāti Huirapa community from Arowhenua pā. The study also highlighted that the Iwi's adaptive capacity and challenges the community face, including that whakapapa connections had an impact on the Iwi's collective decision-making, mutual support and collective action in response to climate change impacts. Māori values such as whakapapa, kaitiakitanga(guardianship), manaakitanga (hospitality) and whanaungatanga(relationships) guide the community's ability to respond and understand climate change (King, et al., 2007). Their ability to adapt was underpinned by tikanga (customs) and kawa (protocols) and then action through the above Māori values and principles. The research also found that considerations of "community vulnerability and change are inseparable from issues linked to sustainable development and natural hazards management "(King, et al., 2007, p.9). Furthermore, the study concluded that tangata whenua at Arowhenua pā were affected by the socio-economic and political processes that influence their capacity to cope in the short-term and adapt in the long-term (King, et al., 2007).

In the international context, Adger, Barnett, Brown, Marshall, & O'Brien (2012) focus on the relationship between a person's cultural identity and

the groups to which they belong and climate change adaptation. This includes an analysis of place identity and suggestions for fair climate justice in policy decision-making (Adger, et al., 2012). They offer examples from different parts of the world to show how a person's identity is largely made up of their attachment to places. For example, they refer to the increase in sea-level rise in Pacific Island nations, which may lead to involuntary migration of local communities, resulting in permanent and negative loss of culture and identity to ancestral lands (Adger, et al., 2012). In addition, O'Brien & Wolf (2010) argue that climate change adaptation strategies often focus on assessment of economic cost-benefit analysis and that this assessment alone is not enough to respond to climate change. They argue that a values-based approach is required in order to implement "equitable, legitimate and culturally sensitive adaptation practices" (O'Brien & Wolf, 2010, p. 233), and to understand irreversible non-material losses for communities.

A study carried out by Neff, Benge, Boruff, Pauli, Weber & Varea (2018) explored how adaptation strategies used by Indigenous Fijian communities are influenced by socio-cultural values. They found that by considering culture and values, we can understand how these factors influence adaptation choices (Neef, et al., 2018). The study also called for diverse adaptation strategies, depending on the community and their socioeconomic needs.

> For example, the Etatoko community was relocated as a result of severe erosion of the riverbank in the village of Wavuwavu, "destroying 17 homes in the 2012 floods" (Neff, et al., 2018, p.130). People in the village did not move too far from their home, but still felt the physical and cultural loss of this move (Neff, et al., 2018).

The community is safer in the new location, but the community finds it difficult to grow crops and it is a long journey for people to walk back to Wavuwavu on foot (Neff, et al., 2018). These studies are crucial for my research in that they show the importance of adaptation strategies to be designed to meet not only the cultural needs of different groups, but also

the sub-groups within them. An understanding of cultural values for climate change adaptation policies is also crucial in making decisions for climate change adaptation based on knowledge of place and climate-related events.

Māori Ecological Knowledge & Climate Change Adaptation

Māori communities draw on traditional knowledge – Mātauranga Māori – and cultural values to understand ecosystems, Māori have an interconnected relationship with the natural environment and view the world through a holistic lens (Carter, 2019 & Harmsworth & Awatere, 2013). Carter (2019) explains that Traditional Ecological knowledge (TEK) is "based on observation and management of the environment over a long period of time and is an important source for adaptive capacity" p. 26. Often, Indigenous Knowledge and TEK are used interchangeably, however, both Berkes (2012) & Whyte (2012) view Indigenous Knowledge as a broad category of knowledge and an umbrella for sub-categories of knowledge – including TEK. Carter (2019) discusses a Māori subset of TEK, which draws from Mātauranga Māori called Māori Ecological Knowledge (MEK). MEK is the generational sharing of stories and knowledge, transmitted at an Iwi level and gives direction for "managing ecological relationships" p. 26. In addition, a futher subset of Mātauraka(Ngai/Kai Tahu dialect of Mātauranga Māori) is Mātauraka-a Iwi – which recognises the differences of practicing MEK for each Iwi (Carter, 2019).

A study carried out by the National Institute of Water and Atmospheric Research's' (NIWA) Māori Research and Development Knowledge Unit, examined (MEK) of weather and climate (NIWA, 2019), involving participants from Ngāti Pare (tribe from the Coromandel area) and Te Whānau-ā-Apanui (tribe from the Eastern Bay of Plenty), with in-depth knowledge and understanding of weather and climate within their respective whenua. Three themes of MEK emerged from the study – the naming and classification of local weather, the oral recording of weather and climate events and trends, and the use of environmental indicators to

forecast and predict weather and climate. This knowledge is shared through stories, songs and whakapapa, which helps the iwi to make decisions on the "timing, safety and viability of various activities" (NIWA, 2019, para 4). An example from the first theme is the knowledge which includes a vast range of terminology of Te Whānau-ā-Apanui elders to "define the clouds, the direction of local winds and to define different kinds of rainfall" (NIWA, 2016, para 4).

Internationally, indigenous knowledge systems, including TEK, have been recognized in recent times as a valid knowledge system. For example, communities in Jamaica have used local knowledge in their farming practices. In Jamaica, such knowledge has helped respond to precipitation with "improvised irrigation systems and diversifying cropping systems using ground cover to enhance moisture retention in open fields and storing water in fields" (Beckford,2018, p.47). Research on the Inuit people's adaptation methods using TEK has found that even though the Inuit are negatively impacted by the global impacts of climate change, TEK allows them to be flexible and innovative in activities such as hunting (Pearce, Ford, Wilcox & Smith, 2015). Hunters draw upon their TEK and land skills to respond to changing biophysical conditions, including flexibility about seasonal cycles of hunting and emergency preparedness, and knowing what supplies to take when travelling and how to respond in emergency situations (Pearce, et al., 2015).

Governance, Policy and Institutions

Some participants in the study at Arowhenua pā questioned, and commented on, the role of both Māori and non-Māori "political and administrative institutions, governance structures and policy." (King, Dalton, Home, Duncan, Srinivasan, Bind, Zammit, McKerchar & Ashford-Hosking, 2012, P.79). The participants discussed how institutional structures and arrangements (across a range of government authorities and agencies) were identified as having a role, which impacts decisions for Māori and their aspirations (King, et al., 2012). A barrier identified was that local councils' and government departments' role in making space for "equitable political participation and representation often led to poorly

informed and short-sighted views relating to past water management and land-planning decisions" (King, et al., 2012, P.9). Participants in the study identified numerous concerns, including, permissions being granted by Councils for what the communities in the study view as unsustainable, those are activities putting pressures on their ecosystem, potentially increasing climate change risks (King et al., 2012). Further challenges are posed by (Hopkins, Campbell-Hunt, Carter, Higham & Rosin, 2015, Carter, 2019) who discuss how adaptation has been formalised in local government legislation such as the Resource Management Act (RMA - 1991) and the Local Government Act (2002). The opportunity for local government is being able to make local place-based decisions through the RMA and Local Government Act. In addition, central government often makes decisions for climate change policies. A challenge local government's face is being able to exercise the opportunity to make informed local decisions, as more decision-making power needs to be given to local governments from central government. This will enable local governments to make decisions which responds to "complex, overlapping systems of governance and public, private and other interests, across national, regional and local scales" (Hopkins, et al., 2015, p. 572).

In relation to the political response to adaptation, some local councils around the country have declared climate emergencies (Hughes and Robertson, 2019). Local Government New Zealand (LGNZ) recently released a report entitled '*Exposed: Climate change and infrastructure*' to assist councils and their communities to respond to the impacts of climate change. This report aims to provide councils with a consistent approach for assessing community and resource exposure to sea level rise and inland flood risk. Historically, adaptation has been given less attention by policymakers; however, local councils are focussing more on climate change adaptation, and this is largely in response to communities call to action. LGNZ plan to provide councils with tools to adapt to climate change, whilst hoping for a national direction on climate change adaptation (Hughes and Robertson, 2019).

Local and Central Government

When the IPCC was formed, the New Zealand government developed the New Zealand Climate Change Programme through the Ministry for the Environment, which included working groups similar to the ones of the IPCC (Rouse, Bell, Lundquist, Blackett, Hicks & King, 2016). The aim of the programme was to better understand the scientific basis of climate change, the potential impacts on coasts and estuaries, and to make recommendations for responses, as well as to set up the Māori working group to advise on issues relating to Māoridom and the Treaty of Waitangi. In 1993, an information and guidance booklet for local government raised awareness of climate change issues and this is where local government began their management role in climate change management (Rouse, el., 2016).

Local government plays a key role in climate change adaptation management in Aotearoa, and regional and territorial authorities have policy and operational responsibilities relating to coastal issues and climate change (Rouse, et al., 2016). Many Local Councils have already introduced climate change into their long-term and short-term planning strategies. Local Councils are responsible for adaptation responses for "Māori tribal and whānau enterprises, which are often at tension with economic activities" (Carter, 2019, p.77).

Resource Management Act 1991, MEK and Climate Change

The Resource Management Act (RMA) is an important piece of legislation which directs local authorities to include provisions in their local authority plans, which leads to sustainable management of natural and physical resources (Carter, 2019).

The act informs decisions of local government which has impacts on Iwi/Māori being able to exercise their responsibilities under MEK, such as kaitiakitanga. The Act influences MEK, one section includes provisions for responding to issues of national significant including "the relationship of Māori with their culture and other traditions, their ancestral lands, water sites, wāhi tāpu, and other taonga" (Carter, 2019, p.44). The Act also has

provisions for forming and maintaining partnerships between local government and Iwi/Māori in each region. Section 7 (a) discussed kaitiakitanga and the need to sustainably protect local resources, including "land and marine" (Carter, 2019, p.44). The RMA also has a section which asks local authorities to consider the three principles of the Treaty of Waitangi when making decisions (Carter, 2019)

The 2003 Resource Management Amendment Act introduced new sections, which had further implications for Iwi/Māori and climate change. (Carter, 2019) referred to analysis of the act by Sir Geoffrey Palmer who stated the new amendments do not have "to consider the effects of greenhouse gas emissions on climate change when making rules to control discharges into the air; and when considering applications for a discharge permit." P.45 Furthermore, (Carter, 2019 & Rouse, Bell, Lundquist, Blackett, Hicks & King, 2016) argue that the RMA does not provide the requirements needed for Local Councils to take action for climate change adaptation. (Rouse, et al., 2016) takes this a step further to state that due to a variety of responsibilities of national, regional and local actors under different legislation, there are gaps and overlaps of management of coastal environments and the effects of climate change. The RMA does not explicitly state the need to respond to climate change in planning decisions. A Deep South Challenge report by (Iorns, 2019) *Treaty of Waitangi duties relevant to adaptation to coastal hazards from sea-level rise,* discusses how adaptation is not mentioned in the RMA. Furthermore, the 2004 amendment of the act, included climate change, in the section 'other matters' that decisions-makers shall have "particular regard to" (Iorns, 2019, p.27).

Communicating Scientific Knowledge of Climate Change Adaptation

According to the *Adapting to Climate Change Stocktake* report (Ministry for the Environment, 2017), there is significant work for Iwi and Māori to acquire the appropriate tools to adapt to climate change. One of those tools is to understand the science of climate change and how to draw on scientific models to enable adaptation in Māori communities. In the wider

New Zealand context, climate change policy has been characterised by limited public understanding of the scientific issues (Boston, 2006).

A Deep South National Science Challenge project created exhibitions to communicate climate change science through culture, art and design to coastal communities of Aotearoa (Smith, Allan, Bryant, Hardy, Manning, Patterson, Poutama, Richards, Richardson, Spinks 2017). The exhibitions showed how Māori coastal communities may anticipate and adapt to the impacts of climate change. The project drew on data on "geological time; geomorphology; ground water; current climate change science, and Māori understandings of water and tidal cycles" (Smith, et al., 2017, p.82). There were also student exhibitions designed by architecture and landscape architecture master's students, who showed adaptation strategies for the farm where the research was carried out based on an understanding of Māori values. The exhibition allowed the students to think of adaptation strategies, which included "developing papakāinga housing to inhabit waterfront land on higher ground and bringing back the birds to iwi, hapū and whānau lands" (Smith, et al., 2017, p.83). In the Arowhenua Pā study participants discussed how they are concerned about a decline in traditional knowledge associated with practices such as mahinga kai, this can lead to loss of "household foods and tribal identity and custom" (King, et al., 2012, p.93). One of the reasons for this decline is fewer whānau remaining on river-ways and younger people moving away from their whānau lands (King, et al., 2012).

Internationally, climate change messages are designed to only be understood by a few audiences and they do not always effectively reach Indigenous communities (Hoffman, 2015 & Adger, Quinn & Lorenzoni, 2012). Some scholars argue that both indigenous and western science knowledge systems are required for effective climate change adaptation (Carter, 2019). Both Hiwasaki, Luna, Syamidik & Shaw (2014) and Mokondo & Thomas (2018) argue that only some aspects of Indigenous knowledge may be combined with science for climate change adaptation. Makondo & Thomas (2018) found that in Zambia, flexibility in changing of eating habits by Indigenous peoples can be integrated with science for

effective climate change adaptation. The participants of this study identified that they choose more sustainable food choices, which can be integrated with diversification of farming practices. Two forms of diversification of farming systems were identified. In the first, "diversified crop rotation with water use efficiency increased the effectiveness for reducing risk and efficiency among rural farmers" (Mokondo & Thomas, 2018, p.88). The second effective adaptation approach was "crop cultivation livestock rearing, which serves as a means for resilience building against climate change uncertainties" (Mokondo & Thomas, 2018, p.88). Hiwasaki et al., (2014) and Mokondo & Thomas (2018) also argue that Indigenous people must be involved in decision-making about their communities, for adaptation based on science to be effective. Hiwasaki et al., (2014) offer their own model for Local and Indigenous Knowledge (LINK), made up of four categories. This was developed through their research observing hydro-meterological hazards and climate change, among coastal and small island communities in Indonesia, the Phillipines and Timo-Leste, to see how effective it is to combine two knowledge systems:

- Category one: Local Indigenous Knowledge (LINK) that is scientifically explained/validated, can be related to Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA).
- Category two: LINK which cannot be scientifically explained but is related and relevant to DRR and CCA.
- Category three: Link which can be scientifically explained but not related to DDR and/or CCA.
- Category four: LINK which cannot be scientifically explained/validated, and not relevant or related to DRR and/or CCA (Hiwasaki, et al., 2014, p.9).

This model gives an idea of how to integrate science with Indigenous knowledge, without compromising Indigenous knowledge. The study is also realistic about the limitations of their approach as their study was carried out on "small heterogeneous communities and the focus was on hydro-meteorological disasters only." (Hiwasaki, et al., 2014, p.11).

However, both Hiwasaki, et al., (2014) and Mokondo and Thomas (2018) show that it is possible to combine two knowledge systems to find solutions for climate change adaptation.

Tourism Sector and Climate Change

The tourism sector in New Zealand makes a significant contribution to the New Zealand economy, accounting for over a fifth of our exports (Ministry Business, Innovation & Employment, 2019). Internationally, tourism demand has increased, including the demand in New Zealand experiencing" unprecedented growth in the past five years with visitor arrivals increasing by 35%" (Ministry Business, Innovation & Employment, 2019, p.1). The Aotearoa-New Zealand Strategy for Tourism states that the government's overarching aim is to;

> enrich New Zealand through sustainable tourism growth. The sustainability aspect of this aim focuses on the importance of the future tourism system being environmentally and socially sustainable, as well as economically sustainable. This aim also recognises the potential impacts of climate change on the sector and the government's aims towards a just transition to a clean, green and carbon neutral New Zealand. But an inadequate and insufficient infrastructure to accommodate the increase in visitors makes the task challenging (Ministry of Business, Innovation & Employment, 2019).

Island nations are significantly affected by climate change with the seas in the Pacific rising at a faster rate than the global average (Wong, Jiang, Klint, DeLacy, Harrison, Dominey-Howes, 2013). Yet sea-based tourism is a significant economic, cultural and social contributor for communities of the Pacific Islands (Wong, et.,al, 2013). Many areas of New Zealand too are experiencing "rising sea levels, extensive flooding, increasing erosion and receding shorelines" (Parliamentary Commissioner for the Environment, 2019, para 4). This is resulting in a difficult task of planning for sea level rise (Parliamentary Commissioner for the Environment, 2019).

There is limited literature on climate change adaptation and tourism in New Zealand. A study by Hopkins (2014) on stakeholder perceptions in New Zealand's Ski Industry to the adaptive strategy of snowmaking found that Industry participants believed climate change to be slow and not impacting them in the short-term. Snowmaking was originally introduced by participants to guarantee the viability of the ski season but later became a climate change adaptation strategy. Tourists and community participants, however, questioned the environmental and social sustainability of snowmaking as an adaptive strategy (Hopkins, 2013).

Māori tourism cultural representation, values and Identity
Mcintosh, Zygadlo & Matunga (2004) discuss how there have been complexities around defining Māori tourism and that there is a need for a values-based definition when defining Māori tourism. They suggest that Māori tourism must be seen through a lens which acknowledges the varied tourism products offered across Iwi and Māori communities. As a result, they developed the idea of Māori-Centered Tourism as a way of establishing values-based criteria for defining Māori tourism organisations. The study proposed the the koru spiral of values model, including "kotahitanga, wairuatanga, manaakitanga and kaitiakitanga" (Mcintosh, et al., 2004, p.1) emerging from in-depth interviews with Māori and non-Māori participants involved in regional, national, research and positions of responsibility within the tourism industry. Many of the values identified reflect the importance of environmental guardianship, spiritual connection to the land and the desire for self-determination over resources and Māori cultural representation (Mcintosh, et al., 2004). Similarly, Ringham, Simmonds and Johnston (2016) focus on how and in what ways Māori working in tourism (re)construct their places and practices, through practicing Māori values in Aotearoa New Zealand's tourism spaces. Their work provides insight into the complexities of identity for Māori and how this may be presented through Māori tourism experiences. Ringham, Simmonds and Johnston's study has a strong focus on Māori values in Māori tourism business. Their research explores how the inclusion of Māori values in tourism actively "reconfigures the moral terrains – the

spaces where Māori tourism providers, Te Ao Māori and tourist values intersect" (Ringham, Simmonds and Johnston's p.101). The researchers argue that participants, who work for or with Māori tourism providers, are guided by Māori values, whilst challenging dominant perspectives of tourism based on "colonial and capitalist values" (Ringham, Simmonds and Johnstons p.100). Some participants did not see a separation between their work and home in relation to their Māori values. For example, one of the participants Moana felt her identity as Māori is "constructed through her whakapapa, land and water. Her identity is inscribed in and through the landscape." (Ringham, Simmonds & Johnston, 2016, 107.). The research shows that home, land and whakapapa are inseparable to Māori communities, providing further insights for the current research.

A study conducted by Haar, Brougham & Roche (2018) shows how Māori values of an organisation differentiate its leadership from non-Māori organisations and institutions. The study also found that Māori leaders balance traditional influences with modern influences as they lead complex organisations. Some of the traditional Māori values, similar to those identified in the Arowhenua pā study, include:

- whanaungatanga – the relationships across generations and the closeness and depth of those relationships;
- kaitiakitanga – Roche's view of kaitiakitanga includes a long journey with a clear direction and need for patience to achieve guardianship;
- manaakitanga – reflecting the importance of caring for another person, doing the right thing for them and ensuring their well-being; and
- Whakaiti – humility, including enabling others and tikanga Māori, which refers to the Māori way of doing things (Haar, Brougham & Roche, 2018). These values are also identified by Mcintosh, Zygadlo & Matunga (2004) with specific reference to Māori tourism businesses, highlighting an important difference between businesses, structures and governance of Māori and non-Māori

bodies. This is crucial in understanding how prepared Māori tourism businesses are to adapt to climate change, in comparison with other businesses.

Māori tourism business and environmental sustainability

The Māori economic asset base has grown significantly over the past 100 years, with its key sectors being the fisheries, forestry, agriculture and tourism sectors. Māori tourism is seeing growth each year, with 1,065,791 visiting places of significance to Māori, tasting Māori cuisine or engaging in an activity which includes Māori culture (NZ Māori tourism, 2018).

Māori tourism businesses can operate within complex historical, legal and cultural contexts, where their cultural responsibilities clash with other expectations (Ringham, Simmonds & Johnston, 2016). Work, land and home are inseparable and therefore the protection of the taiao (environment) is fundamental in the everyday practices of these businesses.

A study of Whale Watch Kaikoura (WWK) by Spiller & Erokovich (2005) for example, talks about the business's connection with Te Ao Māori, as a hapu-owned business, where its Māori values drives its sustainability efforts. The study talks about the story of the business which draws on the history of Ngai Tahu legend Paikea, who arrived on the back of a whale. As such, the business views whales as tapu (sacred) and this is reflected in their conservation policy. In addition, the study outlines the growth and challenges of visitor growth, since its establishment, the business have actively pursued sustainable growth. One challenge that it has encountered is the pressures on infrastructure (Spiller & Erokovich, 2005).

The businesses' solutions to the problems include encouraging customers to book well in advance, providing quality experiences for a small amount of people, and using smaller vessels (Spiller & Erokovich, 2005). In 2002, WWK collaborated with Kaikoura District Council and other local tourism operators to develop and measure the performance of environmental impacts and were the first community in New Zealand to be recognised as

a Green Globe21 benchmarked business (Spiller & Erokovich, 2005). Achieving this status required that the wider Kaikoura community had to agree to several social and environmental commitments, including "monitoring greenhouse gases, energy management, air quality, waste minimisation, freshwater resources, social and cultural impact, land use management and ecosystem conservation" (Spiller & Erokovich, 2005, p.232).

Research Gaps and Research Questions

The three sections of this literature review have looked at Māori values and climate change; the intersections between Māori ecological knowledge and the communication of scientific knowledge in climate adaptation initiatives; and the importance of Māori representation, values, identity and sustainability for Māori tourism businesses.

The review suggests that there are very few studies on Māori and climate change adaptation although Māori stakeholders wish to learn more about the links between "climate change adaptation, natural hazards and sustainable development" (NIWA, 2016, para 1). As King et al (2013) have pointed out; there is a limited amount of studies which have been carried out on how climate change may impact the individual communities that make up Māori society. More specifically, even the studies that have been done focus on the primary sectors, and very few on Māori businesses, especially those in the tourism sector.

Given the growth of Māori tourism in Aotearoa and its contribution to the economic, social and cultural needs of Māori communities and that operate within their ancestral lands (Ringham, Simmonds & Johnston, 2016), there is a need to build frameworks for Māori tourism businesses to adapt to climate change. There is also an identified need to explore the requirements of different groups within Māori society to build effective climate adaptation strategies. Carrying out research in the Māori Tourism sector opens the opportunity to explore the capacity of Iwi, hapū and whānau to adapt to the changing climate.

The dearth of scholarship on climate change adaptation and Māori tourism has prompted me to address two key research questions in my study:

1. How prepared are Māori tourism businesses to adapt to climate change?
2. Do Māori values inform the businesses' perceptions of and/or approach to climate change adaptation?

The next chapter explains the methodological approach, including the methods deployed, for addressing these research questions.

Chapter 3

Methodology and Methods

Introduction

This chapter provides an explanation for why and how Kaupapa Māori theory and methodology were used to guide the research process in order to address the key research questions guiding this study: How prepared are Māori tourism businesses to adapt to climate change? And In what ways do Māori values inform the businesses' perceptions of and/or approach to climate change adaptation?

The research aims to centre culture to explore how complexities around culture affect the readiness of three specific Māori tourism businesses for climate change adaptation. Kaupapa Māori methodology and methods were used throughout the research process to provide cultural safety for the qualitative interviews with research participants, and to acknowledge the unique experiences of each business and their collective understanding of a Māori worldview.

The chapter begins with a discussion of the research methodology, and then offers some thoughts on my positionality as a researcher, before turning to a discussion of the specific methods used and the rationale for the selection of each business for this study. The chapter ends with touching on some of the limitations of the research, and the ethical approval process for undertaking this study.

Qualitative Research

Qualitative research is a methodological approach to a social scientific investigation, which documents personal experiences in context, and explores the complexities which may have shaped those experiences (Patton, 2002). According to (Leavy, 2014,) under the umbrella of qualitative research, there are many "traditions, paradigms and perspectives, which at times are conflicting schools of thought." P.20 Denzin and Lincoln (2013) views qualitative research as cutting across

and being representive of many academic disciplines. Qualitative methods are more appropriate to kaupapa Māori research because they have been viewed as more empowering for research participants (Bishop, 2005).

This thesis draws on a qualitative research approach, which takes social constructivism as its ontological starting point.

Social constructivism was first developed by Berger & Luckman in their seminal book, *The Social Construction of Reality (1966).* They argued that a person creates their reality through interactions with others and through their own experiences (Leavy, 2014). In social constructivism, individuals seek understanding of the world in which they live, and work and the goal of research is to rely as much as possible on the participants' views of phenomena (Creswell, 2013).These subjective meanings are often negotiated socially and historically, which are acquired through interaction with others (Creswell, 2013). In relation to interpretation of research, Gergen, Josselson & Freeman (2015) states "research findings don't have any meaning until they are interpreted, and interpretations result from a process of negotiating meaning in the community" p.119.

Transformative frameworks for indigenous research

Transformative frameworks were developed by Donna Mertens who previously held research positions at the University of Kentucky. One of her research projects, focussed on high poverty in the United States (Mertens, 2017). Mertens struggled to represent the voices of the people from those areas and sought to find a way to conduct research 'with,' instead of about marginalised populations, further stating that transformative paradigms;

> Incorporate the cultural aspects, as well as address issues of discrimination and oppression in ways that lead to personal and societal transformation (Mertens, 2017, p.20).

Cram & Mertens (2016) explore negotiation between indigenous and transformative paradigms in research evaluation. They recognise that there is a common interest between an Indigenous paradigm and a

transformative paradigm, which is that of creating positive transformation for "those who experience discrimination and oppression" P.1. They also recognise the diverse cultural experiences in Indigenous societies, their intent in this study was to assist in creating transformation for Indigenous communities by creating more culturally responsive transformational research evaluation practices (Cram & Mertens, 2016).

Numerous Indigenous scholars have carried out research in various fields to give voice to Indigenous experiences through a transformative process referred to as 'decolonising methodologies', first developed by Linda Tuhiwai Smith in her book the first publication of *Decolonising Methodologies (1999).*

Keikelame, & Swarts *(2019*) discuss their fieldwork into Indigenous health outcomes in Cape Town South Africa, with the intent of contribution to the growing literature on decolonising methodologies. They define decolonising methodologies as:

> "A decolonising research methodology is an approach that is used to challenge the Eurocentric research methods that undermine the local knowledge and experiences of the marginalised population groups" p.1

Khupe and Keane (2017) in their study which discusses development of an African education research methodology, explain that research which aims to improve the lives of indigenous people, should be underpinned by indigenous worldviews and cultural values.

In the New Zealand context, with relevance to this research, Smith (2012) explains how Indigenous people may be referred to as the other, and, further marginalised, if research is carried on Indigenous people by applying dominant western theories and methods to research. The following section will explain Kaupapa Māori research and the rationale for its application to the current study.

Kaupapa Māori research

Kaupapa Māori research refers to research by "Māori, with Māori and for the benefit of Māori" (Smith, 1999, Bishop, 1998) as cited in (Moyle, 2014, p.30.) Instead of fitting research methods into a Māori framework, kaupapa Māori is underpinned by the assumption that Māori knowledge acquired through experience, language and culture are valid. This is achieved through asking a set of questions, as below:

1. What research do we want to carry out?
2. Who is that research for?
3. What difference will it make?
4. Who will carry out this research?
5. How do we want the research to be done?
6. How will we know it is a worthwhile piece of research?
7. Who will own the research?
8. Who will benefit? (Smith, 1997).

Kaupapa Māori research emerged from and was influenced by several movements. The first was a global indigenous movement for self-determination over their land, culture and language (Smith, 1997). Efforts to revitalise Māori language education led to initiatives in teaching tikanga (Māori customs) and language, such as kohanga reo (Māori language pre-schools) and kura kaupapa (Hohepa, 1990).There was also the development of health models, such as Te Whare Tapa whā by Mason Durie, which encouraged Māori to start thinking of developing theories and research approaches of their own (Smith, 1997).

Most fundamentally, kaupapa Māori research was developed to challenge the dominant western research methodologies being used by non-Māori on Māori. Research based on western paradigms was found to be oppressive of Māori and offered little benefit to the betterment of Māori (Pihama, as cited in Pihama, Tiakiwai & Southey 2015). Since Smith wrote the first publication of *Decolonising Methodologies*, several scholars have further developed kaupapa Māori research. Much of the discussion has

been around the importance of and questioned validity of the kaupapa Māori research. Pihama, as cited in Pihama, Tiakiwai & Southey (2015) argues that Kaupapa Māori does not "make claims to universal truths or to superiority over other existing paradigms P.37" Kaupapa Māori is a way to give voice to the unique lived experiences of Māori by questioning the "acceptable" forms of research (Pihama as cited in Pihama, Tiakiwai & Southey, 2015). Through Bishop's studies of understanding Māori inequities in education, he argues that Māori must have their own research paradigm in order to develop their own knowledge (Bishop, 2012).

Kaupapa Māori theory, principles and methodology

Kaupapa Maori theory is based on several principles described below. Graham Hingangaroa Smith (2003) initially identified six principles of Kaupapa Maori methodology, which were applied to research in the context of education intervention and later to other disciplines. These are as follows:

1. Tino Rangatiratanga: The principle of self-determination.
   Tino rangatiratanga, relates to sovereignty, autonomy, control, self-determination and independence. This principle applies to the research process in a way where Māori have autonomy over their taonga – their stories, information and aspiration (Smith, 2003).
2. Taonga tuku iho: The principle of cultural aspiration.
   The significance of Te Reo Māori, tikanga and mātauranga Māori are at the centre of kaupapa Māori research and valid in their own right. Researchers such as Linda Smith (2006, p. 215) acknowledge that language is embedded with worldviews; therefore, it is encouraged to use Te Reo throughout the research process. Tikanga refers to customary practices, obligations, and behaviors, which influence practices (Smith, 2012). Tikanga assists with upholding the tino rangatiratanga of research participants, by ensuring that the researcher allows the participants to share their own experiences, in their own words. Tikanga ensures correct cultural practices are in place

throughout the entire research process, from writing the proposal to participant engagement, right through to writing up the results. It also holds the researcher to account, to ensure the participants are safe in the research process.

3. Kia piki ake i ngā raruraru o te kāinga: The principle of socio-economic mediation. This principle refers to the requirement of kaupapa Māori research to contribute to help reduce negative socio-economic impacts for Māori and create positive impacts for Māori (Smith, 2003)

4. Whānau: The principle of the extended family structure. The principle of whānau acknowledges the relationships that Māori have to one another and to the world around them. The principle also recognizes the importance of whakawhanuangatanga and the responsibilities of the researcher to take care of the relationship between researcher, the researched and research (Smith, 2003).

5. Kaupapa: The principle of Collective Philosophy
This principle refers to the aspirations of the community – the kaupapa – and the research is one contribution towards that kaupapa. (Smith, 2003).

6. Te Tiriti o Waitangi
Pihama (2011) identifies Te Tiriti principle as one which should be included in Kaupapa Māori theory. She says that Te Tiriti provides a foundation on which Māori challenge dominant norms, which negatively impact Māori and give voice to Māori rights.

Significance of the Kaupapa Māori Theory Principles

The principles of the Kaupapa Māori theory ensures cultural integrity is maintained when analysing Māori issues. It provides both tools of analysis and ways of understanding the cultural, political and historical context of Aotearoa (Pihama, 2011, Mahuika as cited in Pihama, Tiakiwai, Southey 2015). Kaupapa Māori theory is not set in concrete, and an important part of its formation is to acknowledge that it is an evolving theory. The

principles of kaupapa Māori theory can be applied to research in a way which recognises the diversity across Māori society, and, in turn, the different ways Māori interact with and or experience culture (Pihama, 2011)

Smith (2012) argues that Western research has been instrumental in the marginalisation of Indigenous Peoples' knowledge and has contributed to the maintenance of colonisation. Theories of racial inferiority, deficiencies and cultural disadvantage have been central to denying Māori people's access to land, language and culture (Pihama, as cited in Pihama, Tiakiwai & Southey, 2015).

Despite this, Smith (1997) maintains that Māori, as a subordinate group, must be critical of current theory, when carrying our research about Māori. At a fundamental level theory is important for Indigenous peoples, as it can help them make sense of their realities and to make assumptions and predictions of the world (Smith 2012). However, historically research has been carried out 'on' Māori using a western theoretical lens, which has disempowered Māori and other Indigenous peoples. Therefore, decolonising theory using transformative frameworks challenges the notion that theory is acultural and helps to undermine the historical dominance of western theorising (Pihama, Tiakiwai, Southey, as cited in Pihama, 2015).

In relation to the current study, the principles have helped provide a lens through which to analyse the data collected, which has helped to position the findings in a way that recognizes the history of each business and their current and future business and community aspirations.

Kaupapa Māori as a methodology is about applying the appropriate tikanga (protocol) to the research process from start to finish, in order to collect data whilst upholding the mana (strength) of, and respecting, the research participants. There are 7 further principles of methodology that are derived from the kaupapa Māori theory: aroha ki te tangata (respect for people), kanohi kitea (meeting or greeting people, face to face), titiro, whakarongo me kōrero (to look, listen and talk), manaaki tangata (caring, hosting people), kia tupato (be careful or cautious), kaua e takahi te mana

o te tangata (do not trample over the mana of others) and kaua e mahaki (do not flaunt your knowledge) (Smith, 2012).

Applying Kaupapa Methodology in the current research

In the current research, aroha ki te tangata was initiated by, firstly, allowing participants to choose how they'd like to participate in the research, i.e., over the phone or in person. One of the interviews was carried out in person, as this was easier for the participant. In each initial email to the participants, I introduced who I am, with my whakapapa and my role as researcher, and then introduced the research project with its purpose and aims. Principle two, konohi kitea was offered to each business, and two of the businesses preferred phone interviews due to their schedules. Principle five, kia tupato, has been upheld throughout the research process. Initially, I provided each participant with an information sheet about the research and consent forms. I have notified each participant that their identity will remain anonymous, that this research will be used for my master's thesis, and further consent will be gained if this research is used for other purposes.

This research contributes to the current literature about identity, representation and self-determination in the context of Māori tourism, with a specific focus on culture, cultural values and climate change adaptation. My research explores themes such as the significance of cultural values to Māori tourism businesses and the importance of considering cultural values in climate change adaptation. Inherent in the kaupapa Māori approach is an understanding that Māori have fundamentally different ways of seeing and thinking about the world (Pihama as cited in Pihama, Tiakiwai & Southey, 2015). I use this approach to explore how Maori tourism businesses draw on and apply Māori cultural values in climate change adaptation.

Situating myself as researcher

It is important to recognise my subjectivity as a researcher, and the role my values, beliefs and assumptions play in conducting this research, and choosing the focus and research questions for this study.

Ko wai au? Who am I?: I am a Māori woman of Ngāti Porou and Ngāti Ranginui descent and grew up in Waikato Tainui. I have a passion for positive outcomes for Māori wellbeing, particularly in the areas of cultural identity, increasing political agency and protection and self-determination over taonga. I did not grow up with knowledge of Te Ao Māori, as Te Reo Māori stopped being spoken from my great grandparents' generation. However, I began learning about Te Ao Māori, including Te Reo and Tikanga Māori five years ago. Through my journey, I understand the significant role cultural identity has for a person's wellbeing and sense of self. My journey has led to this research project, with a desire to give a voice to the efforts and challenges Māori tourism businesses have overcome and the contributions they have made over many years. I also want to identify lessons in protecting these businesses and their values from the impacts of climate change.

In 2017, I studied a global environmental politics paper as part of my undergraduate degree, with little prior knowledge of climate change. A key learning in this paper was that the things I am most passionate about – Maori cultural and socio-economic wellbeing – are all impacted by climate change. It is this insight which has been instrumental in shaping the focus of my research.

My experiences and background, complemented by my knowledge of both climate change adaptation and kaupapa Māori theory, have helped me to understand the complexities of Māori lived experiences. This is crucial for this study, given that it examines three Māori tourism businesses, associated with three different iwi, whānau and hapū groups. It has also allowed me to frame this research in a way that does not view Māori society as a homogenous group. As a result, I make it clear that I am researching one sector of Māori society and not representing the views of all Māori.

Qualitative research methods & story-telling

Qualitative research methods, in the form of a review of secondary scholarship and semi-structured interviews, have been used for data collection in this research. Semi-structured interviews give participants the opportunity to share their perspectives and experiences directly with the researcher. Qualitative research is useful for gaining knowledge in new areas with limited information (Patton, 2002).

In alignment with Kaupapa Māori methodology, the results will be presented in Pūrākau, which are cultural narratives which generate knowledge. Pūrākau enable Maori to share whānau expectations, cultural practices, and build whānau resilience (Lee as cited in Pihama, Tiakiwai & Southey, 2015). Pūrākau is a part of a wider movement to advance decolonising methodologies, through cultural regeneration (Lee as cited in Pihama, Tiakiwai & Southey, 2015). Pūrākau comes in various forms of oral tradition, including whakapapa (genealogy), whaikorero (speechmaking) and whakatauki (proverbs). Pūrākau means the base - Pū - of the tree - rākau, which is significant as the tree is often used as imagery to reflect Maori understanding of relationships, our interconnectedness with one another and the environment (Lee as cited in Pihama, Tiakiwai & Southey, 2015). Embedded in Te Reo is the significance of storytelling for "connecting, sustaining, nurturing and flourishing our people." (Lee as cited in Pihama, Tiakiwai & Southey, 2015, p.8). Each of the tourism businesses share their stories, which are culturally significant and date back to when their ancestors arrived on their lands. Pūrākau ties in nicely with thematic analysis, as it will help make sense of the stories to address the main research questions

Semi-structured Interviews

Semi-structured interviews offer a more flexible approach to the interview process (Ryan, Coughlan & Cronin, 2009) Although an interview schedule will be used in these interviews, the semi-structured interview allows for the use of open-ended questions, whilst giving the interviewee the opportunity to have control over the story they share through their answers (Ryan, Coughlan & Cronin, 2009). These functions of semi-structured

interviews align with principles of kaupapa Māori theory and methodology, including, tino rangatanga, where participants have control over their own stories. There is an exploratory element to the semi-structured interview, which is key to responding to the different perspectives and lived realities of participants.

All three businesses were small-medium sized enterprises; therefore each of them either identified themselves (manager/owners) or the most appropriate person within the business to participate in an interview. Each business chose to keep their identity anonymous and so will be referred to by using a pseudonym, which will include a Māori term for business 'Kaipakihi,' followed by a number tuatahi (first), tuarua (second) and tuatoru (third). I made contact with both of the owner's of Kaipakihi tuatahi, one of the owner's participated in an interview. I was also sent further answers via email and provided with a document about some of the environmental restoration work they have been doing within their community. I spoke with the Sustainability and People Manager from Kaipakihi Tuarua over the phone. This interview was on loudspeaker and recorded onto my laptop for transcription purposes. I met with the manager-owner of Kaipakihi Tuatoru at a café. I recorded the interview onto my phone and the interview. The manager also provided further information via email.

Thematic Analysis

Thematic analysis is a qualitative method that generates codes from raw data and identifies analyses and reports patterns (themes) (Braun and Clarke, 2006). I have used the thematic analysis approach developed by Braun and Clarke (2006), which is theoretically independent, and characterised by open coding and a six-phase process for producing analysis (Braun and Clarke, 2006). One of the benefits of applying a thematic approach is that it is theoretically flexible, and it can be used in different kinds of frameworks, to answer quite different types of research questions (Braun & Clarke, 2006). In relation to the current research, it relates to questions around meaning, which will help in giving meaning to

relationships between cultural values and climate change adaptation strategies in business. There are numerous ways thematic analysis may be approached. For my research project, I have chosen an inductive approach. The inductive approach is where coding and theme development are directed by the content of the data (Braun & Clarke, 2006). I chose this approach as there are numerous possibilities which may be produced for themes, based on the intersections which will be explored.

Thematic analysis for the current study
Each section is made up of several themes, which were identified post-data analysis, using the thematic analysis approach. Phase one involved, transcribing the interviews, which were recorded on an Iphone. This part of the process involved listening and re-listening to the interviews, then typing out the data, verbatim. This phase also helped in beginning to give meaning to the interview data. According to Braun & Clarke (2006), as a basic requirement, before a thematic analysis can be conducted, it firstly, requires rigorous and thorough "verbatim account in the form of a transcript of all verbal utterances" p.17. Phase two involved manually coding the data, including reading and re-reading the data, to form a list of common words which are relevant to the literature and research questions. I chose the inductive approach of the thematic analysis, where what emerged from the data assisted in the coding process. The third phase involved searching for themes using the codes. This involved manually sorting the codes into lists, where I could find a relationship relevant to the research. Then I created sub-themes and a main theme heading for each list. The fourth stage involved a review of the themes, which involved two steps, firstly, I reviewed the themes based on which themes fitted together and which ones did not. The second stage involved reworking some of the coding to create new themes, as some of the themes did not create a cohesive pattern with the other themes.

Interview schedule: The interview guide is an important first step in the construction of the interview process. It is developed based on the nature of the research and the aims of the study (Ryan, Coughlan & Cronin, 2009). The interview guide is attached in the appendix, some questions were quite specific to each business, based on primary research of their websites. These questions relate to specific sustainability activities and the business's interest in applying scientific knowledge to their environmental activities. Most of the questions were the same across the three businesses, focused on their perspectives of climate change within their whenua, the potential impacts on their businesses and potential climate change or environmental adaptation strategies they may have in place.

Recruitment: Participants were selected based on primary research of their online business webpages, some of the analysis was identifying how the businesses apply Māori values in their business activities. I aimed to identify if they had an environmental focus within their businesses. I also tried to choose participants from different parts of New Zealand. One of the businesses operates in the South Island, another on the East Coast of New Zealand, and the third is based on the Kāpiti Coast.

Participants: This research involved three Eco-Māori tourism businesses which are small-medium sized and whānau and hapū-owned. Each of these businesses was highly suitable for my research, as discussed below.

Three cases

Kaipakihi tuatahi: Kaipakihi tuatahi is owned and operated by a small family business owned and operated in the Hawkes Bay, the owners both have backgrounds in science and who are strong advocates for environmental protection. One of the owners is a descendant of Ngati Paarau, a hapū from Napier and Hastings. Through their tourism business, their passion is to share their Māori values, way of life and care for the environment. Both owners are heavily involved in their community, leading many environmental and cultural projects, including rebuilding of their marae-Waiohiki, for whānau and visitors. One of the owners is undertaking scientific research, monitoring projects for their Tūtaekurī river tribes, with a key focus on protecting the river's health. They are both eager to share their way of life with visitors from afar. The Hawkes Bay region is prone to climate related hazards such as storms (with periods of high winds and/or intense rain bursts), floods and drought. This study explores how the enterprise may adapt to these hazards and how their Māori values may play a role in adaptation.

Kaipakihi tuarua: I chose to study kaipakihi tuarua, a leading Māori eco-tourism business, for the following reasons. Firstly, the business has a history of overcoming significant events to running a successful business, and I wanted to learn how this may lead to adaptation strategies. Secondly, I wanted to assess the concerns of the business, since the Kaikōura earthquake in 2016 and potential climate change impacts on their eco-systems. Thirdly, as sustainability is a core value of this business, I wanted to find out how organisational and Māori cultural values around sustainability impact on climate change adaptation awareness and/or goals.

Kaipakihi tuatoru: Kaipakihi tuatoru is a family-owned and operated business, where the family have welcomed visitors to the Kāpiti Coast for many years. It is an internationally renowned eco-tourism business and bird sanctuary, with an abundance of native and endangered species. The business offers half and full day tours, it takes its role as kaitiaki of the land seriously and has a collaborative partnership with the Department of Conservation. The business is structured around six Māori values – kaitiakitanga, kotahitanga, manaakitanga, ūkaipōtanga, rangatiratanga and whanaungatanga. The business has a primary focus on the protection of flora and fauna. The Kāpiti Coast is experiencing increased heat and increased rainfall, and this study explores the impacts of these climate changes for the business and their approach to adapting to them (Kāpiti District Council, 2019).

Interviews – Data Collection

Data was collected through semi-structured interviews, which were recorded with permission for data analysis purposes. I travelled to meet with one of the participants at their preferred location and two of the interviews was conducted over the phone. In line with kaupapa Māori methodology, there was a process of whakawhanaungatanga (establishing relationships), where I started by introducing myself by giving sharing my pepeha and gave participants a choice to do the same. The principles include ata: the principle of growing respectful relationships and whānau, which is about the researcher's obligation to look after the researched (Smith, 2012). I fulfilled these principles in interviews.

Limitations

Data Analysis: There are concerns expressed in the literature around the reliability of thematic analysis to develop accurate and coherent themes from research data (Braun & Clarke, 2006). I have addressed this by systematically applying Braun and Clarke's six steps in carrying out a thematic analysis, as discussed previously.

Range of participants: This research only includes three Māori tourism businesses and is not representative of the diverse range of views across the sector or the diversity of experiences of communities across Māori society. Although there are important insights gained from the study of these three businesses. I do not make any claims that they are generalizable to all Māori tourism businesses in Aotearoa New Zealand.

Ethical Approval: Ethical approval for this research was granted by the Waikato Management School Ethics Committee. Approval was granted based on a research proposal which outlined the research goals, anticipated outcomes and outputs. The research proposal also stated how participants' identities would be protected and how participant data collected would be stored and protected. As this research is underpinned by a Kaupapa Māori methodology, the research proposal outlined how participants would be kept culturally safe, which included the details of a cultural advisor for this study. (See appendix for the information sheet and consent form that was given to each participant.)

Summary

As kaupapa Māori theory and methodology provided the foundation for this research and how it was carried out, it offered a safe space for the interviewees to share their stories. This was achieved through applying the principles of kaupapa Māori methodology. Kaupapa Māori theory allowed a foundation for exploring cultural values and their impact on climate change adaptation and for understanding the different lived experiences of each Māori tourism business and their communities.

The next chapter presents the findings from the interviews, following the Kaupapa Māori approach.

Chapter 4

Findings and Analysis

Introduction

This chapter applies thematic analysis to identify themes that come through in the interactions with each of the three businesses studied in the project. Three eco Māori tourism businesses participated in this research, the first section of this chapter will describe each of the businesses and their offerings. Several themes have been developed as a result of analysis of the findings. Each theme includes excerpts from interviews to support the analysis of each finding. A deeper analysis of the findings with reference to the literature is carried out in the discussion in Chapter 5.

Kaipakihi Tuatahi

Kaipakihi tuatahi is an eco-cultural Māori tourism business, which fuses hunting-gathering and Māori cuisine. The business offers a unique cultural experience, journeying through their ancestral mountains, lands, waters, and history. They offer tours ranging from three hours to a full day journey, which also takes visitors through their 650-year-old village site. The business was founded out of the owners' community work in the Hawkes Bay, where they lead numerous environmental protection and restoration activities to improve their natural environment. The owners/managers of the business both have an educational background in science. One of the owners has taught science and has a passion for educating visitors about their local history. The other owner, an environmental scientist by training, is currently undertaking scientific research monitoring projects for their Tūtaekurī river tribes, focusing on the holistic health of the local ecosystem. They both use their knowledge of tikanga and science to communicate their vision of kaitiakitanga to their local and visitor communities, as seen, for example, in their report for the Tūtaekurī river project (Hawaikirangi, Ormsby, Hawaikirangi, 2014).

They have a native nursery in their home, where they grow native trees,

Which have been carefully selected for their ability to flourish in the dry summers in the Hawkes Bay. In addition, they undertake cultural monitoring in the Ahuriri Estuary, where they study fish and shellfish health and abundance on a two-year cycle. They carry this work out on a contract with Napier City Council, and donate the income generated from this work to the Waiohiki marae, which they are rebuilding for the benefit of their people, culture and their international visitors.

Despite their deep commitment to environmental restoration and sustainability, climate change is not a predominant concern for this business. Kaipakihi tuatahi owners say that they are aware of climate change impacts in their region, including the potential for extreme weather events, but they do not think climate change will affect their business in the short-term (Kaipakihi tuatahi, 2019). The following findings illustrate that the business is prepared to respond to environmental changes but has not planned for climate change adaptation at this point due to their uncertainty about the specific nature of climate impacts.

There are four key themes that emerged from the interviews with Kaipakihi tuatahi, discussed below.

1. *Immediate priorities and sustainability*

In discussing their work on enhancing the environment within their region, the owners of Kaipakihi tuatahi stated that one of their immediate priorities is working with their hapū and local council to restore their awa – Tūtaekurī – for which they co-produced the enhancement plan in collaboration with the hapū groups of the awa. They wanted to address the causes of environmental degradation within their river, such as land development, and work to restore the river environment. As stated earlier their business started from the environmental work they had been doing in their communities, this work also has a restorative and preventative focus.

In contrast, the owners recognized the long-term impacts of climate change, such as sea-level rise, on their region, but believed that sea-level rise would not impact on their business viability in the short-term. They saw climate change as present but slow in its progression, which influenced their preparedness to adapt.

Kaipakihi tuatahi make it clear that they are responding to detrimental impacts on their tāpu wahi (sacred places):

> We as the tangata whenua of the Tūtaekurī awa are aware that its mauri is degraded through physical contact and observation over generations. We know through monitoring, testing, scientific reporting, and from living on the Tūtaekurī awa that the mauri of the awa has degraded by the impact of land development in the catchment.

The generational focus in this quote is significant because it shows the challenges the business faces in contending with issues that have remained unresolved for a long time. The long-term challenge of protecting and enhancing their awa reflects why climate change may not be a current priority for the business. In addition, as they are an ecotourism business, sustainability underpins their business activities; therefore, they are quite proactive in their approach to responding to environmental impacts. This further explains why they do not see their established environmental business focus as adapting to climate change per se. Environmental enhancement is a core kaupapa of this business's activities, and they see no separation between the two. For example, planting native trees is one initiative the business is active in to enhance their awa and wider environment:

> Each year we aim to plant 1500-2000 native trees along our Tūtaekurī river.

In addition, the business involves whānau, hapū, and iwi in planting trees, and this is one way they can minimise their carbon footprint. The business also identified this as one way they respond to reduce the impacts of climate change. In response to a question on whether they had any

current strategies in place within their business to adapt to climate change or any ideas based on their knowledge and experience of the natural environment, one of the business owners said:

> Riparian planting was something that we could lead as individuals, as whānau, hapū, and iwi and so started planting native trees. We did this because bang for buck we were aware that native trees strengthened our river's Mauri/lifeforce by improving biodiversity, water quality, and by stripping carbon from the atmosphere.

The business recognises that extreme weather events can have an impact on their business, but they view climate change as slow in its progression:

> Climate change is a slow-moving tidal wave and so it's difficult to determine whether our business is being impacted upon. However, there were times last summer where we had to cancel tours due to storm like conditions. We also had to cancel a cruise ship tour due to high swells which meant the boat couldn't dock at the Napier Port. Whether or not these weather events were influenced by climate change is hard to determine. However, we're fully aware that a hallmark of climate change is frequent extreme weather events, which for our business means we can't operate on those days.

The business does have some knowledge around predictions of climate change impacts on their tour sites but these are based on long-term predictions. However, the business has little knowledge of climate change adaptation; on the lines of the IPCC definition Climate change adaptation is an "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects." P.6.Given their intent of protecting and enhancing the environment for their business and the communities they are part of, the business views adaptation as quite reactive, especially because they are not experiencing significant short-term impacts. The quote above would seem contradictory with the reference to the business not being able to operate some days because of weather. However, it also reflects knowledge gaps as the business is not

certain if those weather events are climate-related. Yet, the business has sound knowledge of science and tikanga in relation to their environment.

Although the business believes that what it is doing currently will reduce emissions and address climate change in the long-term, it remains unsure as to whether some weather changes are climate-related or not. When asked if a changing climate had a direct impact on your business activities, and if so, how, they came up with this response:

> While sea level rise in the immediate future is unlikely to impact on our business viability, it's certainly a significant worry for Napier City as a whole. If sea level rise leads to flooding, and more significant storm surges, tourists may avoid Napier in the medium to long term future. This would significantly affect our business. We're also aware in the long term (50-80 years) our Ahuriri Estuary touring site is potentially under threat from sea level rise. Where we guide is less than 1m above sea level.

As evident in this quote, kaipakihi tuatahi shows concern for climate change impacts for their city and raises the potential impacts on their business in the long-term. This is an interesting finding, given the literature shows Māori who view the world through a Te Ao Māori or as this business has framed it, a tikanga lens, tend to think intergenerationally about how impacts to the environment will influence future generations (Harmsworth & Awatere, 2013). This is not to say the business is not thinking intergenerationally about their environment, as these findings show that they are. However, the findings help to inform the identified gaps in the Ministry for the Environment Stocktake report, such as, there is a need of significant work for Māori to acquire the tools that will enable them to adapt to climate change (Ministry for the Environment, 2017). Furthermore King, Dalton, Bind, Srinivasan, Hicks, Skipper, Home & Ashford-Hosking (2013), discuss how different groups of Māori society will have different vulnerabilities and resilience to adapt to climate change. They also identify some of the factors such as the business context and environmental impacts which will influence different groups (King, et al.,

2013). These findings in context of the literature will be discussed further in the next chapter.

2. *The importance of combining science and tikanga Māori*

Kaipakihi tuatahi uses scientific knowledge and tikanga in their environmental protection projects and they combine these two knowledge systems to understand and then communicate environmental care and protection to their communities. Science is integral to this business and without science, the owners cannot understand different phenomena within their natural environment. At the same time, tikanga is important to them as without tikanga, they cannot effectively communicate to their local communities' solutions for caring for their environment. This has significant implications for understanding the importance of combining culture and science for climate change adaptation strategies.

Both the business owners have a background in education, science and knowledge of tikanga Māori, including the history of the whenua in which they operate their business. The business talked about how applying both knowledge systems prepare them to understand environmental impacts and phenomena. When asked if science and knowledge of the environment from a Te Ao Māori perspective complemented each other when responding to environmental and climate change impacts, the owners said:

> The knowledge of and interface between both Tikanga Māori and contemporary science is incredibly valuable as it enables us to more readily understand our natural world.

In her book *Indigenous Pacific Approaches to Climate Change*, Carter (2019) focuses on situating Māori Ecological Knowledge (MEK) within Traditional Knowledge Systems (TEK) and shows how Indigenous ecological knowledge contributes to our understanding of our own worldviews and in turn, how societies adapt to climate change. She also explains the importance of combining science and Māori Ecological Knowledge. In line with this, the owners of the business use their knowledge of science and tikanga as a tool to communicate with their local

communities, referring to impacts based on science and their effects on Māori gods, as below:

> Ngā Hapū o Tūtaekurī have inherited a landscape from our tīpuna that has been heavily modified, and shaped, to a point that the current land coverage and land use activities will bear little similarities to the native forests, and abundant and diverse ecosystems that previously sustained our tīpuna living on the banks of the Tūtaekurī awa. Pastoral grass cover, residential and industrial developments, horticulture cropping, and plantation forestry have replaced the previously flourishing native flora and fauna that blanketed Papatūānuku. The environmental effect of this shift from a natural indigenous ecosystem to an anthropogenic shaped landscape has served to remove the blanket of native vegetation that bound and retained soil and sediments on the land, and that also captured, stored, utilised and filtered the tears that fell from Ranginui.

This passage provides insight into the significance of the business owners being able to share their knowledge with their communities. The literature on climate change adaptation and culture talks about the need to consider culture in order to design & implement strategies that meet the needs of different societies and groups within them (Adger, Quinn, Lorenzoni, Murphy & Sweeney, 2012).

3. *Kaitiakitanga underpins the businesses operations*

Kaipakihi tuatahi's business is underpinned by kaitiakitanga, which involves protection of their environment and educating their international visitors and communities about guardianship of nature. In sharing some insights on how they inculcate in tourists a sense of care for the natural environment, they say:

> The final key thing we do is to engage our international visitors in our world view of kaitiakitanga. At the conclusion of our tours we plant a native tree alongside our river or on top of our mountain.

> The purpose of this is to show them a glimpse of how we as Māori value and practically care for our natural environment. The idea being is that they'll take this Maori way of viewing the natural world, i.e. kaitiakitanga, and implement and share those philosophies back in their community.

Kaitiakitanga is more than a value for this business; they also consider it to be a role and responsibility. Their business is set up in a way in which their business activities teach others about the value of kaitiakitanga:

> Protecting our natural environment is our responsibility as kaitiaki – it is central to us as a people and our business's core values.

The owners talked about the business as a platform to share their way of life with their visitors, local community and governance partners. The quote below also ties into the business owners' efforts to combine science and tikanga Māori, to achieve their vision.

> It also puts us at a vantage point for being able to lead and communicate our vision of Kaitiakitanga to our community and governance partners.

Consultation with iwi by the Ministry for the Environment in 2007 showed that the value/practice of kaitiakitanga, in being able to adapt to climate change, was significant to the Iwi who were consulted (Ministry for the Environment, 2007). In addition, the Iwi identified policies that acted as barriers to adapt to exercise their responsibilities of kaitiakitanga (Ministry for the environment, 2007). This study shows how this business uses its platform to practice kaitiakitanga to protect their environment, revealing gaps in the climate change adaptation stock take report. On the whole, there is a need for successful partnerships between business, Iwi, hapū and local government.

4. Partnerships and policy

Partnerships are important to Kaipakihi tuatahi to successfully carry out their environmental initiatives. They currently partner with schools and the City Council in a variety of ways. Partnering with Local Council is

significant given that the Regional Council are responsible for including climate change adaptation into their land and water management plans (Carter, 2019).This study indicates that there is a need for a formalised partnership between the owner's hapū and local council in order to help restore the mauri of their awa.

The business believes there is lack of good policy to help improve their awa, which has degraded over a long period of time:

> Our plan aimed to target what we saw as deficiencies and/or absence of science and good policy that was needed to improve our Awa.

The local council has a responsibility for including climate change adaptation in their planning decisions (Carter, 2019). Examining the Hawkes Bay Regional Council website gives some clues as to why climate change adaptation is not a priority in the short-term for Kaipakihi tuatahi. Firstly, the Hawkes Bay Regional Council have only just declared a climate emergency in June, this year, which means that they intend on "making climate change a focus in all its decision-making and relevant work programmes" (Hawkes Bay Regional Council, 2019, para.5). It is clear that mitigation efforts, including planting trees to reduce greenhouse gas emissions has been focussed on by the Council and the business for some time. Therefore, council's policy decisions do influence local business decisions to adapt to climate change. Carter (2019) states that, local council are responsible for setting direction for climate change adaptation for businesses, complexities around economic goals can have an influence on this direction.

The business owners have referred to a previous plan put in place for their awa enhancement published by the Hawkes Bay Regional Council which has led the owners and their hapū groups to request a formal partnership, which they believe will lead to the restoration of their awa:

> Ngā Hapū o Tūtaekurī requested a formalised partnership with Hawke's Bay Regional Council for the mauri of Tūtaekurī to be restored and enhanced. We have similar views within the Tūtaekurī

Ecological Management and Enhancement Plan (Forbes, 2013), which runs parallel to the aspirations, concerns and recommendations of Ngā Hapū o Tūtaekurī. Ngā Hapū o Tūtaekurī recognises the need for balance between the restoration and enhancement of mauri for the Tūtaekurī awa, while maintaining flood prone areas is necessary.

In addition to the previous point about the recent climate emergency declaration, there is an expressed need for formalised partnerships for Tūtaekurī to be restored and enhanced. As the awa has degraded over time, a non-formal partnership is being identified here as a barrier to the awa being restored and enhanced. This finding links in with the theme around kaitiakitanga and the literature which shows that some Iwi groups are restricted to practicing kaitiakitanga because of certain policy decisions (Ministry for the environment, 2007).

Below is an excerpt which highlights a successful partnership between local government and a Māori tourism enterprise, which allows for the business to use their knowledge to protect ecosystems in their local estuary and put money back into their community. As mentioned earlier, the estuary may be impacted by climate change in the next 50-80 years but the priority of the business and the city council for the estuary is health of the ecosystems, at this stage:

> We undertake cultural monitoring in the Ahuriri Estuary, where we study fish and shellfish health and abundance on a 2-yearly cycle. This is on contract to the Napier City Council, with the income generated for the work donated to the Waiohiki Marae.

Kaipakihi Tuarua

Kaipakihi tuarua is a national and international award-winning New Zealand nature-based tourism business committed to sustainable tourism. It operates all year-round and is owned and operated by the indigenous Ngāti Kuri people of Kaikoura. The business started out of the local marae in response to economic decline in the area, particularly amongst Māori in

the community. The business believes that their ancestor the whale 'paikea' was the answer to their problems, and so, they have been offering tours since 1987. The business recognises that as a Māori-owned enterprise, they have a responsibility to take care of their visitors and the natural world, and operates with the five Māori values of manaakitanga, tino rangatiratanga, Iwi whanui, kaitiakitanga and whakapapa. Their aims include minimising waste, promoting recycling, using eco-friendly products, reducing energy consumption and carbon footprint, and minimising their impact on marine life. Their commitment to sustainability is shown in their annually agreed strategic objectives and departmental targets within their business plan, which are regularly reviewed and monitored for effectiveness.

The business works with scientists and frequently studies scientific journals to learn how to protect whales and their environment. As a result, they have taken a number of actions: they use jet propulsion units on their vessels to minimise noise, they contribute financially for research to be carried out in the area on whales, dolphins and seals and they are a member of the Tiaki Promise. The Tiaki Promise is a commitment in the tourism industry to encourage visitors to care for people and place. The company's tour guides give a talk about the Tiaki promise at the start of each of their tours.

There are three significant events the business has identified which has tested their resilience and strengthened their ability to adapt to environmental challenges. The first is related to the difficult times the Kaikoura community has faced leading up to the establishment of the business, the 2007-2008 global financial crisis and the Kaikoura Earthquake of 2016. The complexities of the 7.8 magnitude 2016 earthquake, described as the most complex earthquake ever studied, has led to discussions about the uncertainties of climate change. However, the business has bounced back after each event, pushed them to adapt to changes and seek new opportunities.

The themes that emerged from the interviews with the owner-operators of Kaipakihi tuatahi are discussed below:

1. Uncertainties and opportunities

Kaipakihi tuarua operates within a complex environment as Kaikoura has been responding to environmental challenges for some time, particularly "the Christchurch earthquakes of 2010 and 2011 (which) had a massive impact on tourist flows to Kaikōura, forcing the business to adapt again." Other challenges include pressures on infrastructure with an influx of visitors over time and the earthquake in 2016. The last earthquake created certain environmental changes such as seabed rise.

This business talked about the research that is being carried out in the area to understand the impacts of the earthquake on marine life. The care of marine life care has been a priority for the business since they started, and the businesses find it "hard to flesh out climate change impacts versus the earthquake."

Post-quake Kaipakihi tuarua did not operate for 49 days and the earthquake tested the business's resilience. However, hard-work and the willingness to adapt across the business has led to higher economic gains and a new marina, which was built in less time than planned and better than the one they originally had. The business is also in the process of building a new boat and a new hotel on the waterfront, to meet the high demands of customers. They said their immediate focus post-quake was their staff and whānau. They said they were not prepared for the 2016 earthquake but they are much more resilient now with experience:

> We had no choice but to evolve and adapt to a new normal that included looking at every aspect of our business when faced with over seventy percent loss of customers not being able to travel to Kaikōura by road. It was a very insightful experience, despite the challenging period we are now emerging with growth in visitor numbers driven by the team's committed focus on providing a

quality visitor experience and valuing every single customer that has visited Kaikoura.

Kaipakihi tuarua has given much thought to whether the business needed to change any of its current sustainability efforts in order to adapt to climate change. The business is prepared to adapt to any changes in their environment, including climatic changes, in order to uphold their values and in turn, taking care of their communities-including visitors, their lands seas and marine life. They said "we are looking for ways to do better for sustainability, right across our business." This is validated by their keen interest in scientific research, which is discussed in the next chapter.

2. A Māori values lens for understanding science

Kaipakihi tuarua consistently talked about applying a Māori lens when reading scientific journals about marine life. They also talked about how the science helps them to be more sustainable and adapt to impacts of the earthquake. Alongside studying science, the business upholds its Māori values, as stated below;

> Because we're a Māori-owned company, we hold onto those values, so when we're reading anything scientific, we interpret, for instance, we moved our motors from what they were when we first set up, to Hamilton jet units, as a result of reading scientific journals, about the noise that motors produce under water ...so we'd do this naturally based on the values we hold. We're always on the lookout for how we do things better, as a result of the damage of the quake, we will need to look at our building here and what we can do about it.

When asked about whether the business combines two knowledge systems – Mātauranga and Science, the business responded:

> We have not actually come across any journal articles in our area of interest which combines the two, but we would love to know if there are some.

Kaipakihi tuarua explained how they engage with and fund research, which assists their business in being sustainable, including any research that gives them insights into how climate change may impact on their business in the currently complex environment in which they operate.

3. *Māori values underpin the businesses commitment to sustainability*

The five specific Māori values that underpin Kaipakihi tuatahi's offerings are customer – manaakitanga, company – tino rangatiratanga, community – iwi whanui, kaitiakitanga – conservation and culture –whakapapa. These values drive the business's work as an ecotourism enterprise and guide its philosophy of protecting the environment and caring for visitors. Whilst the business is unsure about the impacts of climate change, they confirm that their values help them to strive to always do better. It is these values that helped the business to create opportunities in response to the earthquake. For example, the business discusses how kaitiakitanga leads them to implement business practices which help in protecting their ancestor, the whale. They also see kaitiakitanga and manaakitanga as interconnected:

> Because the whale is an ancestor, we would never do anything to harm them such as put sewage or grey matter from boats direct into the ocean because that's where they live. We are always visitors to the world of the whales and respect it as such.

It is because Kaipakihi tuarua is a Māori-owned company, they have obligations to their visitors, environment and ecosystems, which demonstrates how manaakitanga and kaitiakitanga are interconnected.

> As a Māori-owned company, our business cherishes the twin values of hospitality to visitors and reverence for the natural world. It is a philosophy that embraces people, the land, the sea and all living things as one.

Leadership for environmental protection is a key feature of this business. In line with the value of Tino rangatiratanga, it educates visitors on caring for the environment, teaches them about the tiaki promise, and invites

them to plant trees in order to reduce carbon emissions. Committed not only to minimizing their own carbon footprint, the business teaches their visitors and communities on how to do this:

> We're always looking at ways we can have less carbon footprint. We give a talk about the tiaki promise at the start of each tour, so when those visitors travel, they will do zero harm, in the places that they go to.

This business has also joined a local initiative called Trees for Travellers:

> We plant trees in our local community here; in our town we have trees for travellers, so every year we get native trees because we also have this vision of having natives from the mountains to the ocean. All based around natives that feed our native birds, so every year we have trees for sale in our retail shop, tourists can buy and take away or they can leave it and we'll plant it.

In many ways, the work of Kaipakihi Tuarua is similar to that of Kaipakihi tuatahi in as much as that they both work on reducing greenhouse gas emissions through tree planting. Joining the Tiaki promise gives businesses an opportunity to work on a shared kaupapa with the Department of Conservation, Local Government New Zealand and New Zealand Tourism bodies & organisations, including NZ Māori Tourism and Air New Zealand (Tiaki, 2019).

The values of Whakapapa and Iwi whānui come through in the way in which the business shares the history of their area and their ancestor Paikea with their visitors:

> Our business was formed in 1987 at a time when Māori were casualties of Kaikōura's declining economy. At this time of difficulty, Ngāti Kuri leaders like believed the local Sperm Whales held the answer to the unemployment problems of the Māori community. They knew their ancestor Paikea had journeyed to a new life in New Zealand on the back of the whale Tohorā. It seemed

appropriate for Paikea's descendants to again ride on the back of the whale to a new life and prosperity.

This cultural insight is important for understanding how this business adapts to different challenges and how they would eventually respond to climate challenges. They have referred to Paikea for providing them with answers to unemployment problems of the Māori community and they have referred to their whānau as important to consider, when disasters have struck, as indicated below:

What we weren't prepared for and didn't want to happen was 2016. The earthquake turned our world upside-down ... we could not have foreseen, but our immediate focus was whānau, and then staff.

Kaipakihi Tuatoru

Kaipakihi tuatoru is an internationally renowned, small whānau-owned and operated, sanctuary for New Zealand flora and fauna on Kāpiti Island. It offers a range of services, including tours where visitors can get up close to the kiwi, ferry transport to access the island and accommodation. The island is home to a number of native birds such as the kererū (wood pigeon), tui(parson bird) and weka(woodhen). The marine life at the sanctuary includes dolphins, orca and seals. The whānau has lived on the island since pre-Māori settlement times, and through the times of whaling and conservation development, which started in the early 1900s. Kaipakihi tuatoru operates on Māori land on the island although most of the island is owned by the crown and managed by the Department of Conservation. Tourism New Zealand have referred to the business as one Aotearoa needs more of – that is, low-impact, nature eco-tourism, delivered from a whānau base.

The business is like Kaipakihi tuatahi and tuarua, in the way that they are aware of climate change and are committed to sustainability as an eco-tourism business but are not entirely sure of impacts on their business and whenua. It is important to mention that the owner of kaipakihi tuatoru has an interest in the development of the tourism sector, in Aotearoa as well

as globally, for Indigenous peoples. This is a competing priority in the face of climate change. Like kaipakihi tuatahi and kaipakihi tuarua, this business is vulnerable on several counts and works on building resilience. When asked if it had identified any climate change impacts to its whenua, Kaipakihi tuatoru had this to say:

> In the last five years, it has become far more noticeable, the extremities, particularly the impacts of a harsher summer. For example, less water, more intense heat, impacts the flora, impacts bird nesting, impacts the kai on the ground for insects & other species.

Given that the peak operational season for the business is the summer, the quote above indicates that the business's taonga and key business activities are at risk as a result of harsher summer. Does the business have any strategies to address the issue? Their response:

> We are experiencing season change; our winters for example, the months of settled weather have extended a bit. That has had an impact on the length of our season. We were operating in June a few years ago; we are now operating into September.

Kaipakihi tuatoru has identified opportunities to extend their season based on weather conditions. They explained some of the opportunities and challenges that come with climate change such as "heavier rain and the challenge of collecting and storing it." The business has implemented additional measures in order to collect enough water to operate their business:

> We have had to implement additional measures – water intake from stream source, additional piping and groundworks for additional storage. Our lengthened and lengthening seasons require a two-phased approach: (1) More collection and storage and (2) More managed usage and conservation.

Although the business is prepared to adapt to climate change, there can also be tensions which can impact on the business's development, as outlined in the themes below.

1. *Collaboration*

Kaipakihi tuatoru collaborates with the Department of Conservation (DOC) to carry out some their responsibilities on the island, as there are "management plans for weed, pest, biosecurity, fire management, which cross over onto whanau land." However, there can also be some disagreements between DOC and the business:

> We do collaborate with DOC, but we have our disagreements, as they have a mandate which does not always align with what our whanau's responsibilities on our land.

Similar to kaipakihi tuatahi, this business, to a certain extent, depends on relationships with a central government agency to operate their business, and make some decisions which relate to environmental protection of their land. As mentioned earlier, an important finding about this business is that they have a focus on "tourism development in their own way." This aligns with Ringham, Simmonds and Johnston's (2016) observation that Māori tourism businesses create new spaces that contest colonial and capitalist values. In the context of climate change, King, Penny & Serverne, (2010) emphasise the diversity of Māori society and how there are various factors which determine how prepared different groups within Māori society are to adapt to climate change. For kaipakihi tuatoru, sharing their part of the land in their region with DOC – who manages a significant proportion of the crown-owned land, can lead to the business being restricted to practicing their cultural responsibilities as kaitiaki:

> There can be disagreements of a cultural nature…on one hand DOC also consult the business for advice of a cultural nature. The historical context also plays a part in where the business is currently placed for their development and making decisions about climate change, due to land confiscations in the past, there is much less land in whanau-ownership.

2. Cultural values

Kaipakihi tuatoru's business model is bolstered by Māori values: "Our business is kaupapa-based; our principles guide everything-mitigating and minimising risk."

This business has been protecting flora and fauna in Kāpiti for generations, with Māori values guiding their efforts. They are aware there are risks that come with operating a tourism business and they use their kaupapa to mitigate risks." Furthermore, they said that because of the nature of their work with the species on the island, they have to be adaptive. Applying a kaupapa approach helps with this as "there can't be a tick box exercise when protecting flora and fauna, for example you cannot manage tui breeding cycles, but we aim to minimise the risk, by applying those kaupapa.

In comparison to the other two businesses, kaipakihi tuatoru believes in sharing knowledge with their visitors through their business, including their conservation work and they also run holiday programmes for children. Furthermore, they refer to the value of their ūkaipōtanga (homestead) in the following:

> It's a part of us, it's what we call our ūkaipōtanga (home, source of sustenance), it's where we get our strength from, and it's where we get our reason for being is because of our attachment to that place."

This recognition of the business and their whānau's attachment highlights what Adger, Quinn, Lorenzoni, Murphy & Sweeney (2012) refer to as considering attachment to place in climate change adaptation policies for fair climate justice.

Summary
In summary, all three businesses are deeply committed to being kaitiaki for their whenua and showing manaakitanga towards their visitors. The businesses are prepared to adapt to environmental changes and have been caring for and enhancing their lands and ecosystems for generations.

In addition, Māori values underpin their environmental and business activities. Climate change is on each of the business's agenda at different levels and there are various reasons as to why the businesses are not currently adequately prepared for climate change adaptation. The reasons include differing priorities and challenges and a need for knowledge of climate change impacts and adaptation. On the other hand, the businesses are identifying some opportunities as a result of environmental challenges and in some cases, climate change. There are also intersections between scientific knowledge and traditional knowledge in dealing with issues of climate change and the businesses show that they are proactive in their approach to environmental protection through their cultural values and a culture of mitigation across the wider tourism sector. Some of the themes emerging from the findings are discussed in the next chapter.

.Chapter 5

Discussion

Introduction

This chapter attempts to make sense of the findings by relating them to the literature. It is divided into three sections. The first section is on climate change adaptation and Māori tourism business, exploring Māori tourism business perspectives, competing priorities, business and communities and the notion of culture in climate action. The second section looks at Te Ao Māori and climate change, the Māori values of kaitiakitanga, manaakitanga, Ūkaipōtanga, rangatiratanga, whanaungatanga and whakapapa and ancestors. Lastly, the third section discusses the findings on the blending of tikanga and science.

Climate Change Adaptation and Māori Tourism Business

Māori tourism business perspectives: There were similar views about climate change amongst the businesses, in terms of what climate change impacts are and the pace of those impacts. As in the study by Hopkins (2013) on the Ski Industry that found the general perception amongst participants was that the effects of climate change are distanced and gradual, the businesses in this research felt that extreme weather events are related to climate change impacts but were not sure of the specifics. Kaipakihi tuatahi and tuatoru recognised that they are noticing changes in their seasons and sea level rise but did not know if these impacts are climate related. Kaipakihi tuarua also said that it is hard to determine climate change impacts in Kaikoura, due to disruption caused by the earthquake which hit Kaikoura in 2016. However, the business has an active interest in how they can do better in business, including taking better care of the environment through reducing their carbon footprint. These perspectives align with the study carried out by the Ministry for the Environment (2017) in which many Māori communities are unsure about the impacts of climate change and, therefore, unaware of how to adapt to those impacts. All three

businesses in this study are sea-based, which makes them vulnerable because sea level rise is quicker in the Pacific than the global average (Wong, Jiang, M, Klint, DeLacy, Harrison, Dominey-Howes, 2013). However, although kaipakihi tuatahi knows that sea level rise is happening and is having an impact on their business activities, they do not see it as having a significant impact in the short-term. Kaipakihi tuarua mentions that extreme weather events will have an impact on their region, but again, they see uncertainties around the timing and impact. Kaipakihi tuatoru is aware of climate change impacts and has started to adapt to changes in season.

Competing priorities and sustainable business: The findings showed that each business manages various priorities, including their day-to-day business activities, interacting with the values of different partners and various environmental initiatives, involving restoration of their natural environment and protection of their species, from native birds to marine life. On one hand, this focus is implicit within their business models and they are practising their role as kaitiaki. On the other hand, the priorities are also impacted by environmental degradation by human activities. The climate change matrix for Māori society discusses how Māori at different levels of society will be impacted by climate change, i.e., at the business, household and Iwi level (King, Penny & Serverne, 2010). The findings of this research show that the businesses aim to carry out environmental activities or respond to climate change within the scope of their current knowledge, which impacts at the whānau, iwi and business level.

The study by (King, et al., 2007, p.9) found that considerations of community vulnerability and change are "inseparable from issues linked to sustainable development and natural hazards management." This supports the businesses' perspectives on climate change. The businesses commented that climate change effects are quite slow and that it is hard to distinguish a climate change impact from a natural disaster impact. Kaipakihi tuarua talked about the earthquake that struck Kaikoura in 2016 but also how they recovered from this disaster. This business has been

recognised for its resilience in responding to the earthquake; while it did not operate for 49 days post-quake, it recovered quicker than expected. The business said it was their values which helped them recover and that they had to be willing to adapt to a new way across their business. The business did not specifically mention climate change adaptation, but their willingness and ability to adapt post-quake, and their use of their Māori values to achieve this adaptation, offers important insights into cultural aspects of climate adaptation. Kaipakihi tuarua have an approach to adaptation which fits with the literature about how some indigenous peoples, including Island Nations across the Pacific, are guided by their cultural values, when adapting to climate change or natural disasters. For example, the people of the village in Wavuwavu who were forced to migrate to a new village for climatic reasons often travelled on foot to return to Wavuwavu because of their strong cultural connections to their original land (Neff, Benge, Boruff, Pauli, Weber & Varea 2018).

Kaipakihi tuatahi operates in a region which has recently declared a climate emergency for the city (Hawkes Bay Regional Council, 2019), so serious direction for climate change adaptation is recent. The business talks about how it does have concerns that climate change will have an impact on the city with sea level rise in the long-term, with less concern for climate change impacting on their business in the short-term. They also prioritise what they can do to minimise risk now for the long-term, and as stated in the findings, their business was doing work at the estuary to reduce the impact by planting native trees along the estuary. The business did not have concerns about the long-term implications on their business, due to more immediate priorities. The business is concerned about climate change impacts such as sea-level rise on their city, but they are unclear about the immediacy of such impacts. The businesses have experience in environmental adaptation, which has occurred overtime, but for them the lines between what is a climate change impact and what is not is blurred.

Business and Communities: None of the businesses in the study operate in isolation of their iwi and Whānau. As pointed out by Mcintosh, Zygadlo & Matunga (2004), some of the values that define a Māori tourism business include whakapapa and the spiritual connection that Māori have with the land and their ancestors. The businesses all share a story of providing for their people, economically, culturally and especially environmentally. They acknowledge that Māori at the household, business, hapū or tribal levels are affected differently by the biophysical impacts of climate change (King, Penny & Serverne, 2010). The findings show that the businesses support their communities, including their iwi, hapū and whānau, and are particularly aware of environmental issues.

Māori tourism businesses were created as a way for Māori to be self-determining with their resources, often with the aim of disrupting colonialism and capitalism (Ringham, Simmonds & Johnston 2016). Kaipakihi tuatahi was started off the back of the environment enhancement projects they have been working on. Kaipakihi tuarua was created out of economic hardship, experienced by a high percentage of Māori in its town. Kaipakihi tuatoru was started within the community and continued the work of their whānau of welcoming visitors to and protecting their land since the 18th century. The study provides insights into how much Māori have to offer in the form of sustainable tourism, through offering their knowledge of the environment from a Te Ao Māori perspective. It also shows how much is at stake for New Zealand and Māori communities, including both economic and cultural losses.

In addition to the discussion about how the businesses lead by educating their visitors about kaitiakitanga, the businesses also identified their obligation to share their knowledge with their communities. This knowledge is varied, as discussed, and includes the science behind environmental impacts and solutions to those impacts. It also includes the current and desired relationships with different local and central government institutions. The findings showed how kaipakihi tuatahi communicated with their communities about what they require of local

Councils and advocated the need for a formal partnership with their regional council, in order to practice kaitiakitanga on their oceans, forests and lands (Hawaikirangi, Hawaikirangi & Ormsby, 2014). This is significant as it shows that iwi and whānau tourism businesses play a role in working with local and central government to channel cultural and environmental concerns on behalf of their people. Kaipakihi tuatoru indicated their important work with DOC to manage a range of tasks on the island. However, the findings show that while the organisations are willing to work with different partners, including their communities and local and central government, there are no formalised climate change adaptation strategies in place with these Māori tourism businesses at the local level.

Opportunities and challenges of natural disasters and climate Change Impacts

Participants in this study have sought opportunities as well as come up against challenges within their businesses as a result of natural disasters and climate change on their lands. As defined by (IPCC 2018) Climate change adaptation is an "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects." P.6.Kaipakihi tuarua discussed some of the opportunities they are pursuing due to the earthquake to improve their practices and how they are looking at the sustainability of their new building and the development of a better and bigger vessel. As the findings show, kaipakihi tuatoru has extended out their season, due to less harsh winters, which could be beneficial economically for the business, given they sometimes cannot take tour groups over to the island in unsafe weather conditions. It is worth comparing this finding with Hopkins' (2013) study on snowmaking as an adaptive strategy to guarantee a snow season for visitors in lean snow years. Just as customers questioned the sustainability of snowmaking in that study, there could be potential questions about sustainability when tourism providers extend their season as an adaptive measure. Kaipakihi tuatoru talked about harsher warmer summers impacting their business's ability to collect rainwater, but at the same time warmer summers helped power their solar panels. Although the businesses are prepared to an extent to adapt to climate change, uncertainties of climate change have

meant that two of the businesses are increasingly not operating when there are storm-like conditions. They currently do not have strategies to adapt to extreme weather conditions.

Culture and Climate Change

The findings show that the businesses in the study have a strong focus on reducing carbon emissions by planting trees. The tiaki promise, to which two of the businesses belong, is a tourism initiative which encourages visitors to protect land, sea and culture when they visit New Zealand (Tiakipromise, 2019). Climate change mitigation is outside the scope of this research, but it does provide the context for why Māori tourism businesses focus more on mitigation activities. The businesses in the study have a proactive approach to the environment as they practise their responsibilities of kaitiakitanga.

Te Ao Māori and climate change adaptation

The findings showed that the participating businesses are founded upon Māori values and principles of Te Ao Māori and that they apply these values when responding to environmental impacts and climate change impacts understood to be characterised by extreme weather events. However, as discussed in the previous section, because of immediate competing priorities, they are not actively adapting to climate change. Nevertheless, they do use Māori values to respond to and minimise risk to their environment, which still provides insight as to how they may apply Māori values to climate change adaptation. And, as discussed in the previous section this is dependent upon these businesses being supported with enough resources, such as knowledge of the speed of climate change impacts, cultural autonomy, how to adapt and support through collaboration with local and central government. Based on the Ministry for the Environment's climate *change adaptation stocktake report* and their consultation with iwi, there is significant work that needs to be done to include Māori values in policies, which meet the needs of urban and rural Māori (Ministry for the Environment, 2007, Ministry for the Environment, 2017). Furthermore, the *stocktake report,* identified numerous gaps in

knowledge about Māori society and climate change adaptation. In relation to Māori values and a Māori worldview, the tools that were identified as missing include how to enable climate change adaptation in Māori communities. Whilst there are uncertainties about what is classed as climate change impacts, as identified by the participants in this study, the findings offer insights into how the businesses apply a Māori lens to understanding the natural world and then respond to environmental change (Ministry for the Environment, 2017).

The findings clearly show that these businesses, their iwi, hapū and whānau need assistance to understand climate change impacts and the speed of such impacts. Therefore, there is a need for knowledge of the impacts of climate change to be effectively communicated to these businesses in a way which supports the urgency, informed by a Māori worldview, and recognises the autonomy of each business and their whānau and Iwi. The MfE Stocktake report also stated that under the organisation section, Māori/Iwi do not have common goals across climate change. However, the findings of this study indicate that there may not be common goals across Māori society, given it is not a homogeneous society. Therefore, the findings suggest a more targeted policy approach needs to be taken to understand how Māori tourism businesses may apply Māori values in adapting to climate change. Whilst there are commonalities between the businesses in their values, they have different challenges in responding to their respective lands.

Māori values and Māori tourism business

As Roche (2019) points out, Māori leadership in organisations is made up of a combination of modern and traditional influences. Her findings discuss how Māori leadership in the business context involves leadership within often-marginalised communities. The findings of this study also show that the businesses are in positions of leadership in their communities and have a lot to offer the wider Māori tourism sector in terms of how they respond to risk, how they develop resilience and how they care for the environment. This would meet many of the goals set out in the Aotearoa

New Zealand Tourism strategy, such as, a transition to a low emissions economy (Ministry for Business, Innovation & Employment, 2019). Following is a discussion about the values that the Māori tourism businesses in this study are applying within their businesses for environmental protection and climate risk minimisation.

Kaitiakitanga: Each of the businesses has a commitment to their whenua as kaitiaki, reflected in their environmental work and conservation efforts, which make up important components of their tourism businesses. Kaitiakitanga is a value identified in the literature that is important to the Iwi Māori who participated in Ministry for the Environment climate change adaptation consultation (Ministry for the Environment, 2007) and the Māori tourism businesses involved in the study by Ringham, Simmonds, Johnston (2016). The findings show that the businesses are practising kaitiakitanga in various ways from planting trees to finding alternative boat engines to protect marine life. The MfE consultation for climate change found that a concern of Iwi is that they do not feel they can practice their responsibilities of kaitiakitanga if Māori values are not included in climate change policies. As highlighted in the previous section, it was also identified that businesses are conflicted with environmental issues which affects their ability to practise their responsibilities of kaitiakitanga. This is due to reasons such as degradation to their whenua – one of the businesses explained that their awa is sick due to land development. A formal partnership with local Council was identified as a solution within the Iwi's awa management plan to help with lifting the mauri of their awa.

Manaakitanga: Manaakitanga and kaitiakitanga are closely tied, an integral part of the Māori worldview of interconnectedness, that is, everything is connected and there is no separation between people and nature. All three businesses have manaakitanga and kaitiakitanga as their business values, which they identify, underpins their business model. Both manaakitanga and kaitiakitanga were values identified as important values for Ngāti Huirapa, as they supported one another amongst their community to adapt to climate change (King, Dalton, Home, Duncan,

Srinivasan, Bind, Zammit, McKercar., Ashford-Hosking, & Skipper, 2012). The businesses in the current study express how they take care of their visitors by taking care of their environment, and this is also shown through how they invite them to learn about kaitiakitanga. Two of the businesses talk about the idea of teaching their visitors about kaitiakitanga, so they can go home and share this concept within their own communities. The businesses also show they are flexible with adapting their business offerings to cater to their own environmental and customer needs. Kaipakihi tuatoru, for example, offers food packages to their customers as they do not allow customers to bring some food items onto the island, in order to protect their species and keep their island pest-free.

Ūkaipōtanga: The importance of home was a common theme across the businesses for the places in which they operate. Quinn, Lorenzoni & Adger (2016) discussed the importance of place for a group's identity and how consideration of this in policy decision making can lead to climate justice. Each of the businesses referred to their lands being important for their identity, which further fits Quinn, Lorenzoni & Adgers' (2016) study, where they say that climate change can result in more than economic loss but can also lead to loss of culture and identity. One of the businesses referred to the negative impacts that climate change is set to have on their whenua, rather than show as much concern for the impacts for their business. Therefore, climate change adaptation messages and policies should include an understanding of how Māori tourism businesses operate within their whenua, and of the cultural significance of their lands.

Rangatiratanga: A value that has not been discussed adequately in the literature on climate change and Māori society, but emerged from the findings, is rangatiratanga. In the Māori world rangatiratanga refers to leadership. The findings showed that leadership in relation to climate change and environmental care was practised by each of the businesses. In relation to climate change response, two of the businesses invite visitors to plant trees, with the aim of teaching them about the Māori value of kaitiakitanga. This is in recognition of the fact that tourism contributes to an increase in greenhouse gas emissions (Ministry of Business,

Innovation & Employment, 2019).In addition, the tiaki promise, which two of the businesses in the current study promote through their business, urges that visitors "Care for land, sea and nature, treading lightly and leaving no trace" (TiakiNewZealand, 2019). Overall, there is an active effort to reduce the carbon footprint amongst the tourism sector, but there is currently no strategy which looks at climate change adaptation in the tourism sector generally, including the Māori tourism sector. This partly explains why the businesses in the study currently do not have climate change adaptation strategies. Their willingness to lead in environmental protection within their business, based on their values and current strategies, does show their adaptability to environmental expectations of the current Ministry for Business, Innovation & Employment tourism sector strategies (Ministry of Business, Innovation & Employment, 2019).

Whanaungatanga : Whanaungatanga was a core value in the Arowhenua pā study on the community's ability to adapt to climate change (King, Dalton, Home, Duncan, Srinivasan, Bind, Zammit, McKerchar & Ashford-Hosking 2007) although this was mainly focussed on the relationships amongst the iwi. The current study shows the businesses' desire for whanaungatanga or partnerships reflected in their efforts to partner with local, central government, and community groups to create environmental strategies, including planting trees. One of the businesses engages in community consultation with the regional council despite the council's attention to mitigation rather than adaptation. The local district council in the region of another business has many sustainable projects in place to protect biodiversity in the district but does not have a climate change strategy for local businesses.

Significantly, the obligations Māori tourism operators have within different legal and business contexts sometimes clash with their cultural values (Ringham, Simmonds & Johnston, 2016). Furthermore, as the study by King et al. (2007) found, there is the issue of various institutional structures and arrangements making decisions which impact the Māori way of life and their aspirations. Kaipakihi tuatoru talked about

disagreements they have with a central government authority over decisions relating to environment and cultural matters.

The study has shown that Māori tourism businesses do rely on partnerships in operating various aspects of their business. However, as the findings indicate, the businesses face the challenge of getting their cultural values to be considered more by local councils.

Whakapapa and ancestors: All the participating businesses have a generational focus, where they draw on knowledge of their ancestors and think about how their work will impact future generations. They consider their ancestors to be living beings, both human and non-human, which also informs their kaitiaki practices. Each business shared its whakapapa connections with their whenua; each story was unique to the places in which they operate. Quinn, Lorezoni & Adger (2016) discuss how a values-based approach is required to implement equitable and culturally sensitive climate change adaptation strategies. This is particularly important because currently the primary focus in Aotearoa is on economic gains from tourism and the government's plans to create a more sustainable sector (Ministry Business, Innovation & Employment, 2019). This also brings up differences between the Māori tourism sector and the wider tourism sector. Both have a focus on sustainability but Māori tourism businesses, as this study shows, act on sustainability actioned through cultural values embedded in their business models. The Māori tourism businesses in this study and the communities around them have been practising sustainability for centuries. For example, Kaipakihi tuatahi says that "since the 15th Century our tīpuna have lived as one with Tūtaekurī awa. It is well-known that the tangata whenua of the Tūtaekurī awa not only treasured but protected this valuable resource." As the Ministry Business, Innovation & Employment report (2019) points out; there is an opportunity for central government to draw on Māori values and knowledge to achieve its goal of a just transition to a carbon-neutral New Zealand (Ministry Business, Innovation & Employment, 2019).

Communicating Scientific Knowledge and Tikanga Māori

There were mixed attitudes among the businesses about the importance of scientific information. Kaipakihi tuatahi and tuarua favour scientific knowledge combined with tikanga Māori, whilst Kaipakihi tuatoru is distrustful of science. The distrust of science by Kaipakihi tuatoru is in line with a body of literature on how scientific information about climate change has not been communicated equitably to all groups, including Indigenous Peoples (Boston, 2006). Kaipakihi tuatahi and tuarua both have an interest in science: Kaipakihi tuatahi states that it "helps them readily understand the natural world." Kaipakihi tuarua has a positive view of science, as this information has helped them learn about marine life such as whales over time. Scholars such as Carter (2019), Hiwasaki, Luna, Syamidik & Shaw (2014) and Mokondo & Thomas (2018) have all argued about the importance of combining western and indigenous knowledge systems.

Kaipakihi tuatahi and tuarua have also discussed how they either combine tikanga Māori or interpret scientific information through a Māori cultural lens. While the businesses talked about their engagement with science in relation to climate change and the natural world, their insights align with the literature around effective communication of science to Māori & Indigenous people (Smith, Allan, Bryant, Hardy, Manning, Patterson, Poutama, Richards, Richardson, & Spinks 2017). Kaipakihi tuatahi talked about how knowledge of both science and tikanga is used as a communication tool to share messages of environmental protection to their communities. Kaipakihi tuarua talked about how they are always reading the latest science around protecting their marine life in looking for ways to improve their business. These findings may contribute towards the Ministry For the Environment stocktake report, to understand some of the tools these businesses need to help them adapt to climate change, which, in turn, could create the capacity to investigate the science behind climate effects and impacts in their whenua. Co-designing adaptation strategies by combining science and tikanga Māori can help the businesses better adapt to climate change.

Summary

This research has contributed to a growing literature on Māori society and climate change adaptation. The participating businesses in the study are not yet prepared for adaptation at this stage but the findings show that they are working on adapting to environmental changes in order to uphold their responsibilities to nature guided by their Māori values. Because of these values, these businesses have embedded environmental protection into their business models. The findings also provide insight into what the perspectives of the businesses are around climate change, what barriers they face in working on climate change adaptation, the difficulties in accessing knowledge of climate change impacts, adaptation opportunities and challenges they are faced with, including opportunities for stronger partnerships between the businesses and local and central government institutions, and competing priorities in running a business.

Chapter 6

Conclusion and Recommendations

Māori tourism businesses have displayed significant resilience in the face of various changes and challenges over time. They offer a unique set of experiences to both domestic and international tourists through interweaving their histories and their sacred places in the activities they offer. These experiences and indeed the viability of the businesses itself are at stake with a rapidly changing climate. Hence, Māori tourism businesses must be prepared to adapt to climate change to protect their taonga.

The businesses in the current study are deeply committed to protecting their environment and sharing their way of life with their visitors. Their efforts to protect and enhance their environment offer important insights which can contribute towards the creation of climate change adaptation strategies for Māori tourism businesses. The study has also added to an emerging literature about the need to centre culture in climate change adaptation strategies.

The key findings of the research are outlined below.

- The businesses in this study have an active interest in the environment but are unsure of the specific nature of the impacts of climate change. They remain committed to creating a more sustainable tourism sector in New Zealand but there is an uncertainty about the impacts of climate change on their activities at least in the short-term. There have been national research projects about climate change adaptation such as the Ministry for the Environment climate change adaptation stocktake report (Ministry for the Environment, 2017) and the Deep South Challenge projects such as the Mātauranga Māori Climate Change adaptation projects (Smith, Allan, Bryant, Hardy, Manning, Patterson, Poutama, Richards, Richardson, Spinks 2017). But the results of these

projects have not yet reached Māori tourism businesses. The MFE stocktake report, completed in 2017, identified the many gaps in knowledge, understanding and capacity of Māori for climate change but this report too was limited in its view of Māori society. As King, Penny & Serverne (2010) explains, Māori society is diverse, and this has significant implications for climate change adaptation, for whānau, iwi, hapū and business. As a diverse society, different adaptation strategies are required to reduce the implications, which are - not protecting tāonga, negative impacts on the Māori & New Zealand economies and persistent high levels of economic hardship for some Māori communities – which results from a historical legacy of loss of land and resources (King, Penny & Severene, 2010).

The report placed a lot of responsibility on Māori communities to adapt, and while Māori communities have been resilient to social, cultural and environmental changes, the report missed out the historical injustices which have led to an inability for some groups in Māori society to adapt. This research finds that climate adaptation efforts often get sidelined because of the competing priorities the businesses face in juggling their commitments to the communities they are a part of and managing social issues alongside environmental ones.

- Culture is a significant part of the business models of the enterprises studied in the project. All that the businesses do in the space of environmental protection and adapting to changes they notice are guided by the Māori values of kaitiakitanga, manaakitanga, Ūkaipōtanga, rangatiratanga, whanaungatanga and whakapapa. The findings have shown that for Māori tourism businesses, Māori values are not just for their businesses but also translate into a way of life.

- The study shows an interesting blending of science and tikanga as well as tensions between science and Māori knowledge in some

spaces. Two of the businesses either combine tikanga Māori with scientific knowledge or interpret scientific information through a Māori cultural lens. The third business, however, exercises caution about science because of the marginalisation of indigenous groups by mainstream scientific research.

- The findings of this study show that there are commonalities and differences between the Māori tourism businesses in this study. The similarities include Māori values being the foundation of the businesses sharing the same sense of responsibility for their lands and people and wanting to share their way of life with their visitors. The differences include their varied tourism offerings, the ways in which they interact with science, and the ways in which they respond to natural disasters in their respective areas.

Recommendations

1. **Government strategies for tourism need to consider more regionally targeted knowledge building for climate change adaptation**

There needs to be an increase in funding to enable knowledge-building of climate change impacts and adaptation for Māori communities. The current study focussed on a small part of one sector of Māori society and illustrated diversity amongst the three businesses. This means that the knowledge building will need to be targeted to different Māori tourism businesses, depending on a variety of factors, including their location; treaty settlements redress status, Iwi history, Iwi governance structures, and current relationships with local and central government. Further research investment is required to build this knowledge and make it accessible to the businesses.

2. **Regional and local councils need to co-design a climate change adaptation strategy, with Māori tourism businesses, whānau, hapū and iwi**

While local government has legislative and regulatory authority in the regions, they will need the assistance of Māori tourism businesses for their local knowledge of the environment, and of the vulnerabilities and abilities of the Māori tourism businesses and their communities to respond to risk. Each business is already engaging with local and central government organisations and structures in relation to environmental plans, and some of these plans already have identified climate change impacts and their implications. Therefore, it is important that hapū, Iwi and whānau owned Māori businesses and their communities are involved in co-designing climate change adaptation strategies with local councils, focusing specifically on a particular region.

3. **Māori values must underpin climate change adaptation research and strategies**

Māori values should be integral to the co-design of strategies for climate change adaptation. The literature has shown that Māori have been consulted, but there are disagreements around matters of cultural significance to Māori in relation to climate change and environmental matters (Ministry for the Environment, 2013. This recommendation is about creating positive partnerships between local government and Māori tourism businesses, iwi, hapū and whānau. As the literature shows, Māori have been historically disadvantaged by the decisions that have been made for them without adequate representation of Māori in the decision-making processes (Ministry for the Environment, 2013). Therefore, Māori would be best placed to talk about how they practise their values and how they may contribute towards climate change adaptation.

Limitations

As this was the first study into Māori tourism, some of limitations identified are reflective of the participants chosen for this study, which does not reflect the diversity across the Māori tourism sector as follows;

1) The businesses which participated in the study all identified as eco-tourism or practiced conservation within their business practices
2) The businesses are all whānau or hāpu-owned

Further Study

This study was the first to focus specifically on climate change adaptation in the Māori tourism sector, it identified some implications and recommendations for Māori tourism, based on the gaps identified in the *Ministry for the Environment Stocktake report,* their consultation with 13 iwi across New Zealand and based on the following limitations of this study. Some suggestions for future studies were mentioned throughout the discussion.

As Māori society is diverse, there should be further studies carried out which explores the position of Māori tourism businesses in different parts of the country, that come in different forms, i.e., not just ecotourism and that are not just operating on whānau or hāpu-owned land. This would also align with the literature on climate justice and kaupapa Māori methodology, recognising and acknowledging the diverse lived experiences of Māori. It also recognises the journey of development of Māori tourism for different businesses, as studied by (Ringham, Simmonds & Johnson, 2016), which shows the different historical challenges and successes from that development. Further studies could include research into the relationship between local council and Māori tourism businesses and knowledge capacity for Māori tourism businesses about climate change adaptation.

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Appendices

Appendix one : Consent Form

Waikato Management School
Te Raupapa

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Culture and climate change adaptation: A study of future-proofing Maori tourism businesses

Consent Form for Participants

I have read the **Information Sheet for Participants** for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I am free to withdraw from the study *at any given point up until I have reviewed and approved the interview transcriptions*, or to decline to answer any questions in the study. I agree to provide information to the researchers under the conditions of confidentiality set out on the **Information Sheet**.

☐ I agree to participate in this study under the conditions set out in the **Information Sheet** form.

☐ I agree to this interview being recorded.

Signed: _____

Name: _____

Date: _____

Researcher's Name and contact information:
Crystal Tawhai
Email: cct7@waikato.students.ac.nz
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Professor Debashish Munshi
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Appendix two: Participant Information Sheet

Waikato Management School
Te Raupapa

THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Kia ora

My name is Crystal Tawhai and I am completing a Master of Management Studies at the University of Waikato. As part of my qualification, I am undertaking a study which will explore how prepared Māori tourism enterprises are to adapt to a rapidly changing climate. The aims of this study are to explore how Māori tourism enterprises may future-proof their businesses and cultural values, amidst the impacts of climate change.

This study is funded by a scholarship from The University of Waikato and The Deep South National Science Challenge and will contribute towards a project on 'Culture and Climate Change' led by Professors Debashish Munshi and Priya Kurian. More information about this project can be found at the following link; https://www.deepsouthchallenge.co.nz/projects/culture-climate-change

Interviews and You are invited to participate in an interview with me, lasting no more than one hour, at a mutually agreeable place and time. The interview will be semi-structured, allowing you to openly express your ideas, suggestions and opinions decision-making processes for climate change adaptation. Alternatively, you may be invited to participate in a focus group session with other participants.

With your approval, I will use my mobile phone to audio-record the interviews and transcribe the information. Once analysed, the information/views garnered from the interviews and focus group sessions will be used in (a) a master's thesis and (b) publishable research articles and publicly disseminated reports and presentations.

Your confidentiality and anonymity are assured throughout, and your identity will not be disclosed without your consent.

Please note that participation of this interview is voluntary. If you decide to participate you have the following rights:

- ✓ To refuse to answer any question
- ✓ To withdraw from the research at any given point up until you have reviewed and approved the interview transcriptions
- ✓ To ask me to delete any material that is provided
- ✓ To stop the audio recording and request the switching off the phone recorder at any time
- ✓ To ask any questions relating to the research at any time during your participation
- ✓ To be given access to a summary of the findings from the study when it is concluded.

If you have any questions about this research project, you can contact me using the contact details provided below.

Contact information:

If you have any questions or concerns regarding this study, please feel free to contact me on my e-mail address.

Crystal Tawhai. e-mail: cct@waikato.students.ac.nz

If there are any further questions that you would like to have answered, you may contact my thesis supervisors:

Professor Debashish Munshi, Waikato Management School, The University of Waikato
Phone: 07 838 4450   e-mail: debashish.munshi@waikato.ac.nz
Professor Priya Kurian, Faculty of Arts and Social Sciences, The University of Waikato
phone:07 837 9719   e-mail: priya.kurian@waikato.ac.nz

Appendix Three: Interview Schedule

The interview guide is an important first step in the construction of the interview process; it is developed based on the nature of the research and the aims of the study (Ryan, Coughlan & Cronin, 2009).

These questions were the prepared questions, further questions were asked as the interview progressed.

Kaipakihi tuatahi Interview Questions

Q1) I understand that you lead many environmental projects, could you please share some information about those projects? Such as, what the kaupapa is for those projects and some of the activities taking place for them.

This question will be asked to initially, start a whakawhanaungatanga process, to give the interviewee an opportunity to share about their business, initiatives and communities. It also aligned with some of the literature which talked about Māori Values and the environment. I also thought it would be a good first question to assist in answering the primary research question, to establish what challenges, opportunities and priorities the business currently has, particularly with an environmental focus.

Q2) Are you seeing any impacts of climate change on your whenua and if so, what impacts are you seeing?

This question will be asked to begin a conversation about climate change and gauging the businesses position for climate change adaptation.

Q3) Do those impacts have a direct impact on your business, if so, how?

Purpose: To explore the relationship between the business and climate change

Q4) I note you have a background in Science, that you're engaged in scientific research and your business is underpinned by your ancestral connections, knowledge and Māori values. Does the science and knowledge of the environment from a Te Ao Māori perspective, complement each other when responding to environmental and if applicable, climate change impacts?

This question will be asked to find out how the literature about the combination of science and local knowledge for climate change may apply in the New Zealand context.

(Q5) Do you have any current strategies in place within your business to adapt to climate change? Or any ideas based on your knowledge and experience of the natural environment?

This question aims to discuss potential strategies.

Kaipakihi tuarua Interview questions

Q1) Could you please share about your role as the People and Sustainability Manager?

This question will be asked initially, as a part of the whakawhanaungatanga process, to give the interviewee an opportunity to share about their business, initiatives and communities. I think it is a good

initial question to potentially introduce some of the environmental and/or climate change strategies that they may lead in their role.

Q2) I know that your business is committed to the Tiaki promise, could you please share a bit about that kaupapa and Kaikoura Whale Watch's involvement?

The Tiaki Promise aims to promote the protection of the natural environment to visitors who come to New Zealand. I will ask this question to continue a conversation about the sustainability measures the business have in place.

Q3) Is climate change having an impact on your whenua and ecosystems?

This question was asked to gain insight into the business's understanding of climate change in the context in which they operate. It will be a good way to begin a conversation about climate change and how it may tie in with their current environmental efforts.

Q4) Do you need to change any of your current sustainability efforts in order to adapt to climate change?

This question aims to further link the business's current environmental efforts with potential climate change impacts, with the aim of finding out what adaptation strategies the business may already have in place.

Q5) what are your thoughts on combining two knowledge systems- science and Matauranga Maori to respond to climate change?

This question will be asked to explore some of the literature which looks at the combination Maori Ecological Knowledge and science, for climate change adaptation. The businesses website also mentions their commitment to research for marine protection.

Kapakihi tuatoru Interview questions

Q1) Your whānau have been welcoming visitors to Kāpiti since the early 19th century, could you please share what cultural knowledge, relating to environmental protection has been passed down through generations?

I had researched the website prior to this interview and learned how long the whānau have been living on and caring for their whenua. I also found out they operate their business based on Māori values. Therefore, I think this will be a good question to find out what initiatives they may have in place and the potential relationship with intergenerational knowledge.

Q2) I have read that you work in partnership with DOC, could you please share about what sort of collaborative activities you do?

This question will be asked to explore relationships between central government and the business.

Q3) I know that protecting flora and fauna is a priority for your whānau, could you please share what practices you have in place to do this?

This question will explore one of the whānau's everyday environmental commitments

Q4) Are you seeing any impacts of climate change in your whenua and your ecosystems?

This question aims begin a discussion about climate change and gauge the businesses position.

Q5) Do you have any current strategies for climate change adaptation?

This question will be dependent on what the previous answer is, it may change.

Q6) Do your Māori cultural values impact your approach to climate change impacts?

The business had identified their Māori cultural values which guides their business activities online. This question will be asked with the aim to find a link between Māori cultural values and the business's view and/or response to climate change.