

*Mana Wāhine In Information Technology:*

*Ngā Kaiwhatu Kākahu Me Te Kākahu*

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*Te Whānau-ā-Apanui, Ngāti Kahungunu, Tūwharetoa*

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### **Karakia Tīmatanga – Beginning Incantation**

*Me aro koe ki te hā o Hineahuone.*

*Mai te tīmatanga, ko Papatūānuku te whaea whenua,*

*ko Hineahuone te ira tangata tuatahi,*

*he wahine.*

*Tīhei Mauriora!*

Pay heed to the dignity of Māori women.

From the beginning of time, was Papatūānuku the Earth Mother,

then Hineahuone the first human created,

a woman.

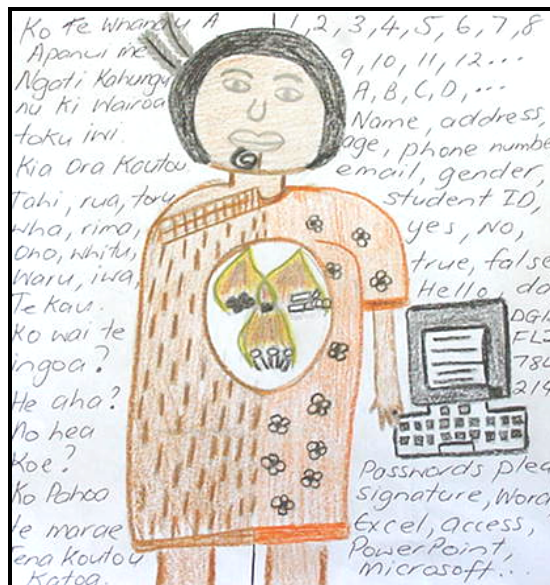
I sneezed and therefore I live!

## Ngākau Atu – Dedication

*Tēnā rawa atu ki a koutou katoa,  
e ngā rau rangatira o Ngā Kaiwhatu Kākahu Me Te Kākahu,  
he putanga tēnei mahi rangahau nā koutou.  
Ānei he taonga mā koutou katoa.*

Many thanks to you all,  
the Māori women in IT leaders,  
this emerging research conducted belongs to you.  
Here is a treasure for you all.

*Mauri tū, Mauri ora*  
Stand confidently, live confidently.



This picture was designed by Atareta Wirihana in 2000 to represent cultural identity for a Māori woman in IT.

## Ngā Mihimihi – Acknowledgements

*Ko Papatūānuku te koka whakaora. Nāna i whakaputa ko ngā kaitiaki o te Ao e. Heke iho i a ratau ko tatau katoa. Ka moe a Tane ki a Hineahuone. Kei Kurawaka raua i hanga te mauri tangata e. Mai i te kopu ki te uha. Ka puta tatau te hunga ora ki te Ao Marama e. Ko te wahine Māori he kanohi ora a Papatūānuku e. Ta Papa te hunga Atua. Ta tatau te hunga tangata. Ka mau oranga roto i te kopu pera ki a ia. Kia mau tonu te mauri tangata mo ake tonu e. Mai i te kopu ki te uha. Ka puta te tangata ki te Ao. Tīhei Mauriora!*

To the many daughters of Papatūānuku whose experiences, pain, joy and dreams follow, this mihi is written for us as Māori women to remember that all life and all that is possible in life, emanates from within our powerful beings. We are powerful, we hold life, we create life, we bring life into the world, we nurture and feed that life and even when that life is no more, our tipuna Hinenuitepō [Great Lady of the Night] is there to care for us, her descendants into the next life. To us rests the power, the joy and the infinite knowing that comes with life itself. I sneezed and therefore I live! (Mihi by Kuni Jenkins and Glenis Philip-Barbara 2001, p. 4).

I wish to thank the many people who have provided their encouragement to complete this thesis. To my wonderful whānau [family] Atareta, Te Pirihi and Grant, thank you for your infinite love and determination. I am grateful to Robyn Kamira, Kerianne Wikitera, Glenis Philip-Barbara, Dr Leonie Pihama, and Dr Jessica Hutchings for your marvellous friendship, ngā mihi mahana ki a koutou katoa.

My sincere gratitude to Josie Keelan, Associate Professor Pare Keiha, Professor Tania Ka'ai and Associate Professor Mark Jackson for getting the thesis submitted. To Professor Felix Tan and Dr Tess Lomax, thank you both. My thanks to Associate Professor Kay Fielden, Associate Professor Dennis Viehland, Professor Jeff Hunter, Dr Rania Shibl and Dr Maha Shakir for my academic beginnings. To Dr Fe Day, I appreciate your wonderful support.

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At AUT, I want to thank Te Ara Poutama, MAI ki AUT, the School of Computing and Mathematical Science, and Te Tari Āwhina. At the University of Auckland (UoA), many thanks to the Engineering Tuākana Team and the Department of Electrical and Computer Engineering (ECE). Also, at UoA I appreciate the wonderful assistance and writing retreats with MAI ki Tamaki and Ngā Pae o te Maramatanga – Tēnā rawa atu kōrua, Professor Les Williams and Dr Adreanne Ormond. At Te Whare Wānanga o Awanuiarangi, my gratitude to Associate Professor Mark Laws and Professor Graham Smith.

I would like to say ka mau te wehi [awesome] to all the Mana Wāhine theorists, academics and researchers who have provided inspirational work for our people. I treasure the foundations provided so that we may stand tall as Mana Wāhine.

*Thei Mauriora!*

I sneezed and therefore I live!

## **Whakarāpopototanga – Abstract**

This thesis argues for an Indigenous women's cultural construction of information technology (IT). In Aotearoa New Zealand, Māori women have established Mana Wāhine discourses, principles, theories and practices (Evans, 1994; Hutchings, 2002b, 2005; Irwin, 1990, 1992b; Jahnke, 1997b; Pihama, 2001; Smith, 1992; Te Awekotuku, 1991). Mana Wāhine is the power, legitimacy, authority and spirituality of Māori women as determined by mātauranga wāhine [Māori women's knowledge and epistemology] (Jenkins & Pihama, 2001). Mana Wāhine is about theorising, analysing and conducting research for, by, and with, Māori women (Pihama, 2001).

Māori women have always been IT professionals through Ngā Kaiwhatu Kākahu Me Te Kākahu [The Cloak Weavers and the Cloak]. The overall intent of this research is to develop a Mana Wāhine in IT conceptual framework. The research aim is to identify the key discourses, principles and theories of Mana Wāhine for an Indigenous Māori women's cultural construction of IT?

IT has the cultural constructs of the dominant society, which design and shape it (Dirksen, 2001; Stewart, 1993). The herstories of twenty-four Indigenous Māori women in IT provide lived experiences of colonising, decolonising and indigenising of IT. The colonial oppression within IT education and the workplace underpin the hegemonic 'geek neo-colonial male' culture. Indigenous Māori women's culture is constructed as the 'Other'. The Indigenous peoples' literature disregards gender and white women in IT literature disregard ethnicity, race and colonisation. The joint effects of being Indigenous Māori women are fraught with complexity. For Indigenous women to participate in IT means assimilating into geek neo-colonial and male beliefs maintaining culture-neutral ideology, as a new form of cultural imperialism. Through such power relations, cultural identity is left at the door when entering IT where Māori women define themselves as the only lonely, the only Indigenous Māori woman.

The decolonising and indigenising of IT is where Māori women assert their cultural rights to participate as *Mana Wāhine in IT – Ngā Kaiwhatu Kākahu Me Te Kākahu*. In future, research needs to assert that Indigenous women be first beneficiaries of IT (Kamira, 2000b). Mana Wāhine deconstructs colonising and culture-neutral ideologies forming a localised view to indigenise IT for women. IT cannot be at the expense of Mana Wāhine. For the benefit of our people, children and ourselves, Mana Wāhine in IT will always fight for cultural survival.

## Kupu Whakataki – Preface

*I te taha o tōku whaea, ko Ngāti Kahungunu me Tūwharetoa ngā iwi. I reira, ko Te Kahu rāua ko Hamilton ngā whānau. Ko Marie (nee Te Kahu) rāua ko Harley Hamilton ōku tūpuna. I te taha o tōku matua, ko Te Whānau-ā-Apanui te iwi. I reira, ko Huritu rāua ko Tangira ngā whānau. I tipu ai au i Mōtuaruhe, i runga i te Paripari. Ko Hema (nee Parekura) rāua ko Wiremu Tangira ōku tūpuna. Ko June (nee Hamilton) rāua ko Niao Tangira ōku mātua. Ko Lillian tōku tuākana. Ko Pearl ratou, ko Allamein, ko Manuera āku teina. Tokorua ngā tamariki, ko Atareta rāua ko Te Pirihi. Ko Grant taku whaiaipo. No reira, ko Janette Hamilton-Pearce ahau.*



I am an Indigenous Māori<sup>1</sup> woman, a mother of two, a wife, and an academic determined to shape and produce Indigenous Women's Information Technology (IWIT). I am the second eldest of five girls raised on our ancestral lands on the East Coast of the North Island in Motuaruhe, Te Whānau-ā-Apanui iwi [main tribe]<sup>2</sup>. I was taught the strength and wisdom of our people and women. Māori women weavers inspired me with their technological, informational and mathematical techniques when producing the woven crafts of our ancestors, especially ngā kākahu [cloaks]. I also enjoy kite [basket], whaariki [mat], and taniko [border] weaving too.

During primary school, I was of the generation where growing up Māori was not encouraged through assimilation policies and practices. Both my parents were strapped at school for speaking Māori and performing the culture, so left at a young

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<sup>1</sup> Māori are the tāngata whenua [the first people of the land], the Indigenous peoples of Aotearoa New Zealand.

<sup>2</sup> Māori terms are defined in English inside [square brackets] or after phrases, therefore no glossary is provided. The macron over the vowel illustrates a long vowel sound for meaning and pronunciation. For more explanations of Māori words refer to the *Dictionary of the Māori Language* by H.W. Williams (2001).



age with no qualifications. Such negativity towards being Māori meant I grew up not being taught te reo [Māori language]. My parents were led to believe that we must 'learn the white man's ways and tongue'. Like many Māori families, assimilating into the Pākehā [non-Māori of European descent] culture was heavily encouraged through government policies, the church, school and work.

In 1983, I was a boarder of Hukarere Māori Girls College and educated at Napier Girls High School. At 15, I attempted to do computing, but failed shorthand and typing. I approached the computing teacher to enter his class through another course. He advised I would be better "to do cooking". I didn't have the confidence to disagree with him, so enrolled in the next home economics course – I accepted as a woman, I could only be a cook. I also experienced oppression over entering university. There was a Massey University careers day, so I asked the careers teacher how to enter. He commented "Māori don't go to university". I believed him for a very long time.

Ten years in fact, but I told myself that I could go to university. I started my academic learning in an accounting degree at Massey University Albany campus, in 1994. I knew I loved to tutu [play] with computers. I went to the Dean of computing to change from accounting to the new Bachelor of Information Systems (BIS) degree. His response looking over the rim of his glasses and stroking his long grey beard, "You should do a psychology degree to help your people". Things had not changed since high school. I ignored him and enrolled.

In 1999, I was happy to have a position as an assistant lecturer within the School of Information and Mathematical Sciences. Dr Kay Fielden was insightful when she challenged me to write my honours assignment on being a Māori woman in IT (Hamilton-Pearce, 2000). I had to learn about my cultural identity and my role in IT. I reflected on the oppressions I had experienced towards entering computing. I realised I could do an IT degree without any acknowledgement of my cultural identity and its spiritual knowledge base. I was to enter IT by leaving my cultural identity at the door when entering.

I was inspired by the benefits of the Tino Rangatiratanga [Māori sovereignty and self-determination] movement through Kohanga Reo [early childhood language nest], Kura Kaupapa Māori [intermediate] and Wānanga [tertiary] education. Māori education transformed and asserted tino rangatiratanga for cultural survival. All over the country, we became proud of our culture, language and 'skin'. Te Reo [the language] had become an official language, alongside English in 1987.

In 2000, I met a very good friend, Glenis Philip-Barbara and other Mana Wāhine<sup>3</sup> questioning colonisation. Mana Wāhine asserted the role and status of Māori women in Aotearoa New Zealand as tāngata whenua [the Indigenous peoples of the land]. I knew these women would play a very big part in my life.

I was grateful my Pākehā husband Grant, remained committed. We slowly transformed our whānau [family], reclaiming Māori culture and language. Weaving returned to my life and we produced a Kākahu for my honours graduation. I realised the process to produce a Kākahu was no different from the process to produce information systems and software; however, Māori women were in control of weaving a Kākahu. The powerful process of decolonising IT began.



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<sup>3</sup> Mana Wāhine is the power, legitimacy, authority, and spirituality of Māori women. Māori women wrote in academic contexts to make visible the herstories and oppression of Māori women (Hutchings, 2005; Irwin, 1992a; Pihama, 2001; Te Awekotuku, 1991). In this research, Mana Wāhine is used as the philosophy (ontology and epistemology), theory, methodology and methods. Mana Wāhine is termed in the collective, but I do not seek to impose Mana Wāhine on Māori women. Māori women are not all the same. We have diverse realities with similarities and differences amongst us. The political processes of assimilation, urbanisation, tribalism and tino rangatiratanga has differentiated cultural identity amongst Māori women (Houkamau, 2006). I also do not impose Mana Wāhine on Indigenous women, I advocate that Indigenous women outside of Aotearoa New Zealand develop analysis and frameworks specific to them. Mana Wāhine is a specific analysis for Māori women within Aotearoa New Zealand (Hutchings, 2002b).

I started looking for other Māori women in IT and met Robyn Kamira. In 2001, we both founded Te Waka Wahine Wa-Hangarau (TWWW) [the Society for Professional Māori women in IT]. From there we connected with other women determined to continue in IT. The women believe the domain of IT cannot be at the expense of being wāhine [women] Māori (Te Waka Wahine Wa-Hangarau, 2004b). We want to pursue a space where being professional wāhine Māori in IT is held first and foremost. This is the stance I pursue with the thesis, I am subjectively connected to this research, using reflexivity to tell my herstory and whole-heartedly disclose it for the readers. My herstorical experiences, cultural survival through Mana Wāhine, the retention of Māori women in IT and future developments of Indigenous Women's Information Technology have motivated the context and intent of this thesis.

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### **Te Mana O Tōku Mahi Tuhituhi– Attestation of Authorship**

I hereby declare this thesis submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person (except where explicitly defined in the in text-citations), nor has any material to a substantial extent has been submitted to any other degree or award of a university or other institution of higher learning.

Nāku Noa,

A handwritten signature in black ink, reading 'JH Pearce'. The signature is written in a cursive, flowing style with a large initial 'J' and 'H'.

Nā,  
Janette Hamilton-Pearce



# Wāhanga 1

## *Ngā Kaiwhatu Kākahu contextualise the Kākahu – Introduction*

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*Ngā Kaiwhatu Kākahu [the Cloak weavers] contextualise the design of the Kākahu [Cloak] from start to finish. The philosophical and spiritual knowledge of Papatūānuku [Earth Mother] and Hineteiwaiwa [Goddess of weaving] are acknowledged. Ngā Kaiwhatu Kākahu seek the designs and desires of the whānau [family] on the intended application of the Kākahu and prepare for weaving<sup>4</sup>.*

**Quote from Kathie Irwin (1992b, p. 5):** *We don't need anyone else developing the tools which will help us come to terms with who we are. We can and will do this work. Real power lies with those who design the tools – it always has. The power is ours. Through the process of developing such theories we will contribute to our empowerment as Māori women, moving forward in our struggles for our people, our lands, our world, ourselves.*

**Participant quote by Tia:** *Māori women in IT should look to ourselves...There are two things we are resisting: (1) other people's pressures to look elsewhere to find ourselves and (2) having the confidence to find ourselves without having to look outside for legitimacy. That's quite scary because the academic world doesn't work that way for Māori, but it does in some areas for itself. It's that western scientific academic view – for things Māori – has to be accompanied by evidence to be legitimate, and if there is not enough evidence you are told to go somewhere close enough for benchmarks to create your own...there is a danger that you are forced to put it into context that is irrelevant to us.*

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<sup>4</sup> For more details on weaving a kākahu refer to the book by Diggeress Te Kanawa (1992).

## **The cultural context of Mana Wāhine**

The overall intent of this research is to develop a Mana Wāhine in IT conceptual framework. The research aim is to identify the key discourses, principles and theories of Mana Wāhine for an Indigenous Māori women's cultural construction of IT. The context of examining culture<sup>5</sup> for Indigenous Māori women participating in IT comes from within Māori women, ourselves<sup>6</sup>. The philosophical paradigm that underpins this thesis is Mana Wāhine derived from mātauranga wāhine [Māori women's knowledge and epistemology]. Mana Wāhine is not new. Mana Wāhine is the power, legitimacy, authority and spirituality of Māori women. It is up to Māori women ourselves to determine the parameters we impose on that definition (Hutchings, 2002b). Māori women are leaders, decision-makers, strategists, storehouses of knowledge and technologists. Mana Wāhine is about controlling our lives, our intellect, our culture and the way we define ourselves (Hutchings, 2005; Irwin, 1992b; Pihama, 2001; Smith, 1992). For example in academic writing, Leonie Pihama (2001) states we should write in the first person to show we are our 'own case study'. Also, I have used first names for the Māori writers I cited because of personal connects, but for Māori women as a Mana Wāhine practice, using their first name is more appropriate as surnames in the traditional western citations belong to

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<sup>5</sup> Culture is the collective philosophies, beliefs, shared values, and traditions which govern the way people live as a group. Indigenous groups are connected through genealogy, language, customs and ancestral lands that share experiences of colonisation by western cultures. Race determines similar biological traits or characteristics (skin tones, hair, facial features etc) within a culture. Sometimes, race, ethnicity and indigeneity are used interchangeably. Gender is about cultural and social differences between women and men. Cultural identity influences how individuals belong to one culture or many cultures. This research examines the culture of weaving together indigeneity, race, ethnicity and gender within the culture of IT to consider the Indigenous women's cultural construction of IT and reject the notion of Indigenous women constructed as 'other'.

<sup>6</sup> There are two points I wish to make for writing in the first person: ontology and subjectivity. Māori women determine the ontological question of, 'what exists?' Māori women, we, us and ourselves exist because we live. In terms of subjectivity I am my own case study (Pihama, 2001) and I write myself in the text along with other Māori women as ourselves. My subjectivity is transparent in my herstory written in the Kupu Whakataki [preface] as I am an insider – as an Indigenous Māori woman in IT, as Mana Wāhine, and as a Kaiwhatu Kākahu who weaves Kākahu.

their fathers and husbands, whereas their first name belongs to them as women. This thesis uses this practice.

Mana Wāhine is not new. Mana Wāhine reaches back to the beginning of time to Papatūānuku [Earth Mother] and Hineahuone [Women formed of Earth] in cosmology. Jessica Hutchings (2005) emphasises that our cosmologies demonstrate the unique place of Māori women. Hineahuone was the first human created as a woman by Tane [God of the Forest] with the guidance of his mother Papatūānuku (Kahukiwa & Grace, 2000).

Tane blew life into her through hongi [pressing of noses] and she replied, 'Tihei Mauriora!' <sup>7</sup> [I sneeze and therefore I live!] Tihei Mauriora and hongi are used in the pōwhiri [welcome] processes of iwitanga [tribalism] today, denoting cultural survival symbolising the power, legitimacy, authority and spirituality of Māori women. Mana Wāhine legitimatised through aeons of cosmology, time, space and culture that celebrate the first time women were created, sneezed and therefore lived.

Mana Wāhine is a counter-act to colonisation<sup>8</sup>. On 13 December 1642, Abel Tasman as the first European captain to claim and name these lands New Zealand as Dutch territory (King, 2003). He brought with him the neo-colonial<sup>9</sup> gaze, invalidating iwi [tribes] to acquire their wealth. Tasman's main interests were gold, silver, spices and fabric for economic benefits where Tasman was to represent himself, 'not too eager for [them] in order to keep the *wild savages* unaware of the value...' (King, 2003, p.

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<sup>7</sup> Tihei Mauriora, *I sneezed therefore I live*, is about ontological foundations of Māori women's philosophical and spiritual knowledge base. The question of what exists is derived from how we became human from Hineahuone and Papatūānuku cosmology herstory. Tihei Mauriora denotes that *we sneeze therefore we are valid to theories and practice research* from a Mana Wāhine framework.

<sup>8</sup> Colonisation is the power and sovereignty of colonial western nations (usually of European and American descent) to take over other lands terminating, marginalising, or oppressing the Indigenous peoples and culture that resides there (Walker, 1990).

<sup>9</sup> Neo-colonial means the economic arrangements by the colonisers to continue their colonisation over Indigenous peoples, resources and lands.

94). Patricia Johnston and Leonie Pihama (1994, p. 86) explain how the colonial gaze diminished the mana [power, legitimacy, authority and spirituality] of Māori women:

*A range of colonial mechanisms operates to marginalise Māori women on the basis of their race and gender. Māori women were viewed as 'savages' and 'sexual' objects, in situations that were misinterpreted by Pākehā people.*

According to Jessica Hutchings (2002b), within Aotearoa New Zealand it is clear that Māori women have been and continue to be constructed from the outside by Christian, colonial, western<sup>10</sup>, and patriarchal<sup>11</sup> discourses. Linda Tuhiwai Smith (1992, p. 33) articulates how race and gender differences construct Māori women as 'other'<sup>12</sup>:

*Māori women belong to the group of women in the world who have been historically constructed as 'other' by white patriarchies and white feminisms. As women, we have been defined in terms of our differences to men. As Māori, we have been defined in terms of our differences to our colonisers. As both, we have been defined by our differences to Māori men, Pākehā men and Pākehā women. The socio-economic class in which most Māori women are located makes the category of 'other' an even more complex problematic.*

Day after day Māori women experience oppression in law, education, academia and the home that continues to diminish cultural identity (Irwin, 1992a; Jahnke, 2002; Jenkins, 1992; Jenkins & Matthews, 1995; Jenkins & Philip-Barbara, 2001; Johnston & Pihama, 1994; Mikaere, 1994).

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<sup>10</sup> Western are the dominant colonial European and American cultures west of Aotearoa New Zealand. Western culture becomes accepted as normal and mainstream through western education, science, research and technology (L. T. Mead, 1996; L. T. Smith, 1999).

<sup>11</sup> The claim that fathers, sons and husbands are the leaders of the family, community and public office (Aitken, 1975).

<sup>12</sup> The 'other' is invisible and insignificant, left out on the margins from the 'normal'. However, Māori women are initiating the theory of privileging the margins to meet our aspirations (Pihama, 2001).

Assimilation<sup>13</sup> into a hegemonic colonial masculinist ideology<sup>14</sup> and culture was inevitable. Eventually, through the power of the colonial gaze, the category of 'other', and the technology of the pen and paper, Māori women were written out of the history books. Kathie (Irwin, 1992b) states that our women and their stories have been buried deeper and deeper in the annals of time by the processes of oppression, which seek to render us invisible and keep us out of the records.

By the late 1800's, Māori were proclaimed to be the 'dying race' as the population had dropped to extinction levels (42,000) through land wars, assimilation policies and introduced diseases (Ka'ai, Moorfield, Reilly, & Mosley, 2004).

Through education and work, girls would fit the categories of 'good wives' and 'domestic workers' (Hokowhitu, 2004; Smith, 1992). Māori girls would be good farmers' wives and support the colonial economy through unpaid labour in homes, on farms, and as unpaid assistants to men (Jahnke, 1997a; Jenkins, 2000; Jenkins & Matthews, 1995; Smith, 1992, 1993). Māori women continue to identify with the most negative health statistics and remain the lowest socio-economic group in our society.

By the end of the 1970's, Māori women's oppression paralleled the worldwide and pivotal human rights and social justice events. These events included anti-apartheid, Black Panther and Black Women's movements; Gay and Lesbian rights; nuclear-free; independent Pacific nations, and Indigenous women's sovereign rights. Māori

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<sup>13</sup> Assimilation is the absorption or loss of cultures into the dominant cultures through hegemony and unequal power relations.

<sup>14</sup> Jessica (Hutchings, 2002b, p. 9) refers to hegemonic colonial masculinist ideology as the pursuit of domination and systems of thought that maintain the capacity of the dominant group to exercise control. This is achieved through lived systems of meanings, discourse and values, and not laws whereby the Indigenous and women's groups accept their subordination as a colonised race and gender. The dominant and superior race and gender has the consent of the subordinates to be the ruler. The dominant culture is accepted as normal, usual, mainstream and ordinary.

women were active participants in both the white feminist<sup>15</sup> movement and the tino rangatiratanga [Māori self-determination] movement. Māori women's struggles involved both movements, but anger grew as Māori women's voices were being marginalised in both (Te Awekotuku, 1991).

In the white feminist movement, Pākehā women were only concerned with sexism. Criticisms grew around issues of Pākehā women not addressing their role in racism and colonisation (Awatere, 1982). Throughout the country, Pākehā women determined and defined the rights of all New Zealand women without consulting Māori women (Te Awekotuku, 1991). Māori women started to use the theories of white feminism that did not come from a Māori orientation of the world. Here Linda (Smith, 1992, p. 34) explains the complexity of this relationship:

*White feminisms have thrown into relief the complexities of our oppressions but have, at the same time, come dangerously close to smothering us in various metatheories and reconstructing our reality in 'their' metaphors...in attempting to theorise our own lives we have frequently been caught using their concepts as a means of understanding our own. While white feminisms may help to gain insight into 'otherness' at one level, at another level these forms of feminism may perpetuate otherness further. This tension has made it extremely difficult to reconcile the realities of Māori women's lives with existing feminist theories.*

According to Jessica (Hutchings, 2002b) it is the active involvement of Māori women in the revival of culture, the efforts towards decolonisation<sup>16</sup> and the placement of Mana Wāhine within a Māori worldview that make Mana Wāhine different from traditional white feminism. Jessica challenges white feminism to work towards

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<sup>15</sup> Jessica Hutchings (2002b, p. 11) refers to white feminism as the feminist discourses that are not constructed by Indigenous women, women of colour and Māori women.

<sup>16</sup> Decolonisation is the powerful process when Indigenous women slowly and sometimes painfully unpack the race and gender layers of colonisation (Hutchings, 2002a; A. Mead, 1996).

decolonisation, as this will determine if white feminism is a viable force or another mono-cultural tool for oppression.

In the tino rangatiratanga movement, Māori women were leading protests for returning Māori land, such as the 1975 Land March by Dame Whina Cooper. Māori women were leading the revitalisation of the Māori language through Kohanga Reo, Kura Kaupapa Māori and Wānanga<sup>17</sup>. These Māori educational movements were about decolonising mainstream education that were failing Māori children and families (Bishop & Glynn, 1999; Smith, 1988).

In terms of mana returning to Māori women, the challenge to Māori men was to address the sexist attitudes learnt through patriarchal colonisation. A strong network of Māori women including Dame Whina Cooper, Eva Rickard, Titiwhai Harawira and Mira Szaszy addressed the day-to-day struggles against racism, colonisation and sexual discrimination. The patriarchal nature of Māori leadership angered Māori women, as there were demands for tino rangatiratanga, yet little liberation for Māori women within that movement. Ngahuia (Te Awekotuku, 1991, p. 47) noted the significance and momentum of the tino rangatiratanga movement in awareness for things 'Māori', but expressed concern that the role of Māori women in the struggle not be restricted:

*[W]e, Māori females, can only hope that they [Māori men] recognise the need, and the merit of our energy in this fight ... and not deny knowledge and access to half our people.*

At the 12<sup>th</sup> Session of the United Nations Working Group 1994, Dame Mira Szaszy and Hinemoa Awatere (cited in Mead, 1994, p. 3) on behalf of the Māori Women's Tribunal claim insisted that:

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<sup>17</sup> The Kohanga Reo, Kura Kaupapa Māori and Wānanga movements were transforming educational change for Māori throughout the country (Jones, Marshall, Matthews, Smith, & Smith, 1995).

*There [be] an urgent need for gender relations to be addressed in Indigenous communities such as Aotearoa New Zealand, because the tensions within, obstruct the potential of Indigenous peoples. For instance, when Indigenous women become politically visible, there is a myth that they are taking something away from Indigenous men. There are links between patriarchal colonisation and its influence on colonised men, which have detrimental impacts upon Indigenous men and women. The derogation of Māori constitutional rights in New Zealand through colonisation, has caused a redefinition of masculinity and femininity within Māori society. Sexism (against Indigenous women) is perpetuated by colonists and Indigenous men.*

Kathie and many Mana Wāhine writers inspired Māori women to finally get out from down under and take control of our own lives (Smith, 1993). Huia Tomlins Jahnke (1997b) determined that Mana Wāhine be reinstated as it was prior to colonisation where gender roles were complementary in cosmology. It is not until we celebrate being Māori women that mana is returned to the wāhine. We, ourselves need to actively honour and celebrate the contributions of Māori women; to affirm the mana of Māori women (Irwin, 1992b). Kathie insists that Māori women write Māori women's herstories<sup>18</sup> in our herstorical context so that we make sense of our own lives. She continues to say that all Māori women tell the herstories of our tīpuna wāhine [women ancestors] who have gone before us; those wāhine toa [strong women] who give strength to our culture and people today; and those kōtiro [girl] and mokopuna [grandchild] who are being born now, and who will be born in the future, to fulfil our dreams. Restoring and reclaiming the power, legitimacy, authority and spirituality of Māori women is of primary importance, and that must come from ourselves.

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<sup>18</sup> Herstories are Indigenous women's writing through reflexivity of lived experiences. They challenge the accepted notion of historical, which means **his story** as determined by men historians, writers, authors and anthropologists who have traditionally constructed Indigenous women as 'other'.



The context of studying Māori women's culture begins with Papatūānuku. The next part of Wāhanga [chapter] 1 presents the IT background when computers were introduced in 1961 Aotearoa New Zealand, originating the culture-neutral discourse of IT.

### **The background**

The background starts with the New Zealand IT historical context when computers were first introduced to parliament and the Auckland Technology School (ATS). The IT background will show the dominant culture was privileged over other cultures (ethnicity, race and gender) for IT participation. The low participation of Māori women, Indigenous peoples and women in IT background is discussed briefly. Refer to Wāhanga 4 on more details on the participation of under-represented groups in IT.

### **Information Technology (IT)**

Since 1885, technology institutes such as Auckland Technology School (ATS) historically have shown privilege to Pākehā boys and men. Pākehā boys had the privilege of learning arithmetic, geography, science and technology in ATS (Shaw, 2002). In 1961, moving into the workplace, Mr Don Hay (a Pākehā man) used the first IBM 650 computer at the Treasury Offices, Stout Street Department Building, Wellington (Tee, 1985). When looking at the past events of ATS, the following timeline illustrates three events (see Figure 1 overleaf): 1. The institute's technology directions separating Māori and Pākehā participation; 2. In the Pākehā participation area the events related to men, women and computing; and 3. In the Māori participation section, the events illustrate that Māori men were trained for labour and construction work and Māori women for cooking (Shaw, 2002). Although Māori women have entered IT education over the years, the first Māori woman to enrol in a doctorate of computing was myself, in 2003. Māori women have had few leadership opportunities in IT education throughout the history of ATS.

Figure 1. ATS Timeline

**Pākehā women's and men's participation in ATS**

**1885** Auckland Technical School (ATS) opens.  
**1902–1906** Day School, science and technology only for Pākehā boys. Domestic and commercial only for Pākehā girls. Special classes for ladies on domestic work dressmaking, cooking, laundry, art and millinery.  
**1908–1913** Auckland's industry wants more clerks, George increases typewriters from six to forty. Auckland's industry advertising for boy school leavers and not girls.  
**1936** Blanche Carnahan, the first woman to be elected chairperson of the Board of Managers.  
**1946** Post war, Pākehā women's numbers rose to 25 percent in commercial studies, known as a 'girls' course.  
**1965** One female to every five male students. Women made up 43 percent in commercial studies.  
**1967** A one-year full-time evening class introducing computer studies for Pākehā men and women. Taught computer operating and data-processing. A new mainframe was used to process staff, teaching and student data.  
**1970–1971** Health studies to address gender imbalance of a male-dominated institute. A secretarial course for married Pākehā women returning to paid work.  
**1975–1976** Pākehā women could train in radio and television. Jennifer Mellor first woman radio apprentice.  
**1980** A young woman studying engineering telecommunications left the course after reporting harassment by her all-male classmates.  
**1982** The government provided funding for computer equipment in technical institutes. Students were given on-screen computer experience. Commerce department is so big it is split in three areas of accounting and law, management, and secretarial.  
**1984–1988** Māori language for non-Māori and nursing. Girls can do anything campaign. Computer science at universities and programming in technical institutes. Gillian Reid appointed Head of Computer Studies and Applied Mathematics.  
**2000** becomes AUT University.

**Māori women's and men's participation in ATS**

(It is probable that Māori have participated throughout ATS, but this is a list taken from Shaw (2002) that shows courses targeting Māori students.)

**1959** First Māori boys' (aged 16–21) training scheme at Sylvia Park in carpentry with the Department of Māori Affairs. The course was known as the 'sandwich' course alternating the boys between institute and construction site.  
**1967** A five-week general pre-enrolment course for young Māori girls and boys leaving school. Boys to carpentry and girls to do basic cookery.  
**1971** Māori women could attend a hotel restaurant short course.  
**1979–1980** First four-week course for Māori oral fluency, values and culture. Ken Mason challenged the institute to commit to Māori and set up a marae. A Māori and Pacific Island Advisory Committee was established. Māori women could do a pre-employment catering course.  
**1982** In March, the Māori and Pacific Island Advisory Committee recommended additional places for Māori and Pacific students to join physiotherapy, nursing, computer studies and journalism. The institute rejected this advice.  
**1984–1988** Māori and Pacific Island students were 2 percent of the institute, but 15 percent of the Auckland population. Jerry Norman appointed, the first Māori and Pacific Island Liaison Officer.  
**1991–1997** Toby Curtis headed Te Ara Poutama the first Māori faculty in a polytechnic. Pauline Kingi convenor set up a council working party on Māori education. Affirmative action Māori scholarships. Pauline Kingi, first Māori woman Chairperson on council. Toby Curtis became Vice-President and Pare Keiha became head of Te Ara Poutama. Official opening of Te Purengi the marae.  
**2000** becomes AUT University.  
**2003–2009** Janette Hamilton-Pearce, the first Māori woman to enrol in a doctorate in the School of Computing and Mathematical Sciences.

What the ATS timeline illustrates is that leadership for Māori women's participation in technology education has not been as forthcoming as Pākehā men and Pākehā women, although Pākehā women's leadership was recent. Pākehā women were not given preference to access technology alongside Pākehā men. Pākehā women were to 'prop up' men's work with domestic training. According to Louise Shaw (2002, pp. 20-27) George George, the Director of ATS in 1902, claimed that girls should spend less time on arithmetic, science, technology and geography and more time on his

‘Special Classes for Ladies’ learning art, needlework, cookery, laundry and millinery. In 1911, George could see women were suited for commercial studies (shorthand and typing), saying these tasks did not need “a tremendous amount of brains” and would bring women in contact with a “more decent class of people” (Shaw, 2002, p. 26).

Between 1908–1913, the Auckland industries wanted to hire more clerks, but were targeting Pākehā boys of technical institutes such as ATS, as the following job advert shows:

BOY, INTELLIGENT, WANTED  
To assist in Indentor’s Office.  
One just left Technical College preferred.  
GOLLIN AND CO. PROPY. LTD,  
N.Z. Express Co.’s Bldgs., Auckland.

New Zealand Herald advert for Auckland Technology College, 26 September 1913  
(Shaw, 2002, p. 36).

Pākehā women asserted their rights to be in commercial studies, so by 1946 the class was known as the ‘girls’ class and women’s numbers kept increasing. From this course and mathematics, Pākehā men and women went into computing in 1967. ATS (now changed to AIT) offered its first computer studies course (Shaw, 2002). With the donation of a mainframe computer from a local business students were able to do a one-year full-time course in computer operating and data-processing (Shaw, 2002). According to Shaw (2002), computing was one of the classes that gave AIT its elitism as they turned students away. In 1984, Gillian Reid was appointed head of the Computer Studies and Applied Mathematics Department, being the first woman HOD outside fields previously reserved for women.

This pathway was not available to Māori women and men. In 1959, Māori men were seen as labourers. The first carpentry training apprentice scheme at AIT for Māori men was introduced in association with the Department of Māori Affairs. In 1967, Rod Keir tried to introduce a course for Māori women in basic cookery, but was unsuccessful and it was not until 1971 that Māori women were able to study in a short course for working in hotel restaurants. By 1979, AIT offered its first

Māoritanga course in oral fluency and Māori culture with the creation of a Māori and Pacific Island Advisory Committee. This committee tried to secure places for Māori and Pacific Island students to study in physiotherapy, nursing, journalism and computer studies; the institute refused (Shaw, 2002, p. 92).

The case study from AIT for Pākehā participation and the resistance to Māori inclusion is about unequal power relations. The infrastructure from computer education to work privileges the elites and excludes others, therefore, it makes sense to normalise that space as culture-neutral. According to Chandler (1996, cited in Dyson 2003, p.2), the voluntarist approach determines culture-neutrality:

*...the individual chooses [or volunteers] a tool and controls its use. The technology is pure object: an assembly of interacting computer parts, data processing and storage functions, a string of electrical signals representing bits. It is neutral, content free, devoid of meaning beyond its function.*

The voluntarist, culture-neutral approach is able to make faceless and nameless those that produce and shape IT and their underlying culture of ethnicity, race and gender is 'normal' universally. Without any critique, IT is rendered to mere bits and pieces put together after scientific processes are divorced from culture (MacKenzie & Wajcman, 1999). From a culturally neutral view point, under-represented groups are to 'prop up' the dominant cultures aspirations due to an IT skills shortage. IT education and work is unchallenged for its colonisation, racism and sexism that under-represented groups such as Indigenous women experience because culture does not matter, IT matters – the data, signals, bits and pieces matter. Indigenous women are seen as 'the problem' for not 'catching up' to prepared societies and research, like the digital divide view point, which is a deficit context for Indigenous women and not useful. Under-represented groups are measured up against the normal and cultureless dominant groups. This context is flawed and irrelevant for Indigenous women. The socio-political view is a more relevant context.

Dyson (2003) describes the socio-political view where IT is inseparable from the social, cultural, historical and political contexts which produce it. Dyson (2003, p. 2) provides two main outcomes of this view: 1). IT is the product of a culture and hence embodies the ideologies of that culture, and 2). IT, because of the values it embodies, in turn has the ability to influence and effect change in the society, the world and the user. The context of looking at the IT background and Māori women's representation in IT for this thesis determines that IT is *not* culturally neutral, but it embodies the ideology of Pākehā culture, controlled mainly by the men that produce it. Even though from the time of Papatūānuku, Māori women's culture has lived in this land for thousands of years longer than computing, here it is invisible and undervalued. Computing has a small past, but technical institutes such as ATI (now known as AUT) privileged the status and elitism of Pākehā men first and foremost to learn technology. Then Pākehā women were self-determining in commercial studies from 1902–1982 and that led them into computing. In 1982, Māori tried to join computing, but were denied by the institute. Māori men and women were not introduced to computer courses to become IT professionals through technical institutes right up to 1982. When comparing Pākehā and Māori participation, it is no wonder that the representation of Māori women is so low; Māori women could only be cooks. Māori women were excluded from participating in IT; IT was only for the powerful cultures that determined culture neutrality.

### Māori women in IT (local situation)

The privileging of IT participation, culture-neutral politics and channelling Māori women into cooking, homemaking and secretarial studies up to 1990's has already been discussed. The statistics from the 2001 Census (Statistics New Zealand, 2001) (refer to Table 1 below) start to make sense for Māori women's low representation<sup>19</sup> in IT. Māori women were 7.6 percent of the population and a small 5 percent of the totally employed. The total IT workforce was 47,385 where Māori women made up 2.9 percent (1389) shown in Table 1. Māori men constitute 3 percent (1515). Women (including Māori) are 35 percent (16,353) and men (including Māori) are 65 percent (31,032) of the total IT workforce.

Table 1. Māori women in IT

	Māori	Women	Māori Women
Total Aotearoa/NZ Population 3,820,749	526,281 (13.7%)	1,948,582 (51%)	290,469 (7.6%) of NZ pop
Total Employed (full and part-time) 1,727,271	185,820 (10.7%)	804,312 (46.6%)	87,234 (5%) of Employed
Total IT Professions 47,385	2,904 (6.1%)	16,353 (34.5%)	<b>1,389</b> <b>(2.9%) of IT</b>
IT Percentage of the Employed	1.6%	2%	<b>1.6%</b>

Source: Statistics New Zealand 2001

In their research titled *Ngā Wāhine Māori o BCS: Kanohi ki te kanohi*, Julia Ngatuere, Jenni Tupu and Alison Young (2002) also provided the low statistics of Māori women's representation in the Bachelor of Computing Systems (BCS) at Unitec. Within the

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<sup>19</sup> I have used the word 'representation' because this is related to numbers only and is not about participating in IT for decision-making or shaping IT. Participation is different from representation. Participating in IT means the development and use of information communication technologies (ICT) and systems, which are based on computer hardware, software and services, that support the tasks and processes of organisations (business, government and communities). When adopting or developing IT, this means the decision-making, shaping, implementation and use of ICT—Māori women have not had the privilege of participation in IT, but merely represent in low numbers.

computing degree, women represented 20 percent (130 students) of 620. Māori women's representation was only 6 students being a minuscule 0.1 percent of the entire programme and 5 percent of women in IT. Through a longitudinal study with four Māori women, they found the women had no barriers when enrolling in the course and confidently persisted throughout their computing education to take up postgraduate study later on. For Māori cultural survival, they found the women had strong whānau [family] support and were involved in the institution's Māori development centre, MAIA providing cultural support for Māori students when studying. Māori women are considered to think about whānau more.

Robyn Kamira and Terry Smith (2004) in their report to the E-Government Programme, titled *Research of issues for Māori relating to the Online Authentication Project* states, that these projects have a lack of focus for whānau and tamariki [children], but Māori women put them first:

*Māori women's voices to be actively sought saying that they are more likely to consider the needs of whānau and tamariki first.*

In 2002, during a two-hour workshop at the Flaxroots Technology Conference Unitec, I found that Māori women are accountable to their whānau when trying to transform IT (Hamilton-Pearce, 2002). The following quotes from participants of the workshop illustrate cultural and participation issues:

*There is a cultural mismatch. I want my way of knowing to be the foundations of how I work in IT and perform. Māori knowledge, information, values, beliefs and communications are very important. Quite often you are in conflict with your own values and beliefs of which you were brought up on. Your own way of knowing the world and who I am is marginalised. Māori philosophy needs to be related to IT and new technology.*

*There is a lack of Māori women in computer science education.*

*Involvement of Māori women in decision-making and authoritative roles in IT is minimal.*

*I feel alone, frustrated, most times political, and isolated in my IT area. It puts me in an area of isolation.*

If Māori women are about whānau, tamariki and cultural survival, the personal becomes political for us in the IT world.

### **Indigenous peoples and Women in IT (global situation)**

The western IT literature through the reductionist method fragments culture into indigeneity, ethnicity/race and gender. Culture, in its fragmented nature, does not support the aspirations of Indigenous women's holistic culture combining indigeneity, ethnicity/race and gender. At one point or another Indigenous women's culture is the 'other' or missing. The global situation of the literature is divided between Indigenous peoples and Women in IT where Women of Colour are concerned with the joint effects of race and gender politics (more detail on the discourses of under-represented groups is in Wāhanga [chapter] 4).

Although there are 370 million Indigenous peoples world wide, there is a cultural demise where the digital revolution, by creating global villages, increases the loss of Indigenous peoples (Packer, Rankin, & Hansteen-Izora, 2007). The critical literature portraying IT as detrimental for Indigenous culture has just surfaced. The majority of the literature was concerned with Indigenous peoples 'catching up' with IT prepared societies to benefit. Lynch, Szorenyi, and Lodhia (2002) claim that Indigenous Fijians are less likely to adopt IT because of their cultural constructs of collectivism, large power distance through chieftainship, high uncertainty avoidance and of being less assertive than other cultures. Of course, these cultural constructs are contrary to western culture, Lynch et al. (2002) assert that a western culture is needed to adopt and benefit from IT because western culture is the dominant society that produces and shapes IT. Dyson (2003, 2004) agrees that a western culture is needed to adopt IT, but contends that it is not the assimilation of Indigenous Australians into western culture which determines their low adoption. Dyson (2003) believes the digital divide of cost, environmental constraints and low computer literacy of Indigenous Australian's explains their low participation.



The digital divide is the only theory that explains the low adoption of Indigenous peoples of IT, however, this thesis moves beyond the digital divide of assimilating into western culture by centralising the local theory of Mana Wāhine where Indigenous women are empowered to be 'ourselves' to learn and work in IT.

For Women in IT, Morgan et al. (2004) claims the 'Boys' Club' as a social network to take care of men's interest in IT is alive and well. In coping with the Boys' Club women will often assimilate into masculinist culture to benefit from IT, where women will mesh their interests with those of men in the workplace to be included as proactive insiders (Morgan, Quesenberry, & Trauth, 2004). Morgan et al. (2004) supports the socio-cultural individual differences theory that women will respond differently in an individual way to the same situations. Therefore, women will also be reactive insiders in having the same interests as men but not including themselves; reactive outsiders who are not interested in the Boys' Club, reactive outsiders who are excluded from the Boys' Club and who have alternative networks to make new opportunities. Quite often reactive outsiders come from the feminist movement of women who use feminist epistemology to be included in mainstream information systems to 'feminise IT' (Adam & Richardson, 2001). However, Kvasny (2003) claims that for African American women, feminist theory should not be restricted to middle-class white women's management theories where race, gender and class inequities are experienced in IT. So, interventions for African American women should not be only on delivering IT access and basic computer literacy because they fail to address the systematic barriers that limit IT access and skills in the first place.

At the critical level, the feminist theory of white and African American women is used to explain the low participation in IT for women, however, this present thesis centralises the local feminism of Indigenous Māori women called Mana Wāhine.

The two following sections articulate the research intent and research design both underpinned by Mana Wāhine.

### **Mana Wāhine in IT intent**

I want to draw your attention to the two quotes by Kathie Irwin and Tia that guide the intent of the thesis at the beginning of this wāhanga [chapter]. Kathie (Irwin, 1992b, p. 5), like other Mana Wāhine theorists tell Māori women to “develop the tools which will help us come to terms with who we are” and that such “theories will help contribute to our empowerment”. Tia, who has worked in IT for 14 years, recognises that Māori women have to use the context that is relevant to ourselves. She describes how difficult it is for Indigenous women researchers in western academia who are told to “look elsewhere to find ourselves” for legitimacy, but who should have “the confidence to find ourselves without having to look outside for legitimacy”. I would be contradicting my own (and Māori women’s) mana [legitimacy] if I looked elsewhere, such as the Indigenous peoples and women in IT western literature to find our theories and frameworks for our cultural survival. Therefore I take up the challenge from Kathie and Tia for an Indigenous women’s cultural construction of IT by legitimating ‘ourselves’ using the philosophy derived by mātauranga wāhine [Māori women’s knowledge] using Mana Wāhine theories. This philosophy is an Indigenous women’s knowledge validating the rights of Māori women to use our own philosophies as tāngata whenua [Indigenous peoples of the land]. Mātauranga wāhine for Mana Wāhine is intended for a Doctor of Philosophy within the Faculty of Design and Creative Technologies, and the School of Computing and Mathematical Sciences AUT University, for a Mana Wāhine in IT intent.

The context of the thesis reclaims the cosmology of Papatūānuku for Mana Wāhine. The context of Māori women’s representation in IT must be considered from the vantage point of being Indigenous peoples who have been colonised. The IT background has shown the hierarchy of Pākehā privilege over Māori to participate. The low representation of Māori women in IT makes sense. From this context, the Mana Wāhine in IT intent is straightforward.

The intent of this research is to develop a Mana Wāhine in IT conceptual framework. The research aim is to identify the key discourses, principles and theories of Mana Wāhine for the foundation of the conceptual framework and relate this to IT. The contribution of the thesis will be to provide an Indigenous women's cultural construction of IT. Therefore, to argue for an Indigenous women's cultural construction of IT, this thesis centralises the culture of Indigenous women starting with 'ourselves'. As a local and centralising approach, this thesis contributes primarily to the knowledge of Mana Wāhine by including IT. Then a global contribution can be made to the fragmented knowledge of Indigenous peoples and Women in IT, to understand the effects of indigeneity/colonisation, ethnicity/race, and gender that Indigenous women are concerned with.

Where this knowledge contributes is in two areas: Indigenous peoples and women in IT representation. For the Indigenous peoples' literature this knowledge contributes by moving beyond the digital divide deficit theory and includes a gender perspective for Indigenous women. For the women in IT literature this knowledge contributes by including ethnicity, race and colonisation perspectives for Indigenous women.

Both areas look at cultural identity differently. The women in IT literature is mainly concerned with feminism as women's culture whereas IT is a male-dominated sector, but will not address issues of culture for indigenes, colonisation, race and ethnicity. Women in IT literature are to 'feminise IT'.

On the other hand, Indigenous peoples are concerned with indigeneity, race and ethnicity, as a culture, where IT is mainly constructed by the coloniser, yet does not address issues of women's culture and gender. Here is the gap in the body of knowledge where this study aims to contribute. Both bodies of knowledge from Indigenous peoples and women in IT will be discussed in more detail in Wāhanga [chapter] 4.

This study contributes by developing a Mana Wāhine conceptual framework that brings both fragmented bodies of knowledge together on participation in IT for Indigenous women. The holistic theory of Mana Wāhine combines indigeneity, race,

ethnicity and gender for Indigenous Māori women in Aotearoa New Zealand, for cultural survival that challenges the reductionist method that fragments culture and does not meet the aspirations of Māori women.

This thesis argues that, as *tāngata whenua*, Indigenous women's voices, theories, knowledge and values should be an accepted part of any IT education and workplace. The inclusion of Māori women's knowledge through *Mana Wāhine* validates and makes visible Indigenous technologies, mathematics and techniques. This thesis aims to provide a space where *Mana Wāhine* positions this Indigenous women's IT knowledge as critical to the cultural survival of Aotearoa New Zealand and IT as a whole.

### **Mana Wāhine research design**

To undertake the *Mana Wāhine* intent and develop a *Mana Wāhine* in IT conceptual framework as described above, a *Mana Wāhine* research design is used and introduced here. The *Mana Wāhine* research design is discussed in more depth in *Wāhanga 3* where research is 'for, by, and with, Māori women' (Pihama, 2001). According to Jessica Hutchings (2002b), when Māori women researchers research ourselves we must use our own theories, methodologies and methods to conduct research where theory is not separated from practice. Therefore, *Mana Wāhine* is the theory, methodology and methods combined to be the *Mana Wāhine* research design.

*Mana Wāhine* is a local perspective to contribute to a process of centreing Māori women seeking change from colonial masculinist oppression and asserting *tino rangatiratanga* [sovereignty and self-determination]. Firstly, the positionality of myself as a *Mana Wāhine* researcher is disclosed as subjective as opposed to objective. The position of subjectivity raises issues of what research questions are appropriate to ask, how to culturally approach research and who must benefit from the research. In addition, there is reflexivity to try and remain a *Mana Wāhine* researcher and resist being claimed otherwise. For example, non-Māori academics

will give themselves the right to 'dispossess me' (Jackson, 1998) claiming I am a qualitative interpretivist researcher who is critical. I claim myself to be a Mana Wāhine researcher. Finally, with positionality I disclose the Māori ethics that underpin this research.

At the global level, Mana Wāhine research relates to the wider research agenda of Indigenous women. This is to understand the colonisation and oppression of Indigenous women and to re-affirm the self-determination of Indigenous women alongside Indigenous men.

Mana Wāhine methodology is research 'for, by, and with, Māori women' (Pihama, 2001). Māori women are at the center of any research theory and practice. Mana Wāhine theory is connected to Kaupapa Māori theory and research, but becomes controversial with Māori scholars when connected to critical theory (Eketone, 2008). Leonie Pihama (2001) dismisses the controversy between Kaupapa Māori and critical theory by calling critical theory a Hoa Mahi [friend alongside]. Leonie talks of critical theory being derived from western Marxism to identify oppression of the powerless (working class) by the powerful (capitalist class) (Pihama, 2001). Kaupapa Māori takes what is useful from critical theory, but is derived from mātauranga Māori [Māori knowledge] for tino rangatiratanga of Māori. Leonie says there is a distinct difference where one does not rely on the other, but Kaupapa Māori can take what is useful from critical theory.

Mana Wāhine theory is also connected to feminist theory and research as Hoa Mahi. Feminism is about the self-determination of women to live as women, from women's theories, methodologies and methods. Mana Wāhine takes what is useful from feminism. Kathie Irwin (1990, 1992a, 1992b) describes Mana Wāhine as Māori feminism.

The Mana Wāhine methods of gathering information were by transcribing herstories (Irwin, 1992b) through kanohi kitea [seen face] individual interviews of twenty-four Māori women. The herstories utilised the Kaupapa Māori principle of whanaungatanga [family relationships] (Bishop, 1996). Qualitative techniques are

used as Hoa Mahi to align with Kaupapa Māori values of kanohe kitea and whanaungatanga with interviews and forming relationships.

The Mana Wāhine methods of analysis and interpretation had two stages. The first stage was a hui [Māori gathering] with twelve of the twenty-four Māori women. I had produced a Results Report of the themes from the kanohe kitea interviews which they read and discussed. After the hui, a second analysis was conducted from the changes the women had made.

The Mana Wāhine methods of developing the conceptual framework were to combine the knowledge from Wāhanga 2, 3, 4 and 5 alongside my herstory at the beginning of the thesis.

The final Mana Wāhine methods for reporting back to the women were email updates and three women reading a draft of the thesis before submission.

The two final sections for Wāhanga 1 are the writing style and the thesis structure and overview. The writing style is how I have engaged with the literature, sometimes personal and passionate and other times dispassionate and detached. The thesis structure incorporates a Māori women's cultural construct using Ngā Kaiwhatu Kākahu Me Te Kākahu [The Cloak Weavers and the Cloak]. The thesis overview is a guide on all the wāhanga presented throughout the thesis.

### **Writing style**

Throughout the thesis, the writing style was natural on one hand and complicated on the other. Leonie (Pihama, 2001) refers to her writing style as being dependent on her relationship with the material. When the writing is natural Leonie is 'personal and passionate' with the material. When the writing is complicated Leonie is 'dispassionate and detached'. I have often wondered why I have felt like this. Some material is so hard to write, read and cite because I feel oppressed by it, whereas other material I can't put down. I apply Leonie's (Pihama, 2001) two writing style techniques to the thesis.

The personal and passionate writing style is natural when I feel the material I engage with centres the worldview of my whakapapa [genealogy] and lived experiences. Both karakia [incantations] open and close the thesis as in a hui [gathering] and an oral cultural setting acknowledging the ātua wāhine [spiritual goddesses], the Mana Wāhine of our cosmological and spiritual world.

I am passionate to use te reo in the thesis whenever I can, because I am a second language learner. Any project to revitalise te reo is crucial, so I have used te reo in the karakia [incantations], karanga [calling], mihimihi [greeting], kupu whakataki [preface], whakatauki [proverbs] and headings. I believe not using te reo contradicts my arguments to include Mana Wāhine and Kaupapa Māori, as te reo is the foundation of our culture. This does not mean I should write the whole thesis in te reo, but means that te reo is used as much as I can. At no time do I find the use of te reo in this thesis political; decolonisation and revitalisation of te reo is the main objective, which is my experience of being a Māori woman who has been colonised.

I am passionate to use the first person as a collective writing style. I agree with Leonie (Pihama, 2001) when she states that as an individual our ancestors are with us, as opposed to the English version of 'I' which is totally individualistic. She articulates further that the term 'I' is not used to elevate herself as an individual, but to show that we are not alone in our pursuits of research, this I agree with. Furthermore, I agree with Leonie on using the collective pronouns of 'our', 'their', 'them', 'they' or 'we' to include myself, especially with the Māori women participants in this research. I am them, they are me and we are ourselves. I find that Indigenous women write passionately from the collective position.

I am passionate about using the full name of authors (then their first name after) that touch me personally, especially Mana Wāhine authors. Leonie (Pihama, 2001) states this practice of citing authors is about personal, cultural, and political relationships with those authors. Culturally, some Mana Wāhine theorists are connected through whakapapa, it is disrespectful to use their last name only. The last name only tradition of citing authors is used with other authors.

On the other hand, the dispassionate and detached writing style is complicated from material that is western-centric, assimilatory, deficit, and patriarchal. In addition, this material pacifies Māori women experiences as 'other' or an alternative position to itself, a site of the marginal and the periphery. Leonie (Pihama, 2001) resists material with those types of understandings centreing western knowledge and western theories for our people. The material is uninspiring and is incapable of meeting the aspirations of Māori women.

I also agree with Leonie (Pihama, 2001) on the difficulty of third person where a researcher is detached from their research looking in. Now that I have gone through this process, it is obvious the researcher chooses the problem, question, methods, and thesis structure and writing style – biases that are not declared from the outset. I have difficulty with the concept that any research is objective. The practice used is to declare from the outset all my subjectivities because I cannot remove myself from the research topic. I also made sure that Māori women in IT were a part of identifying the research problem, question, thesis structure and writing style, they have been by my side the whole way through. I dare not write about them as someone looking in and detached; it is just not possible. These women are whānau. Again, they are me and I am them.

### **Structure and overview**

The structure<sup>20</sup> of the thesis has a cultural approach contributing to Mana Wāhine. The structure of the thesis does not build on the western IT literature that is derived from reductionist methods to fragment culture, but the central location of Mana Wāhine theory and knowledge of mātauranga wāhine [Māori women's knowledge]. The structure and overview of the thesis is linked to a Mana Wāhine metaphor of Ngā Kaiwhatu Kākahu Me Te Kākahu – The Cloak Weavers weaving the Cloak. I have

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<sup>20</sup> For examples of other Māori PhD scholars on structuring their thesis from a Māori perspective refer to Linda Mead (1996), Graham Smith (1997), Leonie Pihama (2001) and Jessica Hutchings (2002b).



provided a Māori women's cultural construction of the thesis structure at the beginning of each wāhanga [chapter]. The metaphor is used to incorporate relevance for Māori women as weavers where the Māori women participants and I are the *Ngā Kaiwhatu Kākahu* who work together to weave the *Kākahu*, this thesis. The cultural relevance helps to articulate the research within a Mana Wāhine framework, identifying that Māori women have always been IT professionals through the mathematical, informational and technological practices of weaving.

At the beginning of each wāhanga there are two headings, one related to Ngā Kaiwhatu Kākahu Me Te Kākahu and the other to the research. After the wāhanga heading there is a paragraph that describes each section of the weaving process relating to Ngā Kaiwhatu Kākahu Me Te Kākahu.

After the weaving paragraph, there are quotes from Mana Wāhine theorists and from a Māori woman in IT participant. The quotes provided by Māori women—ourselves provide ownership, directing each wāhanga and are throughout the thesis. Māori women's voices are not left for certain parts of the thesis, but are heard throughout the entire thesis.

An overview of the thesis is provided in seven wāhanga:

## **1. Ngā Kaiwhātu Kākahu contextualise the Kākahu – Introduction**

The cultural context of studying the representation of Māori women in IT is from ourselves as Mana Wāhine. Māori women's culture was here in Aotearoa New Zealand before the culture of IT, this is the context. The background of IT education is discussed showing the underlying dominant culture of IT that has been imported to this land, as a manuhiri [visitor]. The context within which the numbers of Māori women in IT representation are low and why this type of research is minimal starts to make sense. Next is the Mana Wāhine in IT intention to develop a conceptual framework using a Mana Wāhine research design. Finally, the writing style, structure and overview finishes this wāhanga.

## **2. Te Whakamata with Te Aho Tapu – Mana Wāhine Philosophy**

The philosophical and spiritual knowledge base of mātauranga wāhine for Mana Wāhine is discussed to relate it to IT. The discourses and principles of Mana Wāhine are fully described to articulate how culture is counted or not for Māori women.

## **3. Te Whakamata with Te Aho Tapu – Mana Wāhine Research Design**

The design of this research is connected to Mana Wāhine philosophy to become Mana Wāhine research design. This includes the position of the researcher with theory, methodology and methods of Mana Wāhine. The research design is derived from the Mana Wāhine philosophy in Wāhanga 2 above.

## **4. Ngā Whenu – Discourses of under-represented groups in IT**

The under-represented groups are divided into three discourses. The first is about ethnicity and race for Māori and Indigenous peoples' representation. The second is on gender for Women in IT, and the final is on the joint effects of race and gender for Women of Colour.

## **5. Ngā Aho – Indigenous Māori women in IT herstories**

The herstories are divided into themes of growing up, schooling, first exposure to computers, and working in IT. While working in IT there are three experiences presented: 1. The colonising of IT is when ethnicity, race and gender power relations form oppression against Indigenous Māori women to participate in IT, 2. The decolonising of IT is when the women resist oppression and start to assert their participation in IT by strategically making IT their own of ensuring they continuously learn IT, demystifying IT as only a tool, having their own business to be in control, and working for and with Māori organisations, 3. The indigenising of IT is to increase the cultural context of IT to be cultural formed as opposed to

culture-neutral. These women assert the right to participate in IT for tino rangatiratanga to be themselves as Indigenous, as Māori and as women.

## **6. Te Whatu Kākahu – Mana Wāhine in IT Conceptual Framework**

The conceptual framework is divided into three sections: indigenising, colonising and decolonising IT.

## **7. Ngā Kaiwhatu Kākahu Me Te Kākahu – Conclusions**

This wāhanga goes back to my herstory. After ten years of searching the question of what is it like to be Māori women in IT has a broad but holistic answer. Mana Wāhine rejects any culture-neutral and cultural imperialism discourses. There are implications for Indigenous peoples, Māori and for women to be self-determining within IT education and research. The future directions of research are discussed. However, practically and theoretically, the politics of culture in IT are complex, but Māori women should look to ourselves where we, as Mana Wāhine in IT, fight for cultural survival – to design and shape IT to our hearts' desire.

## Wāhanga 2

### *Te Whakamata with Te Aho Tapu – Mana Wāhine Philosophy*

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*Te Whakamata with Te Aho Tapu is the first woven sacred line that provides the philosophical foundation and strength to weave the rest of the Kākahu.*

**Quote by Leonie Pihama (2001, p. 33):** *What has happened in our colonial experiences is that many Māori women have been denied access to what may be termed mātauranga wāhine, or Māori women's knowledges. When we place that alongside the denial of Māori theories, language and culture, we find ourselves in a position where in order to theorise about the world, and about our experiences of colonisation we must recreate for ourselves our theories and means of analysis. What this has been called in some Māori women's circles is Mana Wāhine.*

**Participant quote by Mahurangi:** *This is how this year has been – very much Mana Wāhine. There are a lot of Māori women thinking like that and thinking about themselves, but they know it affects everyone around them too. So often we think about everybody else but ourselves and never ourselves first. This year I have noticed with Māori women everywhere, not just here, but everywhere – it is Mana Wāhine. To see you come along with this kaupapa [topic] it's like the year of the women and it is not like it has been labelled Mana Wāhine year, but that is how it is turning out. Maybe this is the time and I believe there is a reason for everything. I am quite hyped up and excited listening to Māori women saying, "Yes, it is all about me" – this is good to hear.*

## Introduction

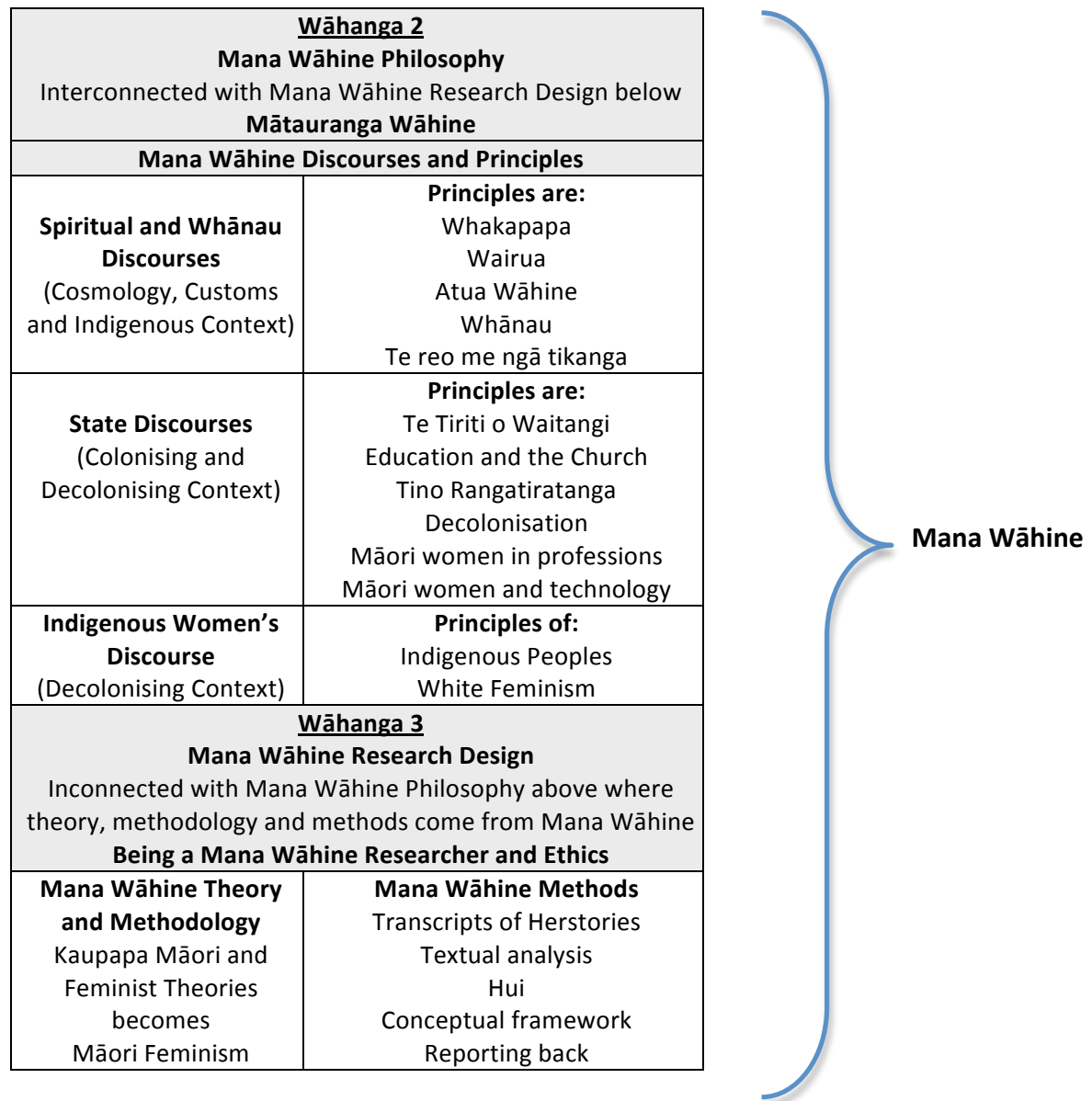
The overall intent of this research is to develop a Mana Wāhine in IT conceptual framework. The research aim is to identify the key discourses, principles and theories of Mana Wāhine, for the foundation of the conceptual framework and relate this to IT. In this wāhanga [chapter] I explain that Mana Wāhine is derived from mātauranga wāhine, where this knowledge defines the term Mana Wāhine in philosophy to practice. As Leonie (Pihama, 2001) has already pointed out above Māori women have been denied access to mātauranga wāhine. Many Mana Wāhine theorists alongside Leonie such as Kathie Irwin, Linda Smith, Ngahuia Te Awekotuku, Donna Awatere, Ripeka Evans, Rangimarie Rose Pere, Huia Tomlins Jahnke and Jessica Hutchings have been striving to reclaim mātauranga wāhine. Mana Wāhine is a way of living and being as derived from mātauranga wāhine as Indigenous women's knowledge.

From mātauranga wāhine are the discourses of Mana Wāhine describing the spiritual, whānau, state and indigenous women's cultural diversity amongst Māori women. The principles of each discourse above articulate how culture either counts or does not count depending on cosmology, customs, colonisation, decolonisation and indigenisation periods over time. The discourses and principles within this thesis are not definitive as Mana Wāhine is organic and dynamic with the flexibility to change alongside the dynamic lives of Māori women. The discourses and principles are vital to understanding the herstories in Wāhanga 5 and developing the Mana Wāhine in IT conceptual framework in Wāhanga 6.

The discourses and principles interconnect with the Mana Wāhine research design in Wāhanga 3, the practical strategy in order to undergo the research aim. As a strategy Mana Wāhine philosophy (here in Wāhanga 2) and Mana Wāhine research design (Wāhanga 3) are seen as one in the same—as though philosophy and practice are inseparable, interconnected as one in the same. However the philosophy and

research design of Mana Wāhine are offered as separate wāhanga in the thesis. An illustration in Figure 2 Mana Wāhine shows how both wāhanga are interconnected.

Figure 2. Mana Wāhine



The next section describes the origins of Mana Wāhine from mātauranga wāhine.

## Mātauranga Wāhine

Mana Wāhine originates from mātauranga wāhine as Indigenous women's knowledge connected to Papatūānuku [Earth Mother], cosmology that is thousands of years old. Kathie Irwin (1990) traces the origins of Mana Wāhine from the whakapapa [genealogy] of Papatūānuku. Here Jessica Hutchings (2005, p. 55) explains how Māori women, Mana Wāhine and Papatūānuku are one in the same:

*Papatūānuku is a fundamental aspect of Mana Wāhine for it is where we as Māori women earth our Mana Wāhine. It is through this relationship defined through whakapapa that Māori women are seen as land...in essence we are Papatūānuku.*

The spirituality of Papatūānuku for Māori women is also connected to the word whenua [placenta and land]. Whenua is the lining of the womb during pregnancy, through which the baby is nourished and is expelled with the umbilical cord following birth (Pere, 1994). Whenua also means the land, the body of Papatūānuku. After the birth of the baby, a custom celebrating life, the placenta is buried within the land denoting how mātauranga wāhine is intertwined with Papatūānuku.

The spirituality of mātauranga wāhine connecting Papatūānuku, whenua and the important role of Māori women, has been difficult for colonial systems of knowledge to accept. Linda Tuhiwai Smith (1999) articulates that the spirituality and relationship to the land is the difference between western and Indigenous knowledge. She continues to say that the west has difficulty with such arguments that it cannot decipher or accept such knowledge as valid or legitimate. According to Kuni Jenkins and Leonie Pihama (2001) the west defines mātauranga wāhine as 'myths' and it is seen as a figment of cultural imagination. Māori women struggle as mātauranga wāhine is constructed as invisible, superstitious and inferior knowledge. The visibility, validity and legitimacy of mātauranga wāhine as philosophical, spiritual and epistemological knowledge underpin this research. From mātauranga wāhine Mana Wāhine can be defined for academia.

Mana Wāhine is defined as the power, authority, legitimacy and spirituality of Māori women. Leonie (Pihama, 2001) states that Mana Wāhine should be considered from the two important components of 'Mana' and 'Wāhine'. To understand mana, it is important to understand cosmology<sup>21</sup>. Mana originates from the primary source of the Gods, the Mana Atua [the power of the Gods] (Barlow, 1991; Marsden, 2003; Shirres, 1997). According to Māori Marsden (2003, p. 4) mana is the spiritual authority and power sourced from the Gods:

*In the Māori sense, since authority is derived from the gods, mana as authority means 'lawful permission delegated by the gods to their human agent to act on their behalf and in accordance with their revealed will'.*

Cleve Barlow (1991) also writes that Mana Atua is the enduring and indestructible power of the gods, like a sacred fire or ahi kōmau. Michael Shirres (1997) concurs that Mana Atua is the spiritual powers of the gods and it is they who are the immediate source of mana. Since authority is a spiritual gift delegated by the gods, in the physical world people remain the agent or channel and are not the source of mana (Marsden, 2003). When the gods gift mana to the people they become Mana Tūpuna [the power of the ancestors] and Mana Tangata/Tāngata [the power of the person or people]<sup>22</sup>. According to Tania Ka'ai and Rawinia Higgins (2004) Mana Tūpuna is based upon whakapapa [genealogy] of those who are the ariki [paramount chief] from the tuakana [senior] line and are understood to have a closer relationship to Mana Atua. The ariki was not seen as gender specific especially in some iwi such as Te Whānau-ā-Apanui and Ngāti Porou (Mahuika, 1973; Salmond, 1995). Mana Tūpuna of the chiefly whakapapa is handed down from generation to generation where they must carry out the various rituals and duties to maintain this mana handed down from the ancestors (Barlow, 1991; Mead, 2003).

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<sup>21</sup> Refer to the spiritual discourses below to read more on the power of the Gods.

<sup>22</sup> Tangata without a macron over the 'a' is person. Tāngata with a macron over the 'a' is people.



On the other hand, Mana Tangata as Michael (1997, p. 53) states is:

*To be a person is not to stand alone, but to be one with one's people, and the deeper the oneness the more we are truly persons and have that mana tangata.*

Rangimarie Rose Pere (1994) believes Mana Tangata on an individual level is about a person who shows outstanding leadership qualities, who is able to unit the collective with aroha [love], who has charisma and who could be a youngster with promise outside the tuakana lines. Hirini Mead (2003) states this person has proven his or her skills and contribution to the collective over time. It is important to note that the mana of a tane and the mana of a wahine are complementary and not in opposite of each other as the relationship between Papatūānuku [Earth Mother] and Ranginui [Sky Father] the spiritual parents illustrate (Jahnke, 1997b; Pihama, 2001). Huia Tomlins Jahnke (1997b, p. 27) explains that:

*An understanding of a Māori orientation to the world, provides significant insights into a world view that customarily did not perceive relations between men and women in terms of gendered hierarchies of power that privileged men over women.*

Furthermore, Mana Tāngata is seen on a collective level such as mana of an iwi [tribe] for their ability to express aroha and manaakitanga [reciprocity, sharing] towards their manuhiri [visitors] by being a great host (Pere, 1994). Finally, in relation to Mana Tāngata and reference to Mana Atua there is Mana Whenua [the power of the land]. Papatūānuku who has power of all resources that reside on her. Without Papatūānuku, there is no mana of the people. Mana Tāngata must ensure the land and all living beings of Papatūānuku are nurtured for the next generation (Barlow, 1991; Shirres, 1997).

Mana can have several meanings from the power of the gods, the ancestors, the person, the people and the land. For modern times, mana means power, authority, legitimacy, control, charisma or influence. The next part of Mana Wāhine is to understand the component of 'wāhine'.

Many believe the concept of 'wāhine'<sup>23</sup> to mean women. On the contrary, Leonie views the meaning of 'wāhine' to be the intersection of the two words, 'wā' and 'hine'. Leonie (Pihama, 2001, p. 261) explains that:

*'Wā' relates to notions of time and space, hine relates to a female essence. The term wāhine designates a certain time and space for Māori women, but is by no means a universal term like the term women in English. There are many times and spaces that Māori women move through in our lives, wāhine is one of those.*

Leonie (2001) concludes that the term wāhine should not be seen as a dualism with the term tāne [men], as we see in the constructed binaries of female and male that exist in the west and which are defined in biological terms. Leonie asserts that Mana Wāhine is not about dualistic or oppositional relationships between Māori women and Māori men, but where relationships are negotiated in the multiplicity of Māori society.

### **Mana Wāhine discourses and principles**

The overall Mana Wāhine discourses of spiritual, whānau [family], state and Indigenous women are written by Linda Tuhiwai Smith (1992, pp. 39–46) in her paper titled *Māori women: Discourses, Projects and Mana Wāhine*. Within the discourses are the Mana Wāhine principles that Leonie Pihama (2001) and Jessica Hutchings (2002b) alongside the work of Linda have provided<sup>24</sup>.

Figure 2 Mana Wāhine (p. 30) is repeated for an illustration on the Mana Wāhine discourses and principles.

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<sup>23</sup> The macron on the word 'ā' in wāhine is the plural form. No macron on the 'a' of wahine is the singular form. I have chosen to articulate Mana Wāhine in the plural form for collectiveness.

<sup>24</sup> Readers outside of a Māori world may have difficulty with such discourses, principles and worldview. These readers may apply reflexivity to their understanding of this epistemology and should be aware of the outsider lens that is applied by nature of their biases (Hutchings, 2002b).

Mana Wāhine Discourses and Principles	
<b>Spiritual and Whānau Discourses</b> (Cosmology, Customs and Indigenous Context)	<b>Principles are:</b> Whakapapa Wairua Atua Wāhine Whānau Te reo me ngā tikanga
<b>State Discourses</b> (Colonising and Decolonising Context)	<b>Principles are:</b> Te Tiriti o Waitangi Education and the Church Tino Rangatiratanga Decolonisation Māori women in professions Māori women and technology
<b>Indigenous Women's Discourse</b> (Decolonising Context)	<b>Principles of:</b> Indigenous Peoples White Feminism

### Spiritual and whānau discourses

Mātauranga wāhine and Mana Wāhine are depicted through the work of Robyn Kahukiwa and Patricia Grace (2000) in their book *Wāhine Toa*. At the beginning of time, the creation of Māori began with Papatūānuku who was born from Te Pō [The Night]. Papatūānuku began to grow, nurtured within Te Pō. She was learning, seeking and becoming conscious with new knowledge and wisdom throughout time and space. Papatūānuku became the primal parent embraced tightly with Ranginui [the Sky Father] and they created the land, sea and sky between them. Their children become restless from living in darkness, so they decided to separate them, placing Papatūānuku as the earth below and flinging Ranginui as the sky high above.

Their son Tane Mahuta [the god of the forest] completes the task of separating his parents. Ranginui displays great anger and despair by sending rain, thunder and lightning down on his family with the support of his son Tawhirimatea, [the god of wind and storms] (Jenkins, 1992). Papatūānuku shelters her children from the rage of Ranginui. She turns her back to him, so she does not see any more of his misery. Ranginui is helpless to do anything, but cry for Papatūānuku in isolation.

Papatūānuku retains for herself many sons, but the major sons of the universe are Tane Mahuta [the god of the forest]; Tangaroa [the god of the sea]; Rongomātāne [the god of peace and cultivated foods]; Tūmataunga [the god of war]; Haumiatiketike [the god of wild fern roots]; and Ruaumoko [the god of earthquakes]. It is the natural resources of the land, sea and sky that hold spiritual significance for Māori. The following whakatauki [proverb] illustrates the mana [power and prestige] of Papatūānuku:

*Ko Papatūānuku te matua o ngā tāngata katoa.*

Papatūānuku is the parent of all people.

Despite the male elements being concerned with separation, fighting, war, misery and anger, Papatūānuku balances the cosmos as 'the nurturing one'. She is the nurturer of life and from her, humankind was born; Māori women, like Papatūānuku, are about nurturing life (Hutchings, 2005). Māori women's respect for nature and the earth is about the mana and whakapapa of Papatūānuku.

From Papatūānuku, her son, Tane, shaped Hineahuone [the Women formed of Earth]. With Papatūānuku's guidance, Tane went to the essence of humanity area which lay on his mother's body at Kurawaka (Kahukiwa & Grace, 2000; Pihama, 2001). After forming Hineahuone, Tane blew on her face, her eyes opened and she drew breath, *Tihei Mauri Ora* – I sneezed and therefore I live! The following whakatauki [proverb] presents the beginning of humankind (Hutchings, 2005):

*Mai te timatanga ko Papatūānuku te whaea whenua. Ko*

*Hineahuone te ira tangata tuatahi, he wahine.*

From the beginning of time was Papatūānuku, then came

Hineahuone, the first human created, a woman.

From Hineahuone and Tane came Hinetitama<sup>25</sup> [the Dawn] who is the mother of humankind and who is the fusion of the godly and the earthly elements. Tane took Hinetitama as his wife to have several daughters. When Hinetitama found out that Tane her husband was also her father, she became angry and ashamed. She then become Hinenuitepō [the Great Lady of the Night], in Rarohenga the underworld (Kahukiwa & Grace, 2000). Tane pleaded for her to return, but Hinenuitepō instructed that he must look after their children in life, and she would look after them in death. When we die we are returned to the earth, where our ancestor Hinenuitepō meets us. There is a saying, from earth we have come and to the earth we shall return (Hutchings, 2005). Mana Wāhine originates from the philosophical and spiritual knowledge of mātauranga wāhine from life to death connected to the land, Papatūānuku. Mana Wāhine is validated through mātauranga wāhine.

Māori spiritual and cosmological<sup>26</sup> discourses are thousands of years old and relate to the creation of the world that describes who we are and how we got here as Māori women. Not all creation and cosmological discourses are the same between iwi [tribes] (or between Māori women), and can contain minor differences and interpretations (Reilly, 2004a). What is plainly evident is the place of Papatūānuku [Earth Mother] for the Māori creation and for other Indigenous peoples. According to Jessica Hutchings (2005) the spiritual discourses of creating the world show the important place, role, status and leadership of Māori women.

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<sup>25</sup> Elsdon Best (1995, pp. 644-646) provides a list of examples where Hine is used as a prefix for many important women of cosmological times, such as Hineahiahi, the evening maiden to Hinewhaitiri, the lady of thunder. Māori women were not considered for domestic services only, but were considered as leaders for humankind.

<sup>26</sup> My preference is to use the term cosmology as opposed to myths and legends, which have fictitious or untrue connotations, and are seen as problematic when discussing narratives of spiritual and cultural reality for Māori identity through whakapapa [genealogy].

### **Whakapapa**

Whakapapa as a principle is usually translated to mean genealogical descent of all living things from the gods to the present day (Barlow, 1991). Every living being has a whakapapa: birds, trees, mountains, the soil, people and even a rock have a whakapapa. Another meaning is to 'lay one thing upon another' or lay one generation upon another (Barlow, 1991). Cleve Barlow (1991) describes that whakapapa is a basis for the organisation of knowledge in respect of the creation and development of all things. Tānia Ka'ai and Rawinia Higgins (2004) describe whakapapa as the connection between humans and the universe, where whakapapa is the link between te taha wairua [spiritual aspects] and te taha kikokiko [physical aspects]. Therefore, whakapapa is the link between the cosmos, the gods, mortality, and the canoes to the present day<sup>27</sup>. A Mana Wāhine framework is informed by whakapapa and the oneness of the relationship between Māori women and the spiritual environment around us (Hutchings, 2002b).

### **Wairua**

Wairua is the spiritual principle. Wairua is about the link between the mental, physical and spiritual well-being of a person. The wairua of Māori women cannot be separated from their physical and mental reality. Wairua is beyond humanity and connected to the spirit world of the gods and ancestors who have gone before us. Ripeka Evans (1994, p. 55) asserts how wairua is intrinsic to Mana Wāhine:

*Of all the efforts to maintain our status as a people, it is Mana Wairua that sustains Mana Wāhine. The vesting of the continuance of people in women "te whare tapu o te tāngata [the sacred house of the people]" – is really the only basis by*

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<sup>27</sup> I agree with Hirini Moko Mead (2003, pp. 309-310) where he has great difficulty with the concept of Io. This is shared by some of my whānau in Te Whānau-ā-Apanui and other East Coast iwi [tribes]. Hirini describes that there is little evidence in the Bay of Plenty area that there was one supreme being organising Papatūānuku and Ranginui, also nor does Io appear in whakapapa linking to Papa and Rangi.

*which we can be assured of the ultimate persistence of Mana Wairua.*

However, wairua has been deconstructed and marginalised. Wairua in relation to the Māori spiritual powers of the gods may have been altered through the introduced faith of Christianity. Ripeka (Evans, 1994) describes that the destruction of Mana Wairua was a prerequisite to successful colonisation. She continues to say that Mana Wairua was replaced by Judeo-Christian beliefs and practices, which is the central value system of the church, family, state, and judiciary system of Pākehā domination. Kuni Jenkins (1992) has shown how the deconstruction of mythology and a critique of Christianity has transformed wairua for Māori women. Kuni (Jenkins, 2000) has also considered the dissolving of wairua by the church and the state in relation to Māori girls' education through boarding schools.

Furthermore, as the absence of the sacred, wairua is disregarded by most western theories. Linda (Smith, 1992) states that most of the literature in feminist and women's studies from mainstream white women's scholarship does not consider any spirituality. Leonie (Pihama, 2001) also refers to the absence of the wairua in critical theory. Leonie explains that the argument within critical theory is the social construction of the society, but falls short of any reference to the spirituality of that society. Jessica (2002b) concludes that wairua is an essential part of Mana Wāhine as it sustains Mana Wāhine.

### ***Atua Wāhine***

Wairua in Mana Wāhine is connected to the principle of Atua Wāhine [goddesses]. Aroha Yates-Smith (1998) wrote her doctoral thesis *Hine! E Hine!: Rediscovering the feminine in Māori spirituality* affirming that atua wāhine are the role models for women in today's Māori society. An example for technology in weaving is Hineteiwaiwa. Hineteiwaiwa is the goddess of weaving, the moon and childbirth. She is the direct descendant of Tane and Hinerauamoa (Best, 1995; Matthews & Paringatai, 2004). Hineteiwaiwa was a strategist and she heard of the handsome Tinirau and would swim to Hawaiki to pursue his love. On her journey, she

encountered adventures with sharks and sea life, so she called upon Tangaroa to give her safe passage. Tangaroa recognised Hineteiwaiwa as the goddess of the moon who controls the lunar moons and tides. He gave her safe passage to Hawaiki.

On arrival at Hawaiki, Hineteiwaiwa found the looking-glass wells of Tinirau where he spent much of his time admiring his handsome looks. Her strategy was to damage the wells, so that Tinirau would come immediately. This did eventuate and on approach to the wells, Hineteiwaiwa surprised Tinirau. He immediately became entranced by her beauty and forgot about the wells. Later they married and a son was born. At the birth of their son Tuhuruhuru, Hineteiwaiwa chanted a karakia to weave a mat, so that she would have comfort in her childbirth.

Hineteiwaiwa is an exemplary figure that provides the precedence for all women to follow. Women often use the karakia of Hineteiwaiwa when giving birth to their children and weavers also use the karakia in preparation for learning to weave (Tamati-Quennell, 1993). The mat, kete, and cloaks are all weaving technology that symbolise the technological and mathematical abilities of Māori women (Evans & Ngarimu, 2005; Puketapu-Hetet, 1999; Tamati-Quennell, 1993). Hineteiwaiwa symbolises how designing technology such as a mat can benefit the needs of women and mothers. Young girls who had the eye for detail, patience for, enduring long hours and who had supple hands would enter the *whare pora*, the house of weaving, to learn from Hineteiwaiwa (Riley, 2005). Most times, the *whare pora* was not seen as a physical institution such as a house, but as a state of consciousness and spirituality to fully concentrate on the knowledge, techniques and mathematics of weaving.

Ngā Kaiwhatu Kākahu are the experts of cloak weaving, with their technological know-how and mathematical techniques displaying an array of information and knowledge on the cloaks (Pendergrast, 1987, 1997; Te Kanawa, 1992). Hirini Melbourne (1999) talks of a well known expert cloak weaver who brought the art and technology back from extinction, Rangimarie Hetet:



*[She was] known for her fine, delicate, intricate cloaks... Her life and achievements are both fascinating and inspirational. She was there as a witness to events that changed the lives of Māori. There were the footsteps of a humble apprentice into the House of Hineteiwaiwa, the goddess of weaving. She became the most famous graduate of this traditional house of learning. Her selfless devotion to the teaching of others ensured that the link to the past has been kept alive.*

Moana Maniapoto (2002) provides a waiata of how Māori women's identity can be compared to Hineteiwaiwa:

*Ko Hineteiwaiwa, te whaea o Tuhuruhuru, he ruahine, he  
tohunga raranga, he wahine toa e.*

You, can be compared to Hineteiwaiwa, mother of  
Tuhuruhuru, an exalted woman, an expert in the art of  
weaving, an awesome woman.

From the whakapapa of Hineteiwaiwa, Māori women have always been information technologists through the art of weaving, as Ngā Kaiwhatu Kākahu, [the cloak weavers] who weave the Kākahu [cloak]. In this thesis, Ngā Kaiwhatu Kākahu Me Te Kākahu is essential to the focus of IT. Hineteiwaiwa as atua wāhine epitomises how weaving, childbirth and celestial components are holistically interconnected. Hineteiwaiwa demonstrates how atua wāhine as a principle of Mana Wāhine is imperative for this thesis and research.

### **Whānau**

Whānau is the principle of kinship and family. The narratives of Maui<sup>28</sup> give special insight into the position of women within the whānau (Jenkins, 1992; Kahukiwa & Grace, 2000). Maui would obtain technology from his Kuia [grandmothers], Murirangawhenua and Mahuika to change the forces of nature for humankind to survive. Taranga Maui's mother thought him to be stillborn. She tied Maui in a topknot of her hair to drift in the sea. Maui survived and drifted up onto the beach to

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<sup>28</sup> The narratives of Maui can be found in Jenkins (1992), Best (1995), and Kahukiwa and Grace (2000).

be taken care of by his ancestor Tama-nui-ki-te-rangi. As a young man Maui went to seek his mother, father and brothers.

Maui wanted to obtain power from the jawbone of enchantment and knowledge from his Kuia, Murirangawhenua. He tricked her by stealing her food, so that she became starved. Then Maui took Murirangawhenua food and she replaced the food with her jawbone. Murirangawhenua told Maui what he must do with the jawbone to achieve his earthly tasks. Maui made a patu to slow the sun down to achieve longer days for work and play.

When seeking new land, Maui hid in the canoe because his brothers refused to take him fishing. The brothers became annoyed when he revealed himself, but they were too far from land to return. The brothers refused to give Maui any bait, so he struck his nose, which bled, over the hook made from Murirangawhenua's jawbone. He immediately caught a huge fish and started chanting karakia [incantations] to haul in his catch. The fish is known as Te Ika a Maui, the fish of Maui, which is the North Island of Aotearoa. The South Island is known as Maui's canoe, Te Tau Ihu o Te Waka, whereas Stewart Island is known as Rakiura, the anchor.

Maui's other Kuia was Mahuika. Maui put all the fires out on earth to seek the power of fire from Mahuika. Maui tricked her into surrendering all her powers of fire; she became angry at his antics of putting out the fires. She nearly killed Maui, but he turned into a hawk to fly above the flames. Mahuika then secured her last flame in the kaikomako, mahoe, totara, patete and pukatea trees for future use<sup>29</sup> (Best, 1995; Kahukiwa & Grace, 2000).

With her self-exile to the underworld as the goddess of death, Hinenuitepō remains with Papatūānuku. Maui wanted to destroy Hinenuitepō for mortality by killing her. However, this was the final antic of Maui, as she was awoken by the twittering of a

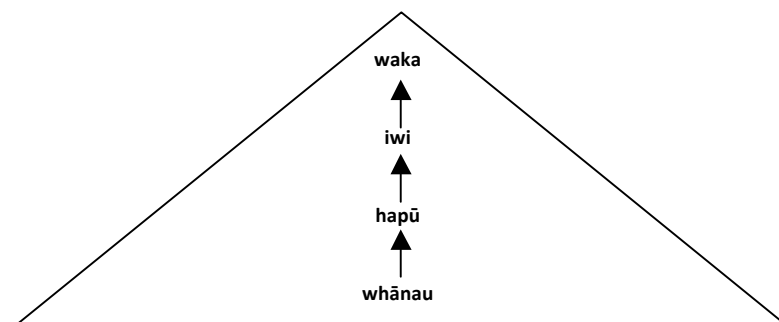
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<sup>29</sup> When two sticks are rubbed together from these trees, fire can be produced.

fantail and on her rise suffocated Maui between her legs (Best, 1995; Kahukiwa & Grace, 2000).

Although Maui is attributed to many great deeds through his life, it was his Kuia who gave him life, power, knowledge, technology and death. Māori women have always been storehouses of knowledge, leaders, decision-makers, and technologists while still nurturing the future of humankind.

In times of iwitanga [tribalism] Māori whānau structures on settlement as tāngata whenua of Te Ika a Maui (later named Aotearoa) depended on the individual being apart of the wider collective groups of waka [canoe], iwi [tribe], hapū [sub-tribe] and whānau. Waka are the many canoe with ancestors as captains and/or navigators who built the waka and sailed from the Pacific to different parts of Te Ika a Maui with their whānau on board. Once on land, kinship of the iwi, the hapū, and the whānau, were established. Michael Reilly (2004b) depicts how the four-tier hierarchy of kinship is comprised:



The customary kinship structures were established before 1200AD to 1769 (Williams, 2004) and those on waka were amazed with the immense size of the land (compared to the Pacific Islands), large trees, seafood, rivers, the Moa, and mountains. According to Ranginui Walker (1990), the landing of waka and settlement of iwi, hapū and whānau depended on existence of earlier people, marriages and warfare, that led to the pā sites and boundary lines of today.

The narratives on how Māori became tāngata whenua of Aotearoa are different between iwi. Some iwi say that Maui caught his fish and therefore Māori have

populated Aotearoa since then (Williams, 2004). For some iwi the ancestor Kupe is believed to have found Aotearoa, after he left the homelands of Hawaiki, searching for prosperous land as overcrowding and limited resources were causing conflict. According to Simmons (1976), the East Coast and the Horowhenua traditions of Kupe specify that the land was populated when he arrived. Yet, most narratives of Kupe come from the West Coast of the North Island in the Hokianga district and Ngāti Kahungunu iwi which argue that Aotearoa was not populated (Simmons, 1976; Williams, 2004).

The narratives mainly adopted for teaching in schools are the latter, where the explorer Kupe provided passage for a 'Great Fleet' of waka to arrive in Aotearoa (Smith, 1898, 1910). Ranginui Walker (1990) has great difficulty in the 'Great Fleet' theory of many waka leaving Hawaiki together to sail to Aotearoa. He provides narratives of the captain Tama Te Kapua of Te Arawa waka causing anguish in Hawaiki where he intended to depart Hawaiki alone. What is missing from the waka migration is the role and position of women. One narrative is the story of Wairaka.

The Ngāti Awa iwi of Whakatane share the story of Wairaka, the daughter of Toroa, the captain-navigator of the Mataatua waka. When they came ashore all the men went inland to investigate, leaving the women with the waka. The waka started drifting back out to sea and Wairaka's quick actions and chant "Ka whakatane au i ahau!" [I will become a man], saving the waka. That is how Whakatane got its name.

The narrative of my Te Whānau-ā-Apanui ancestry is with the Taurira waka, with Mōtataumaitawhiti as captain, landing at Te Kaha in the eastern Bay of Plenty. The boundary of Te Whānau-ā-Apanui iwi is often stated in the following whakatauki (Paora, 2007):

*Mai i Taumata-ō-Apanui ki Pōtaka. Ko Whanokao te maunga. Ko Motu te awa. Ko Whakaari te puia. Ko Apanui te tangata. Ko Te Whānau-ā-Apanui te iwi.*

From Te Taumata-ō-Apanui to Pōtaka. Whanokao is the mountain. Mōtū is the river. Whakaari (White Island) is the volcano. Apanui is the ancestor. Te Whānau-ā-Apanui is the tribe.

According to Roka Paora, Te Whānau-ā-Apanui is named after the ancestor Apanui Ringamutu whose father was Tūrīrangi of Tama Te Kapua of Te Arawa and the Ngāriki people of the Taura waka. Apanui Ringamutu's mother was Rongomaihuatahi from Porourangi of the Ngāti Porou iwi. Apanui Ringamutu acquired the land within the boundary from the Ngāriki people and Ngāti Porou iwi where there are thirteen hapū [sub-tribes] (Paora, 2007).

From the Ngāti Porou iwi the ancestor Apanui Waipapa arranged for his daughter Rongomaihuatahi to marry Tūrīrangi, but Kahukuranui killed him before this arrangement was fulfilled. Tūrīrangi killed Kahukuranui as Kahukuranui approach his pā, so Rongomaihuatahi was sent to find the man who killed Kahukuranui. Rongomaihuatahi instead married Tūrīrangi and they had a son, Apanui Ringamutu. Seven years later, Rongomaihuatahi's Ngāti Porou people went to attend a hui at Ōmāio, very close to where she lived. Rongomaihuatahi wanted her son to meet her people and, on reaching Ōmāio, instructed Apanui Ringamutu to play with the children while she watched from the creek behind the Ōmāio pā. Te Aotākaia, Rongomaihuatahi's brother, asked who he was and he told him who his mother was. Te Aotākaia was delighted to hear such news and Apanui Ringamutu said his mother would be here soon. On hearing the joy and weeping, Rongomaihuatahi emerged to open arms of her brother and people.

The narrative of Apanui Ringamutu is of importance to my whakapapa and whānau on my father's side. Apanui Ringamutu had four wives and many children. With his first wife, Kahukuramihia, they had a son Tūkākī who had Te Ehutu and this is the whakapapa my grandmother, Hema descends from. Te Whānau o Te Ehutu is the

hapū that surrounds the Te Kaha region. Apanui Ringamutu also had a fourth wife, Kiritapu and the son Kahurautao is where my grandfather, Wiremu descends from. Te Whānau o Kahurautao is the hapū at Motuaruhe region. From these structures, each whānau determined their social, cultural, economic and political ambitions.

Anne Salmond (1980, 1995) describes a prominent Māori woman chieftainess in my Te Whānau-ā-Apanui ancestry—Mihi Kotukutuku (1870–1956). She is descended from great East Coast chiefs, Paikea, Porourangi, and Apanui. Mihi Kotukutuku, a great leader amongst our people, offered large holdings of land to assist Sir Apirana Ngata in his work in Māori development, and in assisting local iwi causes. Mihi Kotukutuku was a woman who spoke on the marae during pōwhiri [welcoming] processes, but this practice has contemporarily been denied to Māori women by Māori society. There are other narratives of women leaders in other whānau narratives, such as Ngāti Porou (Mahuika, 1973). A Mana Wāhine framework is informed by whānau and the oneness of the relationship between Māori women and our kinship relationships.

### ***Te reo me ngā tikanga***

Te reo me ngā tikanga is the principle of the language and customs. I agree with Leonie (Pihama, 2001) on learning te reo as an adult second-language learner and speaker, the process becomes a wider seeking of knowledge on identity in the Māori world. My whānau and I were a part of the beaten generations that endured the disallowance of te reo being taught and spoken. Our whānau would practise tikanga, but within those processes we were unaware of what was being said, so te reo and tikanga were separated. If it was not for the passion that was fired up in the tino rangatiratanga movement that finally revitalised te reo in the 1980's, the reo would have been an 'ancient language' as described in the 1961 Hunn Report. I am so grateful to those Māori women and men who revitalised te reo. To have Aotearoa New Zealand without te reo is incomprehensible.

Te reo me ngā tikanga is essential for Mana Wāhine. Leonie (Pihama, 2001, p. 115) describes how te reo me ngā tikanga are inseparable:

*It recognises the unbreakable bond that is language and culture, that is communication and action, that is theory and practice. The reo Māori me ōna tikanga, Māori language and its/her/his cultural forms.*

Leonie (Pihama, 2001, p. 263) continues to say that Māori women have so much to gain from the assertion of te reo me ngā tikanga as unbreakable. She says, the separation leaves room for dominant colonial ideologies to claim space through the manipulation of our language. One example she shares for Māori women is that te reo is not gender-specific. The word 'ia' means her, him, she or he. The word 'tōna' is hers or his. The word 'mōna' is for her or for him. The gender is identified because the speaker has to have knowledge of whom they are speaking about and within the given context; when the speaker talks the gender becomes known. This is not so in the English language where the male symbols and pronouns are generic references to mean all people, which render women invisible. For example, the contemporary word 'guy(s)' has come to mean all people even 'girls'. To a group of people the saying is 'how are you guys?' when there are many girls and women in the group. The word 'guy' in the Collins dictionary means, informally man or boy. This is what it means to separate the language from the practice. There are many more examples that Leonie offers on how the separation of te reo me ngā tikanga is detrimental for Māori women rendering us invisible. The point of this section is that te reo me ngā tikanga as unbreakable is an essential principle for Mana Wāhine.

### **State discourses**

The state discourses are the forced transfer of Māori women's cultural identity into the hands of the dominant Pākehā culture, controlled mainly by men. Māori women were invisible in any political, social, economical and cultural decision-making and leadership. Any Māori women in leadership were seen as exceptions and mainly

referred to as the domestic savages – savages because of being Māori and domestics because of being women.

On 13 December 1642, Abel Tasman, was made a hero when he claimed and named the new sighted land (of Aotearoa) New Zealand. Tasman's main interests were gold, silver, spices and fabric where Tasman was to represent himself 'not to be too eager for [them] in order to keep the **wild savages** unaware of the value' (King, 2003). Tasman, like many other European captains after him, had a preconceived notion that tāngata whenua [first people of the land] were 'wild savages', 'barbaric peoples' and 'inhuman' (King, 2003; L. T. Smith, 1999). Such a notion eased the way for expansion and exploitation if the tāngata whenua were seen as inhuman (L. T. Smith, 1999). According to Kuni Jenkins (2000), Tasman and other European captains had no intention of getting to know tāngata whenua or developing social encounters and provided the first phase of colonisation by taking land and exploiting resources for Eurocentric wealth and economies.

In the end, Tasman's encounters with tāngata whenua were short lived with misunderstandings. Tasman anchored at Taitapu and his encounter with the Ngāti Tumatakokiri iwi was bloody so that he left hastily after some of his crew were murdered; he then named the bay Murderers' Bay (King, 2003). King explains how Tasman replied to the pukaea with his own trumpet, not realising he accepted the challenge to fight. Ngāti Tumatakokiri people from their waka boarded Tasman's ship and attacked, taking one of his men to shore. Tasman retreated quickly after seeing more waka coming from shore, never to return. Tasman in his brief historical existence, colonised the names of places already named by tāngata whenua, the name Aotearoa and the bay Taitapu. Alongside this, Tasman confirmed by reporting back to the west that tāngata whenua were wild savages, barbaric, murderers, and inhuman, through his own misunderstanding of Ngāti Tumatakokiri protocol. Tasman had set the scene for colonisation of tāngata whenua.

Although tāngata whenua were defined in the negative and maligned as murderers and savages, the women of tāngata whenua were constructed as inferior to men as



domestic servants. In 1769, 1772, and 1773, the well-known British captain was James Cook who brought with him English law after claiming New Zealand for the Queen of England. English law de-culturalised the status of tāngata whenua, now named Māori, and women within the family. English law invented the term family to denote a new social organism, where the man being the head of the family ruled over wife, children, and slaves; and under this law paternal power gave him rights of life and death over them (Mikaere, 1994). Māori were now slaves to English men and women, where women were no longer leaders and decision-makers of the family or out in the public domain. With men in control, women, slaves and children were chattels to be used and abused as he wanted (Mikaere, 1994). When girls reached adulthood and marriage, they changed from being the property of their fathers to being the property of their husbands, taking the husband's surname; a practice also extended to slaves. Therefore, any property of the wife brought to a marriage was immediately vested in the husband; and she had no legal rights over her children or property and the husband could still work in the market place (Mikaere, 1994). Māori women's identity was de-culturalised through English law that placed superiority of the English over Māori (now the slaves) and comradeship of men over women (the domestic slaves).

*Insofar as women are oppressed, Māori women are 'doubly oppressed' (Jones et al., 1995, pg.112).*

Without an analysis of colonisation and state discourses a Mana Wāhine framework is meaningless.

### ***Te Tiriti o Waitangi***

The principle of Te Tiriti o Waitangi (Māori version)<sup>30</sup> determines the interaction between mātou (us, Māori), koutou (you, Crown and their European settlers), and rātou (them, non-European settlers). Māori women were given little acknowledgement in the process of signing the Tiriti. Te Tiriti o Waitangi was signed on the 6<sup>th</sup> February 1840 between Māori and the Crown at Waitangi. Te Tiriti o Waitangi is the founding document of Aotearoa New Zealand. According to Claudia Orange (1987) Māori women expressed some disappointment in not having a more prominent part in the Tiriti processes as the agreement was with women too. There was inconsistency on colonial officials letting Māori women sign (or not sign) the Tiriti. At Kaitaia, Ereonora signed; at Waitangi, Ana Hamu and Te Koki signed; at Wanganui, Rere o Maki signed, at Port Nicholson, Te Rau o te Rangi and Rangi Topeora were allowed to sign (Orange, 1987). However, the daughter of Te Pehi Ngāti Toa chief was not permitted to sign the Tiriti. Tania Rei (1998) believes this is when the relationship between the State and Māori women first became problematic.

There are three articles, but it is the first article of both versions that causes the most issues. The Māori version cedes kawanatanga or governance over land to the Queen of England. Yet, the English version says that Māori ceded ‘...absolutely and without reservation all the rights and powers of sovereignty’. Therefore, the meaning of Kawanatanga as governance as Māori knew it as opposed to sovereignty as Pākehā knew it were not the same. Although 500 iwi chiefs signed the Māori version of kawanatanga, the Crown upholds the English version for Pākehā sovereignty over Māori to set up a new British colony. The second article guarantees tino

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<sup>30</sup> One version was named Te Tiriti o Waitangi, the Māori version and the other English version the Treaty of Waitangi. I do not call the Te Tiriti o Waitangi, the Treaty of Waitangi as both versions in textual form have two different meanings.

rangatiratanga [self-determination and sovereignty], which encompasses land, homes and taonga [treasures]. The third article guarantees that all Māori would have all the rights and privileges of British citizens. The three articles of Te Tiriti o Waitangi imply that the Crown (also known as the State, Government, Treaty partner) has a responsibility to protect the interest, sovereignty and well-being of Māori, while acknowledging that Māori are tāngata whenua and have tino rangatiratanga over all things Māori. Tania (Rei, 1998, p. 199) confirms how Māori women asserted their rights on how to interact with the Tiriti:

*Despite attempts by some colonial officials to exclude women from the Treaty process, Māori women have used Te Tiriti o Waitangi to claim their entitlements to land and their rights as citizens. Under Article One of the Treaty, Māori women claimed their rights to land, fisheries, and taonga, or treasures. Their rights under Article Two of the Treaty distinguish Māori women from non-Māori women, whatever their ethnic identification. At the same time, under Article Three, Māori women share with all other women in Aotearoa New Zealand the rights of citizens, and have a collective interest, as women, in making claims on the state organised around equality before the law and distributive equity.*

According to Jessica (Hutchings, 2002b) a Mana Wāhine analysis is also a Tiriti analysis as it positions the rights of Mana Wāhine as Tiriti rights. Jessica continues to say that it is essential that a Mana Wāhine analysis stands to uphold Te Tiriti, namely Māori rights to tino rangatiratanga guaranteed by the Tiriti. However, not long after Te Tiriti o Waitangi was signed, Māori were predicted to be the 'dying race' (King, 2003) and women were further marginalised.

De-culturalisation continued through death, hardship and poverty as the Crown dishonoured Te Tiriti o Waitangi (Hutchings, 2002a), introducing European diseases of measles, influenza, tuberculosis and venereal diseases from 1834 (Olssen & Reilly, 2004). Not long after, in 1860, the Land Wars breached Te Tiriti o Waitangi. Depression was inevitable as World War II took many young men's lives in the Māori 28<sup>th</sup> Battalion. By the end of World War II Māori possessed only 6 percent of their land (Asher & Naulls, 1987). The first mayor of Auckland City was John Logan

Campbell who renamed Maungakiekie, One Tree Hill. He planted pines and placed the obelisk of four-sides ending in a pyramid to show that Māori had finally been 'conquered' by Pākehā rule and colonisation as the 'dying race' (Auckland City Council, 2007).

### ***Education and the church***

Education and the church were the main vehicles assisting the de-culturalisation of Māori girls and boys. The first mission school for Māori children was established in 1816 in Rangihoua, Bay of Islands to assist with Christian teaching alongside the curriculum of English language, reading, arithmetic and writing. Also being taught was how women were inferior to men and God through chapters of the bible as Sutch (1973) describes – Numbers, Ch 5, a wife is listed with a house, servant, ox or ass; Numbers, Ch 27, chaste and obedient; Leviticus, Ch 12 and 15 women are unclean; and Ecclesiastes, Ch 7, disgusting. In the New Testament, Corinthians Ch 11, the head of every man is Christ, and the head of the woman is the man; and Ephesians Ch 5, wives submit yourselves to your husbands, as unto Lord, for the husband is the head of the wife. The missionarie's objectives were to change Māori from an uncivilised, savage, barbaric and heathen state into civilised humans with Christian beliefs (Hokowhitu, 2004). Sir George Grey was convinced of the appropriateness of the civilising mission, he subscribed the mission schools with his 1847 Education Ordinance to isolate Māori children from the 'demoralising influence of the Māori villages', and 'speedily assimilate the Māori to the habits and usages of the Europeans' (Ka'ai-Oldman, 1988).

Graham Hingangaroa Smith (1997, p. 186) explains the underlying foundations of colonisation through education and the church:

*It is important to understand here, that colonisation was not about several disconnected projects related to the assertion of power and domination. Colonisation has been conducted in multiple sites with many overlapping and intersecting dimensions. The agenda of colonising the mind through schooling and education should not be viewed as an independent project from assuming control over physical resources. The colonisation of the Māori mind was to be effected through a variety of covert and overt strategies and in two principal sites, the church and the school.*

Graham Smith (1997, p. 185) provides the overt and hidden curriculum with the church and schooling rationales, strategies and outcomes in the following record:

<u>Agencies</u>	<u>Rationales</u>	<u>Strategies</u>	<u>Outcomes</u>
	acculturation	hegemony	colonising thinking
Schooling	social control	law and order	cultural alienation
	civilising	legislation	assimilation
	religion	religious conversion	loss of language
		economic dependency	loss of culture
Church	domestication	moral force	loss of land
	'common-sense'	military	loss of physical
		coercion	resources

<u>Overt Curriculum</u>	<u>Hidden Curriculum</u>
a. Pākehā cultural values	Economic and political interest
b. independent work skills	Competitive individual
c. 'superiority' of Pākehā	Inferiority of Māori [and women]
d. 'Western' language, knowledge and culture (reification)	'Māori' language, knowledge and culture (denigration)
e. social mobility and equal opportunity	Class defining and inequities
f. Pākehātanga as the 'norm'	Māoritanga as the 'other'

The most effective means of assimilation of Māori into Pākehā culture was to deny the mana of te reo me ngā tikanga [the Māori language and customs]. Tania Ka'ai-Oldman (1988) provides historical policies and events of colonial mission and state education to effect the overt and hidden curriculum. The most demeaning of all was the corporal punishment to Māori children if they ever spoke Māori in the classroom or the playground (Ka'ai-Oldman, 1988). The strap for speaking Māori became synonymous with Pākehā education and superiority over Māori children. In the end the only alternative was to leave school with colonised minds believing in the inferiority of the Māori language and culture.

Girls would fit the categories of 'good wives' and 'domestic workers' (Smith, 1992). Māori girls would be good farmers' wives and support the colonial economy through unpaid labour in homes, on farms, and as unpaid assistants to men (Jahnke, 1997a; Jenkins, 2000; Jenkins & Matthews, 1995; Smith, 1992, 1993). Māori men would be labourers for Pākehā farming and construction.

At the same time, the Māori urban migration from 1940 continued to the 1950's. When moving into the cities, Māori families were impacted by the 'pepper-potting' policy to live in non-Māori suburbs preventing the reproduction of Māori communities and language (Te Puni Kōkiri, 2004). Māori families choose to speak English and Māori children are raised as English speakers. In 1961, the Hunn Report described the Māori language as a 'relic of ancient Māori life'. Not only that, Māori were driven into poverty through, low-income jobs, mental health issues, no education, crime and poor housing. The continued colonisation enforcing Pākehā sovereignty, land, knowledge, language and culture by men through the school and the church was at the expense of Māori sovereignty, land, knowledge, language, and the inferiority of women. A framework of Mana Wāhine must understand colonisation.

### ***Tino rangatiratanga***

Pākehā sovereignty was the mainstream, subsuming the independent iwi sovereignty of Māori. Most Māori asserted rights of tino rangatiratanga as tāngata whenua of Aotearoa New Zealand (Hill & O'Malley, 2000), however, this assertion was ignored by Pākehā, supporting immigrating communities and Māori no longer living as Māori (Awatere, 1984). By the early 1970's, Māori had no choice but to be 'activist' protesting against Pākehā sovereignty to reverse the effects of assimilation, to re-culturalise, reclaim and restore sovereignty, land, language and knowledge (Mikaere, 2000).

Protests happen every year on the 6<sup>th</sup> of February Waitangi day for the Crown to honour the Tiriti. In 1975, Te Tiriti o Waitangi was given greater recognition with the establishment of the Waitangi Tribunal. The Tribunal was to consider Māori claims of compensation arising when the Crown had breached the Tiriti since 1975. In 1985, the Tribunal was given authority to consider Crown breaches as far back as 1840 when the Tiriti was first signed (Mikaere, 2000).

Alongside Waitangi Tribunal claims, Māori were organising land protests and occupations to return confiscated land to Māori collective ownership. In the Land March of 1975, the late Dame Whina Cooper led a national hikoi from the far North to the steps of Parliament Building, Wellington. She demanded the Government stop confiscating Māori land and return the land that had already been confiscated. The demand went unaddressed as more Māori land was taken. For example, on 25th May 1978, over 500 police evicted 300 Ngāti Whātua people after 506 days, occupation of their reserve land on Takaparawha, also known as Bastion Point. The Government was getting ready to develop the land for more high-income housing. And more recently, the confiscation of land and sea through the Seabed and Foreshore Act 2004 was where the Government took ownership of land between the high tide mark and the seabed. Māori and non-Māori protested by emulating the land march of 1975, with a hikoi to Parliament steps from the far North to show

discontentment. Māori continue to strive for the return of land into Māori collective ownership.

The revival of te reo me ngā tikanga, the Māori language and customs encouraged numerous protests and project movements. But by 1972, there were only 18-20 percent Māori who were fluent in te reo and most of them were over the age of 65 (Te Taura Whiri i te Reo Māori, 2008). In November 1972, the well-known Ngā Tamatoa [young Māori warriors], Māori university student group, settled on the Parliament grounds for three weeks protesting their concerns about te reo me ngā tikanga becoming extinct (Mikaere, 2000). In 1973, Ngā Tamatoa presented a Māori language petition to Parliament and it was their actions that forced New Zealand society to come to terms with Māori grievances and tino rangatiratanga. The Reo Society of Victoria University, Wellington, made the first Māori Language Day official on September 14, 1972. Projects everywhere started introducing te reo on marae, schools and in the home. It was the Kōhanga Reo movement, in 1982 that transformed Māori education by teaching pre-school Māori children only in te reo. Nationwide, Māori communities took their children out of mainstream schools and established, funded, taught and managed all kōhanga reo activities, so that te reo revitalisation was a reality. By 1985, Kura Kaupapa Māori schools were being established to move kohanga reo children into the next stage of education. At the same time, the WAI 11 Te Reo Māori claim was brought before the Waitangi Tribunal. In 1986, the Waitangi Tribunal recommended legislation be introduced to enable te reo in the Courts of Law and that a body be established to supervise and foster the use of te reo (Te Taura Whiri i te Reo Māori, 2008). By 1987, the Māori Language Act was passed in Parliament making te reo an official language alongside English. At the same time, Te Taura Whiri i te Reo Māori was established as the body of authority to foster te reo, and Te Kōhanga Reo National Trust was established. By 1997, a total of 675 Kōhanga Reo and 54 Kura Kaupapa Māori establishments were catering for over 13,505 children. Māori women and men worked relentlessly to get te reo recognised in education as the heart of Māori culture and identity (Smith, 1988; G. H. Smith, 1997).



The Tino Rangatiratanga movement has been inspirational to Māori women for reclaiming cultural identity; an outcome for Mana Wāhine is tino rangatiratanga, self-determination.

### ***Decolonisation***

The effects of urbanisation disconnected Māori from iwi. Māori in iwi territories tried to revitalise iwitanga. There were critiques stating that colonisation labelled independent iwi as Māori in order to unite and rule. John Rangihau (1992, p. 190) talked of Māori identity from a Tuhoe perspective and how iwi identity was influenced by colonisation:

*My being Māori is absolutely dependent on my history as a Tuhoe person as against being a Māori person. It seems to me there is no such thing as Māoritanga because Māoritanga is an all-inclusive term, which embraces all Māori. And there are so many different aspects about every tribal person. Each tribe has its own history. And it's not a history that can be shared among others. How can I share with the history of Ngāti Porou, of Te Arawa, or of Waikato? Because I am not of those people. I am a Tuhoe person and all I can share in is Tuhoe history. To me, Tuhoetanga means that I do the things that are meaningful to Tuhoe...I have a faint suspicion that Māoritanga is a term coined by the Pākehā to bring the tribes together. Because if you cannot divide and rule, then for tribal people all you can do is unite them and rule. Because then they lose everything by losing their own tribal histories and traditions that give them their identity.*

Iwi identity is about the importance of place and belonging through whakapapa ties where everyone shapes the future of the iwi collectively and in doing so will effect tino rangatiratanga (Ka'ai & Higgins, 2004). Decolonisation is imperative to a Mana Wāhine framework that challenges the accepted 'norms' brought on and accepted through colonisation.

### ***Herstories of Māori women in other professions***

The growing body of literature on Māori women's herstories in other professions extends management (Henry, 1994), education (Pihama, 2001; Waitere-Ang, 1999), genetic modification (GM) (Hutchings, 2002b) and science (McKinley, 2003). The common discourses when participating in these professions relate to the power relations of colonisation and cultural imperialism. On the other hand, there are strategies that are resisting colonisation and asserting cultural identity, so as to remain as Māori women. However, most professions from education to sciences and including IT hold no value in Māori women's cultural identity; the choice is to assimilate into the dominant culture, ignoring one's culture by leaving it at the door when entering the profession, but if this is not an option then one has no choice but to leave or assimilate into the dominant culture.

Māori women theorists name and claim the colonial power relations and practices that are not conducive to the needs, interests and culture of Māori women within their chosen profession. According to Ella Henry (1994), management theory and practice are saturated with paternalistic, western views of human nature and behaviour and that customary roles of Māori women as leaders in management are vilified. Māori women in business need to identify with their traditional culture to assert confidence and legitimacy, where women's leadership roles were complementary with men (Pringle & Wolfgramm, 2005). Māori women are developing their own business and management styles rather than using white women's leadership styles (Henry, 1994; Pringle & Wolfgramm, 2005).

In education, Hine Waitere-Ang (1999) investigates the ways in which Māori women strategise their negotiations of educational context not conducive to their interests or needs. Hine continues describing the leadership within educational institutions as white, male, middle-class hegemonies, which serve to entrench the taken-for-granted assumptions about leadership and leaders. Hine explains that those structural forces combine to act in exclusionary ways towards those outside the hegemonic normality.

Leonie Pihama (2001) states that Native School documentation argue that colonial impositions of race, gender and class constructs the belief that Māori women hold an 'inferior' and 'lesser' position in Māori society to Māori men. What this literature has done within schools is provide an overview of the ways in which colonial patriarchal supremacist ideas provide the basis and foundations of much research where Māori women's leadership roles are invisible in Māori society.

Regarding GM, Jessica Hutchings (2005) claims the Royal Commission on Genetic Modification provides limited power to Māori women, but maintains the hegemonic colonial masculinist ideologies are Crown driven and supported. She concludes that science through GM continues to be a tool that perpetuates colonisation and that GM is in direct violation of tikanga [Māori cultural practices] (Hutchings & Reynolds, 2006). Elizabeth McKinley (2003, p. 6) exposes more about Māori women in science being constructed as 'other' to the superiority of the dominant culture and knowledge:

*'knowledge' as the 'white race' are naturally good at science and building gracious cathedrals – that which requires 'intellect'... 'subject peoples' where 'white' peoples are shown to be 'naturally' dominant over 'other' or non-white groups because they are more intelligent. The effect of this statement is to construct knowledge of peoples in order to justify the 'absence' of different groups of people in science and to maintain the status quo.*

The status quo that Elizabeth (McKinley, 2003, p. 6) claims exists as hegemonic normality where science (also in management, education, and GM) becomes unchallenged with the status of superiority as a culture-free reputation:

*That is, the contents of science curricula are often exclusively 'Eurocentric' or Western in orientation. 'Culture-free' is used in the sense that science knowledge does not acknowledge the social relations of science – the connection between 'culture' and the construction of all knowledge.*

Māori women experience multiple sites of struggle when asserting their own cultural identity within the profession that accepts only the notion of culture-free:

*Maryanne stands in an undecidable enunciatory space where the culture's authority is undone in colonial power (McKinley, 2003, p. 2).*

The familiar experience of all Māori women who fight to forge the impossible space of cultural identity within their profession, Elizabeth (McKinley, 2003, p. iii) explains:

*I conclude by arguing that the identity of 'Māori woman scientist' appears to be [an] 'impossible fiction' due to the fragmented nature of the sign – 'Māori', 'woman' and 'scientist'.*

This fragmentation of the cultural identity for Māori women and profession, combined with the power relations of colonisation claimed as colonial, western, white, supremacist, paternalistic, patriarchal, male, masculinist and middle-class is a terrifying and unsafe site of continuous struggle. With the power relations only starting to be realised by Māori women it is no wonder; the only choice left is to leave the profession. A Mana Wāhine framework identifies the repeated power relations experienced by Māori women across the professions.

### ***Māori women and technology***

Māori women's perspectives on technology are insufficient in the literature. However, what has been said concentrates on strong concepts of colonising, decolonising and indigenising technology. In film and television, Merata Mita (1992) and Glynnis Paraha (1992) introduce concepts of colonising, decolonising and indigenising the screen. The colonising of the screen is about who has control of the camera, because the one in control of the camera has control of the image, stories and culture that is being represented. Merata (Mita, 1992, pp. 41–42) describes how Māori could not comprehend such a process was taking place in film production and that control is firmly in the hands of the coloniser in representing Māori:

*Nor was it impossible for any Māori at that time to comprehend the nature of feature film production or the subsequent impact the films would have once they were exhibited. Nor was it possible to tell whether Māori collaboration was able to influence the director to maintain a semblance of authenticity when dealing with Māori culture. The control was firmly in the hands of those behind the camera, and the repercussions of this would continue right up to the present day...From those first years it became obvious that the camera was an instrument held by alien hands – a Pākehā instrument, and in the light of past and present history another reason for mistrust. It is clear that as early as 1930, the screen was already colonised and had itself become a powerful colonising influence, as western perspectives and stereotypes were imposed on Indigenous peoples.*

In IT, Robyn Kamira (2002b, p. 20) agrees with Merata over the control of IT by the coloniser for colonising IT:

*If the coloniser has control of information technology, and is in a position to validate, discard or modify knowledge, then information technology becomes a tool for further colonisation.*

Robyn articulates further the dilemma for Māori being the faceless coloniser of IT:

*...the face of the coloniser is not so easily seen these days. The control of information technology is strewn amongst many groups, including companies, governments and others who have access to technology resources, skills and 'gateways'. They are the international corporations, the Silicon Valley tycoons, the computer 'whizzes' sitting in their networked bedrooms in countries far from here hiding behind aliases...*

Merata (Mita, 1992) explains that colonising of the screen was about European and United States film-makers coming with already entrenched ideas about racial and gender superiority and the need to satisfy their audiences who desired more of the romantic natives. Merata (Mita, 1992, p. 42) describes the motives of these film-makers to profit from Māori romantic portrayal:

*The grounds were that exotic natives and their locals were required to fit a romantic western concept, therefore the portrayals in these flights of fancy were forced to meet an artificial standard. Thus, the need arose to exaggerate or minimise aspects of Māori character and culture, to make the action more accessible and attractive to a foreign audience.*

The romantic representation was eventually phased out and swapped for the negative portrayal of Māori in most film and television (also printed media and radio) (Paraha, 1992; Pihama, 1997, 2000). Māori alongside other Indigenous peoples would play the villains or the criminals of the screen. Māori were dissatisfied with such negative images on film and television (Mita, 1992; Paraha, 1992; Pihama, 1997), therefore turned to decolonising the screen. Māori wanted to take the control of the camera out of the hands of the coloniser and produce the true representation of Māori culture. It was too easy for the coloniser to produce scant knowledge or even try to represent the people and culture they portrayed (Mita, 1992). The establishment of Aotearoa Television Network in Auckland on May 1, 1996 was the first piloting of Māori television (Pihama, 1997). With some form of skills, infrastructure and technology in place, decolonising the screen – the need to tell the right stories of Māori culture was inevitable.

The Indigenising of technology is a counter to the colonising of technology and is clearly driven from the philosophical and spiritual knowledge of Indigenous peoples. Leonie (Pihama, 1997, p. 67) asserts that the indigenising of TV is when:

*Māori television of the future must include processes that operate in ways that move outside of western definitions of production and style, and which actively safeguard Māori cultural and intellectual property rights.*

Merata (Mita, 1992, p. 43) agrees that to indigenise film is:

*...the recognition of a different value system, as well as a greater share in the decision-making and funding policies for film and media projects.*

Robyn (Kamira, 2002b, p. 26) also articulates the connection between Māori cultural context underpinning technology to indigenise IT:

*The lesson is in the strength of the culture and communities – not the technology itself...It is clear that information technology can contribute to the survival of our knowledge as long as our cultural contexts are maintained. It can support our language, images, concepts, histories, politics and development. It can sustain our choice to define and redefine, and to grow and change. Now that information technology is here, the process of reclamation has just begun.*

Māori women and a Mana Wāhine framework question the forms of colonising, decolonising and indigenising technology. Until such challenges are made, there is a danger that technology will recolonise and continue to colonise Indigenous women and peoples.

### **Indigenous women's discourses**

The Indigenous women's discourses are about experiences of being in separated movements of Indigenous peoples and feminism. The main concern for Indigenous women is the need for a forum that combines ethnicity, race and gender cultural constructs.

### ***Indigenous Peoples***

The Indigenous women's discourse is concerned essentially with locating Māori women's struggles within an international Indigenous women's context. The struggle for Māori women is not just with our whānau, hapū and iwi, but is part of a much wider global struggle for freedom (Smith, 1992). As Indigenous peoples, Linda (Smith, 1992, pp. 46-47) defines the similarities with other Indigenous peoples:

*We share with these groups a common history of being colonised. We have lived through the process of colonisation by church, by trade, by the gun, by the law and by the more subtle hegemonic processes of internalised self-abhorrence. We also share with them a position of numerical weakness. Our populations are disproportionately small. Our language and culture are under threat of extinction. Our struggle is to retain authenticity as a people.*

The Māori protests and occupations since the 1970's paralleled the worldwide and pivotal human rights and social justice events. Internationally, Māori had become instrumental in producing the Mataatua Declaration on Cultural and Intellectual Property Rights on Indigenous Peoples from 12<sup>th</sup>–18<sup>th</sup> June 1993 in Whakatane. The Indigenous representatives involved were nine iwi of Mataatua of the Bay of Plenty region alongside Japan, Australia, Cook Islands, Fiji, India, Panama, Peru, Philippines, Surinam, and the USA. The Mataatua Declaration says the Indigenous peoples of the world have the right to self-determination; and in exercising that right must be recognised as the exclusive owners of their cultural and intellectual property (Mead, 1997). On the 4<sup>th</sup> September 1996, Aroha Mead (1997, p. 23), a well-known Māori woman for Indigenous advancement, was a representative of the Māori Congress at the United Nations Draft Declaration on the Rights of Indigenous peoples in Fiji stated:

*[the declaration] takes this one step further by proclaiming that all peoples, including specifically Indigenous peoples, have the right to self-determination (Article 3), and uses precisely the same wordings as the 1960 De-colonisation Declaration to clarify that “by virtue of which they freely determine their political status and freely pursue their economic, social and cultural developments”.*

Finally, on the 13<sup>th</sup> September 2007, the United Nations adopted the Declaration on the Rights of Indigenous Peoples for 370 million Indigenous peoples after two decades of debates. The Member States (143) approved the declaration with 11



abstaining and 4 voting against the text. Ms. Arbour (UN News Centre, 2007, p. 1) noted that the Declaration has been:

*...a long time coming. But the hard work and perseverance of Indigenous peoples and their friends and supporters in the international community has finally borne fruit in the most comprehensive statement to date of Indigenous peoples' rights.*

The four countries that voted against the declaration were Canada, USA, Australia and New Zealand. Tariana Turia (Stevens, 2007, p. 1) vehemently states:

*This day will be a red-letter day for Indigenous peoples of Aotearoa and the globe...How can this government oppose a declaration which promotes and protects what is meant to be merely a minimum standard of human rights for Māori? How can this government vote against such a text—despite the fact they have been instrumental in weakening its provisions over the last few years? They've held Indigenous peoples to ransom all over the world...It is very clear they still think of Indigenous peoples as sub-human with only sub-human rights.*

The new Australian Prime Minister Kevin Rudd, moved towards saying 'SORRY'. He conducted his apology to the Stolen Generations of Australia on 13<sup>th</sup> February 2008 in Parliament House, Canberra. Kevin Rudd (Prime Minister of Australia, 2008, p. 4) acknowledged the pain and suffering of Aboriginal peoples of the Stolen Generations endured for hundreds of years of government policies and law enforcement:

*To the Stolen Generations, I say the following: as Prime Minister of Australia, I am sorry. On behalf of the Government of Australia, I am sorry. On behalf of the Parliament of Australia, I am sorry. And I offer you this apology without qualification. We apologise for the hurt, the pain and suffering we, the parliament, have caused you by the laws that previous parliaments have enacted. We apologise for the indignity, the degradation and the humiliation these laws embodied. We offer this apology to the mothers, the fathers, the brothers, the sisters, the families and the communities whose lives were ripped apart by the actions of successive governments under successive parliaments. In making this apology, I would also like to*

*speak personally to the members of the Stolen Generation and their families: to those here today, so many of you; to those listening across the nation—from Yuendumu, in the central west of the Northern Territory, to Yabara, in North Queensland, and to Pitjantjatjara in South Australia.*

Kevin Rudd considered reversing the vote against the United Nations Declaration on the Rights of Indigenous Peoples made by the former government. The Stolen Generations have waited a long time for the apology.

The next section will discuss how white feminism is colonising Aboriginal women and Māori based on ethnicity and race.

### ***White Feminism***

In her book *Talkin'up to the White woman: Aboriginal women and feminism*, Dr Aileen Moreton-Robinson (2000) gives a compelling analysis of white Australian feminism seen from Aboriginal women's perspective. Aileen's analysis parallels the discourses that Māori women and Women of Colour (hooks, 2000) have purported on white feminism. Aileen (Moreton-Robinson, 2000, p. xi) unpacks the unspoken normative subject of feminism as where white middle-class women's, whiteness marks their position of power and privilege as opposed to Indigenous women, and where silence about whiteness sustains the exercise of that power. Aileen articulates that feminism is validated only by whiteness therefore Indigenous women need to assimilate into that whiteness to be accepted as feminist. Aileen (Moreton-Robinson, 2000, p. 184) affirms that white feminism and Indigenous women's feminism are racially diverse:

*Indigenous women's challenges to white feminism are informed by our sovereignty. We do not want to be white. Our politics are about achieving self-determination as a people. In our critiques of Australian feminism we make visible how white feminists represent the "Indigenous woman"...[as] "other"...Indigenous women as embodiments of racial differences can never know what it is like to experience the world as a white woman, just as a white woman can never know what it is like to experience the world as an Indigenous woman.*

For Aotearoa New Zealand, Indigenous Māori women have struggled with white feminism too. According to Linda (Smith, 1992, p. 46) in the international arena, white feminism is often the voice for all women but is unprepared to deal with any colonial issues for Indigenous women:

*White feminism theories have been struggling to take account of the conditions confronting women who are not white. These other women have been variously grouped as 'women of colour', 'black women' or 'Third World women'.*

On a global perspective a Mana Wāhine framework must engage with Indigenous women's (and Women of Colour) discourses that we share.

### **Summary**

Mana Wāhine philosophy asserts the importance of reclaiming mātauranga wāhine [Māori women's knowledge and epistemology], where the spiritual and whānau discourses encapsulate principles of whakapapa, wairua, atua wāhine, whānau and te reo me ngā tikanga. The spiritual and whānau discourses and principles ensure the reclaiming of cultural space and survival. Mana Wāhine has been de-culturalised through the processes of colonisation and state discourses because of perceptions of inferiority towards Indigenous peoples, Māori and women's cultural contexts, and the supposed superiority of neo-colonial Pākeha masculinism. As a strategy Māori women have tried to reclaim Mana Wāhine for spiritual and whānau discourses before colonisation through Te Tiriti o Waitangi, the Tino Rangatiratanga movement and decolonisation. What has eventuated is the recognition of diverse cultural, social, political, economic and spiritual realities amongst Māori women. The diverse nature for Māori women can be seen when working in professions such as management, education, genetic modification and the sciences where cultural identity and power relations are worlds apart. Globally, the herstories of colonisation, decolonisation and indigeneity are shared in the Indigenous women's movement where asserting self-determination is the key.

Mana Wāhine philosophy, discourses and principles are interconnected with Mana Wāhine research design—this wāhanga is next.

## Wāhanga 3

### *Te Whakamata with Te Aho Tapu – Mana Wāhine Research Design*

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*Again Te Whakamata with Te Aho Tapu is used as the first woven scared line that provides the practical foundations with the philosophical strength to weave the rest of the Kākahu.*

**Quote by Linda Smith (1999, p. 183):** *What happens to research when the researched become the researchers?...Research is implicated in the production of western knowledge, in the nature of academic work, in the production of theories which dehumanized Māori and in practices which have continued to privilege western ways of knowing, while denying the validity for Māori knowledge, language and culture...One of the challenges for Māori researchers working in this context has been to retrieve some space.*

**Participant quote by Peep:** *I believe Māori in IT will do different things...It has already happened for research where Linda Smith talks a lot in her book about decolonising research methodologies. Māori are really sick and tired of being researched by non-Māori. We want to do our own research, in our own way, for our own people and to know who is going to benefit by it, and what is going to happen to our knowledge.*

### **Introduction**

Through her book titled *Decolonizing Methodologies: Research and Indigenous peoples*, Linda Smith (1999) exposed how research as a tool did not benefit those being researched – mainly indigenous peoples. The poverty conditions of Indigenous peoples living all over the world had not changed despite these being the most researched. Linda also exposed how western research and theory dehumanized Indigenous peoples for colonial and imperial exploitation of land, language and

people for Eurocentric wealth. Indigenous peoples saw no benefits from research for their communities. In the 1980's and 90's, when Indigenous scholars especially Māori stopped being the merely researched to become the researchers, research turned into a complex site of struggle. Here Linda (1999, p. 183) explains that struggle:

*...of rejecting all theory and all research. One of the challenges for Māori researchers working in this context has been to retrieve some space – first, some space to convince Māori people of the value of research for Māori; second, to convince the various, fragmented but powerful research communities of the need for greater Māori involvement in research; and third, to develop approaches and ways of carrying out research which takes into account, without being limited by, the legacies of previous research, and the parameters of both previous and current approaches.*

Peep is right, “We want to do our own research, in our own way...” that benefits us.

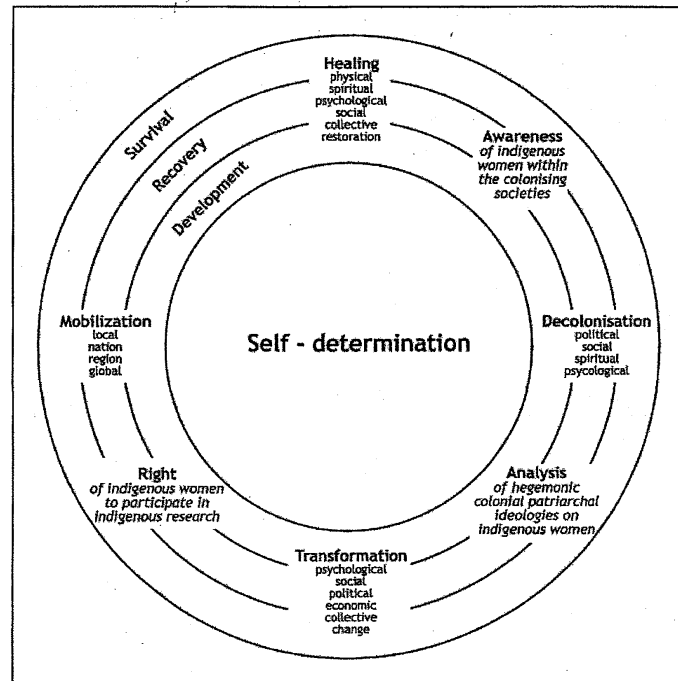
Already discussed in Wāhanga 2 was the underlying philosophy and knowledge of Mana Wāhine through mātauranga wāhine drawing on discourses of spiritual, whānau, state and Indigenous women. The principles within these discourses are whakapapa, wairua, atua wāhine, whānau, te reo me ngā tikanga, colonisation, Te Tiriti o Waitangi, tino rangatiratanga, decolonisation, herstories of Māori women in other professions and Māori women's perspectives on technology. To add to this, Mana Wāhine in research asserts that the theory, methodology and methods comes from Mana Wāhine. Figure 2 Mana Wāhine (p. 30) is repeated here to illustrate this.

<b>Wāhanga 3</b> <b>Mana Wāhine Research Design</b> Inconnected with Mana Wāhine Philosophy above where theory, methodology and methods come from Mana Wāhine <b>Being a Mana Wāhine Researcher and Ethics</b>	
<b>Mana Wāhine Theory and Methodology</b> Kaupapa Māori and Feminist Theories becomes Māori Feminism	<b>Mana Wāhine Methods</b> Transcripts of Herstories Textual analysis Hui Conceptual framework Reporting back

It is important to understand what Mana Wāhine research is. Mana Wāhine research is to centralise the realities of being Māori women and that research needs to benefit Māori women – research for, by and with Māori women (Pihama, 2001; Hutchings, 2002b). According to Jessica (Hutchings, 2002b) Mana Wāhine research in a local perspective is motivated by the desire to seek change from the colonial patriarchal ideologies and hegemonies, determining that Māori women assert tino rangatiratanga [self-determination]. Mana Wāhine is also research that seeks to contribute to a process of centring Māori women in the global Indigenous women's research agenda (Hutchings, 2002b). Jessica (Hutchings, 2002b, pp. 62-63) illustrates what she means about self-determination in research for Mana Wāhine contributing to the work of Linda Smith (1999, pp. 115-118) who provides the Indigenous research agenda. Linda (L. T. Smith, 1999) describes survival, recovery, development and self-determination as the four major tides that represent conditions that Indigenous communities experience within an Indigenous research agenda. Linda also provides the following four directions to represent processes of decolonisation, healing, transformation and mobilisation: these directions are not linear in fashion, but can be points and movements and can be 'incorporated into practices and methodologies' (L. T. Smith, 1999, p. 116). Jessica (Hutchings, 2002b) contributes the three important directions for Indigenous women in research (see Figure 3. Indigenous women's research agenda below) that this research utilises:

1. The self-determining rights of Indigenous women to participate in all aspects of Indigenous research.
2. The awareness and analysis of oppression of Indigenous women due to hegemonic colonial patriarchal ideologies.
3. The awareness of the position of Indigenous women within the colonised societies.

Figure 3. An Indigenous Women's Research Agenda



This thesis is concerned with how indigenous women, specifically Indigenous Māori women's voices, become visible in research. Within an Indigenous women's research agenda and a Mana Wāhine research framework it is important to recognise that theory and praxis components of research are inseparable. For example, being a Mana Wāhine researcher and having ethics is interconnected with Mana Wāhine theory, Mana Wāhine methodology and Mana Wāhine methods. Each of these concepts are discussed next.

### Mana Wahine researcher and ethics

Māori women are becoming astute researchers, critically analysing how research has not been beneficial to Māori women in the past and subjectively placing ourselves in the middle of the our research. Such an approach differs from western qualitative social science research design, but our cultural obligations to tikanga [customs] must be adhered too. Here the struggle continues, the need to fulfil the academic

requirements alongside the obligations of tikanga. Any design of Mana Wāhine research for the researcher is to meet both objectives.

When I became a Mana Wāhine researcher it seemed natural and timely, yet there was little support to take this journey. Pushing the boundaries of researching our own communities ourselves; asking our own research questions; conducting our own research methods from our own research theories and methodologies, and finding our own solutions (L. T. Smith, 1999) takes a lot of courage. I agree with Jessica (Hutchings, 2005, pp. 68-71) on making transparent the researcher's positionality, reflexivity and ethics when being a Mana Wahine researcher. Being an Indigenous Māori woman, a mother of two, and an IT professional, I hold a subjective position that is not culture-free, neutral or objective. Part of being a Mana Wahine researcher is to challenge the notion of objectivity and declare your subjectivity. On reflection, being subjective, as opposed to being objective in a western, technological and scientific discipline has been a site of struggle. I have learnt more about who I am and am much stronger. Graham Hingangaroa Smith explains in the latest *Tikanga Rangahau DVD produced by Māori and Indigenous Analysis (MAIA) Ltd (2007)* that it is normal to declare subjectivity and that no one is objective:

*...we should begin as we would in our cultural sense of putting ourselves in the middle of the text, in the story, owning up that we are actually culturally formed, that we are part of the story and that we can't deny it...I will put the onus on the reader to make judgements about the objectivity, the neutrality...Basically, no one is objective, no one is neutral, it's just the extent to which we try and make that overt and declare.*

For many non-Māori, objectivity is the normality, Helen Moewaka Barnes (Māori and Indigenous Analysis (MAIA) Ltd, 2007) explains:



*All researchers need to be aware that research is not objective, that what you do is not objective; there's no such thing in quantitative or in qualitative...whereas non-Māori researchers and particularly people within the dominant cultures – Pākehā, they don't actually think about those things...but I think that Pākehā researchers are the ones who tend not to look at those things, who think of themselves as normal.*

I whole-heartedly acknowledge and will stand tall when being challenged on my subjectivity, values and beliefs in this research as an Indigenous Māori woman in IT. I believe it is for this very reason that I started to look at the research from a different perspective.

In western IT research, the question being asked was “How does Indigenous peoples or women’s participation fill the IT skills shortage worldwide and increase diversity in IT?” The IT skills shortage and diversity is a problem to address, but the underpinning values of IT being neo-colonial masculinist is not challenged and the knowledge, language or culture of Indigenous peoples and women are not included. Diversity of IT is more than just participation alone, where the problem of low participation is founded with Indigenous peoples and women. The research question should be about transforming the power relations of IT that have not benefited Indigenous peoples or women in the past, and replacing the knowledge base with our own. In the end, only indigenous women in IT could examine and investigate research questions for Indigenous women in IT. No way could we expect non-Indigenous women to understand what our context is, our problems are, and how we solve our research questions, therefore we must ask ourselves. As a Mana Wahine researcher this is another position of reflexivity that must be addressed – what are our research questions and ideas?

Another point of reflexivity is when non-Mana Wāhine researchers try to define what type of researcher we are. I was constantly categorised in western research methods in order to be understood – I was a qualitative interpretivist researcher, who was using action participatory methods and drawing on critical theory. None of these

paradigms, methodologies and methods came from the worldview of who I am as an Indigenous Māori woman. Here Helen Moewaka Barnes (Māori and Indigenous Analysis (MAIA) Ltd, 2007) explains:

*...often non-Māori researchers will try and categorise what you do...oh that's just participatory research...So they try and fit a method, or a tool that they are familiar with, so that they can see it, name it and claim it – without acknowledging that the paradigm and the worldview of who you are, actually transforms totally what you do.*

I define myself as a Mana Wāhine researcher doing Mana Wāhine research that is obligated to te reo me ngā tikanga and takes what is useful from western research as Hoa Mahi. Ethically there are some principles that need to be stated.

Being ethical as a Mana Wahine researcher was much broader than just obtaining institutional ethics approved from the university. From the beginning of the research, I was constantly ensuring that relationships with the participants were based on principles of trust, growth and sharing knowledge. These principles are provided by Ngahuia Te Awekotuku (cited from Jessica Hutchings, 2005, pp. 70-71) in her paper called *He Tikanga Whakaaro: Research ethics in the community, 1991*:

**Aroha ki te tāngata** – a respect for the people which allows people to define their own space and to meet their own terms.

**He kanohi kitea** – the seen face is the importance of meeting with people face-to-face.

**Titiro, whakarongo...kōrero** – look, listen...then talk is the importance of looking and listening so that one develops understanding and finds a place from which to speak.

**Manaaki ki te tāngata** – share and host people and be generous which is about a collaborative approach to research, research training and reciprocity.

**Kia tūpato** – means to be careful and have political astuteness, to be culturally safe and reflect on the researcher's status of both insider and outsider.

**Kaua e takahia te mana o te tāngata** – means not to trample on the mana of the people. It is about sounding out ideas with people who have a clear idea of what you

are doing, especially the participants. To disseminate your research that keeps people informed about the processes and findings.

**Kaua e mahaki** – means not to flaunt your knowledge. It is about the growth, trust and sharing of knowledge with those whom the research benefits. It is about using your qualifications to benefit our communities.

The institutional ethics approval for gathering information through kanohi-ki-te-kanohi, face-to-face individual interviews with Māori women in IT was granted on the 25<sup>th</sup> October 2005 by Auckland University of Technology Ethics Committee (AUTEC) (reference number 05/139).

Although I was becoming more aware of being a Mana Wāhine researcher with cultural and ethical obligations, it was the theory of Mana Wāhine that inspired me.

### **Mana Wāhine theory**

Mana Wāhine as a theory is a very important tool for Māori women to understand 'ourselves' (Irwin, 1992b). Theory has historically been denied to Māori women. Many Māori women academics are scholars of change asserting the right for Indigenous women's theories. The task of attempting such important work is a struggle, here Leonie (Pihama, 2001, p. 28) describes:

*...I recall the struggle of trying to 'fit' into western analyses, of trying to see myself in theories that ultimately cared little about my existence as a Māori woman. I now celebrate the fact that I was unsuccessful in that task. Looking in from the outside is now for me a way of detaching myself, maintaining my own centre and making choices as to what is or is not useful.*

Mana Wāhine theory is a powerful Indigenous women's theory. Mana Wāhine is a theory in its own right. Kathie (Irwin, 1992b) asserts that Māori women are able to define, develop and control our own theoretical base, so theory becomes a tool that we can use for our own interests. She (1992b, p. 5) continues by explaining why theory as a tool is so important for Māori women:

*Theory is a tool...a powerful intangible tool which harnesses the powers of the mind, heart, and soul. It has the power to make sense of a mass of ideas, observations, facts, hunches, and experiences. With the right theory as a tool we can take the right to our tino rangatiratanga, our sovereignty as Māori women, to be in control of making sense of our world and our future.*

The academy, through the development of theories, cannot do so at the expense of Indigenous women as scholars for Indigenous women's theories. Linda (L. T. Smith, 1999, p. 29) conveys the struggles of western theories for Indigenous peoples:

*Having been immersed in the western academy, which claims theory as thoroughly western, which has constructed all the rules by which the Indigenous world has been theorised, Indigenous voices have been overwhelmingly silenced.*

The axiom with huge momentum that counter-acts western colonial academy is called 'Indigenising the academy'. Tānia Ka'ai (2005, p. 4) wrote her paper *Indigenising the Academy: Indigenous Scholars as Agents of Change* affirming the role of Indigenous scholars is to decolonise and indigenise the academy with Indigenous theories:

*We teach Indigenous theories within our curriculum which anchors us within the academy and which give expressions to our cultural imperatives.*

Mana Wāhine theory, epistemology, methodology, ethics and methods are all Mana Wāhine in the end and contribute to Mana Wāhine research framework as an Indigenous women's research agenda.

According to Linda (Smith, 1992), Mana Wāhine theory has the first task of making sense of the reality of the women who live within its framework, and secondly, to provide women with a framework that emancipates them from racism, sexism, poverty and other oppressions. Huia Tomlins Jahnke (1997b) agrees that in order to make sense of the realities of Māori women's lives, and find relevant ways to explain the nature of Māori women's experiences in contemporary contexts, it is necessary to employ an analysis that is grounded in Te Ao Māori [the Māori world]. Huia also

expresses that Mana Wāhine is described as what counts as feminism. Mana Wāhine theory first draws on Kaupapa Māori theory and research, and secondly takes what is useful from feminist theory and research as Hoa Mahi to become Mana Wāhine methodology.

### **Mana Wāhine methodology**

Mana Wāhine methodology is research for, by, and with, Māori women as an Indigenous women's research agenda (Hutchings, 2002b; Pihama, 2001). Through Mana Wāhine methodology, Māori women must be central to any approach of research. Jessica (Hutchings, 2002b, p. 64) explains what Mana Wāhine methodology is:

*...for Māori women and allows Māori women, their herstories and their contribution to society to be visible and valid. It challenges and analyses the social bases of gender relations and the unequal distribution of power between Māori men and Māori women, with colonisation being a central part of that oppression.*

Mana Wāhine is used for both methodology and methods, according to Fiona Cram and Kataraina Pipi (2001, p. 13) there is a distinction:

**Methodology:** *a process of enquiry that determines the method(s) used.* **Method:** *tools that can be used to produce and analyse data.*

Mana Wāhine methodology as a process of enquiry must consider Kaupapa Māori theory and research, alongside feminist theory and research where Mana Wāhine can be seen as Māori feminism. The Mana Wāhine methods are the herstories that understand the context in which Māori women reside where Māori qualitative methods help to gather information. There are methods as to how analysis and interpretation are conducted using Mana Wāhine which develops the conceptual framework and finally, there are methods to report to the women who shared their herstories.

The next section is Mana Wāhine methodology, which draws on both Kaupapa Māori (cultural and ethnic restoration) and feminism (gender equity) leading into the notion of Mana Wāhine as Māori feminism.

### **Kaupapa Māori theory and research**

Mana Wāhine, alongside Kaupapa Māori [Māori philosophy, principles and practices], is derived from Te Ao Māori [the Māori world]. Kaupapa Māori theory originated with Māori education scholars such as Tuakana Nepe (1991), Mereana Taki (1996), Sheilagh Walker (1996), Linda Tuhiwai Mead (1996, also known as Linda Tuhiwai Smith) and Graham Hingangaroa Smith (1988; G. H. Smith, 1997; Smith, 2003)<sup>31</sup>. Kaupapa Māori asserts the normality of living and being Māori, the tāngata whenua [first people of the land], the Indigenous peoples of Aotearoa New Zealand. Defining Kaupapa Māori as the ordinary demonstrates the power of colonisation. Kaupapa Māori is constructed and defined by the dominant culture as the 'other' alongside Mana Wāhine, in relation to the superior neo-colonial Pākehā culture derived from Eurocentric lands, knowledge and practices (Barnes, 2000; Walker, 1996), controlled mainly by men. Sheilagh Walker (1996) states that Kaupapa Māori theory is a resistance to the construction of Māori as the 'other' in our own homelands, and where the marginalisation of Māori has meant the privileging of Pākehā knowledge(s) over Māori knowledge. Russell Bishop and Ted Glynn (1999) explain that during a time when Māori have challenged cultural diversity being defined by the dominant culture, Māori resistance to these mainstream initiatives saw the flourishing of a proactive Māori educational and political discourse termed Kaupapa Māori – Māori philosophy, principles and practices.

In research, Kaupapa Māori as a framework is research for, by, and with, Māori as Indigenous peoples. Linda Tuhiwai Smith uncovered the power relations of western

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<sup>31</sup> Refer to the website [www.kaupapamaori.com](http://www.kaupapamaori.com) for more Māori scholarly works on Kaupapa Māori.

research, building on the work of Graham Smith in her (1999) book *Decolonizing Methodologies: Research and Indigenous Peoples* originating the concept of Kaupapa Māori research. Linda (1999, p. 21) describes four different forms of European imperialism on Aotearoa and other Indigenous lands: 1) imperialism for economic gain; 2) imperialism as the subjugation of 'others'; 3) imperialism as an idea or spirit with many forms of realization; and 4) imperialism as a discursive field of knowledge. Imperialism supports Eurocentric economic expansion for Europeans and was justified through instances of discovery, conquest, exploitation, distribution, appropriation and colonisation (L. T. Smith, 1999). According to Linda (1999), imperialism was the system of control which secured the markets and capital investments whereas colonisation facilitated this expansion by ensuring that there was European control and subjugation of Indigenous peoples. Through the vehicle of research the agenda of both imperialism and colonisation could be scientifically validated (L. T. Mead, 1996). Western knowledge through research would perpetuate the same discourses of Eurocentric economic gain, ownership, control and superiority. In parallel, research could be utilised to invent the hybrid character of 'primitive other', the 'wild savage', the 'barbaric', the 'uncivilised' and the 'heathen'. There was scientific justification to civilise, assimilate or exterminate. The outcome of research was to 'dispossess' Māori from the ownership, control and leadership of our philosophy, mātauranga Māori, language, culture and most importantly the land with all its economic potential. Here Moana Jackson explains (1998, pp. 72-73):

*If there is anything which has motivated the process of the colonisation of our lives, of our liberties, of our language, and of our knowledge, it has been the assumption by the colonising states that they have a 'right to disposses' us...They developed a set of ideas and inevitably a set of legal precedents which justified their assumption in the right to disposses. They invented the strange hybrid character called the 'primitive other'. They postulated, as the norm, everything which occurred in western European society. They called themselves civilised. They labeled themselves as Christian. They called themselves, technologically, intellectually, socially and culturally superior. And on that*

*basis they created the 'other' who could be dispossessed, and the other was 'us'.*

Through research western knowledge and ways of knowing were superior giving themselves the right to dispossess; Māori knowledge and ways of knowing were dehumanised, fragmented and 'other'.

The cultural orientation becomes the cultural archive (L. T. Mead, 1996) and the dominant discourse for scientific research. The site of struggle for Māori is the cultural archive objectified, dehumanised and idealised Indigenous people and Māori. Therefore, what eventuates when Pākehā research comes into contact with different systems of beliefs, values and ideas such as Māori, the benchmark is their dominant language and structures of power, which we are ranked against. It is at this point, western knowledge and the scientific paradigm becomes 'better than', 'at a higher order' and 'more superior' where Indigenous peoples and their knowledge systems become 'myths', 'superstition', 'primitive', and 'inferior'. This is when imperialism and colonialism controls the notion of 'other', those counted as human beings, and how human nature lives and behaves? The major site of struggle is that we have become fragmented from our theories, philosophies, knowledge, language and culture. The classification systems which suit western forms of knowledge are unsympathetic to Māori ways of knowing and engaging with the world (L. T. Mead, 1996). The discourses that come from this classification system are violent on Māori humanity (Walker, 1996).

In one instance, Kaupapa Māori theory and research is about uncovering and critically analysing the power relations around western theories and research that is violent on Māori. On the other hand, Kaupapa Māori theory and research is about reclaiming the legitimacy of being and living as Māori. Mereana Taki (1996) breaks up the word 'Kaupapa' and how it relates to each other; the word '**Ka**' is the future tense marker, '**U**' can be seen as the woman's breast or a process of holding firm and '**Papa**' is the relationship to Papatūānuku. Therefore, Leonie (Pihama, 2001) concludes that the term 'Kaupapa' can be seen as a process of holding firmly to one's fundamental



foundations of being Māori. There are two ways of ensuring Kaupapa Māori in research the revival of cultural survival and utilising critical theory.

### ***Cultural survival***

The contemporary emergence of Kaupapa Māori is the cultural (ethnic and racial) reclamation and restoration of the tino rangatiratanga movement in the 1970's and 80's, which followed the hardship of Māori urbanisation and post-World War II poverty, political unrest, land confiscations and loss of language. Kaupapa Māori intensified in education when Māori communities literally removed their children from failing mainstream education to establish Kohanga Reo, Kura Kaupapa Māori and Wānanga (Bishop & Glynn, 1999; Nepe, 1991; Smith, 1988; G. H. Smith, 1997). Māori were on a journey of cultural restoration projects in the home, marae, and classrooms.

Tuakana Nepe (1991) describes Kaupapa Māori as the distinctive cultural epistemological and metaphysical foundations of mātauranga Māori [Māori knowledge]. Here Leonie (Pihama, 2001, p. 110) explains:

*Kaupapa Māori theory is developed from a foundation of Kaupapa Māori and mātauranga Māori. Its base is firmly entrenched on this land, on Papatūānuku and that holds Kaupapa Māori theory as a distinctive framework.*

Mereana Taki (1996) also considers Kaupapa Māori theory as Māori knowledge that draws on the broader dimensions of te ira Atua [spirituality of the Gods], te ira Whenua [the spirituality of the land] and te ira Tangata [the spirituality of the people]. Tuakana Nepe (1992, p. 15) combines Kaupapa Māori and mātauranga Māori, but articulates the importance of te reo [the language] to validate a Māori worldview. She states that Kaupapa Māori theory is:

*The conceptualisation of Māori knowledge that has been developed through oral traditions. It is the process by which the Māori mind receives, internalises, differentiates, and formulates ideas and knowledge exclusively through te reo Māori. Kaupapa Māori is esoteric and tuturu Māori. It is*

*knowledge that validates a Māori worldview and is not only Māori owned, but also Māori controlled.*

Kaupapa Māori is new to the academy, here Mereana Taki (1996) and Leonie (Pihama, 2001) assert that Kaupapa Māori theorising is not a new phenomenon and is configured within the living ancestry of iwi [tribe], hapū [sub-tribe] and whanaungatanga [kinship].

Graham Hingangaroa Smith (cited in Linda Tuhiwai L. T. Smith, 1999, p. 185) describes Kaupapa Māori theory in the cultural level of a local theoretical position related to being Māori. Such a position presupposes that:

- *The validity and legitimacy of Māori language and culture is taken for granted.*
- *The survival and revival of Māori language and culture is imperative.*
- *The struggle for autonomy over our own cultural well-being, and over our own lives is vital to Māori survival.*

For the academy, Matiu Ratima (2008) asserts that Kaupapa Māori theory takes on two complementary theoretical underpinnings when making space within the academy: the cultural constructivism at the micro level<sup>32</sup>, and critical theory at the macro level<sup>33</sup>. The cultural constructivism micro level of Kaupapa Māori is firmly derived from mātauranga Māori [Māori knowledge] as Indigenous knowledge. The macro level to Kaupapa Māori theory is the complementary alignment with the Hoa Mahi [friend alongside] of critical theory. Graham (G. H. Smith, 1997) emphasises that Kaupapa Māori theory is a localised view of critical theory. Some Māori scholars find the relationship between Kaupapa Māori theory and critical theory to be controversial (Eketone, 2008). I agree with Leonie (Pihama, 2001) that Māori scholars

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<sup>32</sup> Micro level is the localised context within Aotearoa New Zealand.

<sup>33</sup> Macro level is the global context outside of Aotearoa New Zealand, derived mostly from the western philosophical knowledge base.

should see an alignment with critical theory and take what is useful for the benefit of Māori theorising. Leonie makes it quite clear that Kaupapa Māori does not rely on critical theory for its existence and critical theory does not rely on Kaupapa Māori for its existence. She (2001, p. 104) continues to say that:

*Kaupapa Māori is founded in this land Aotearoa. Critical theory is founded in Europe. Kaupapa Māori theory is driven by whānau, hapū and iwi, Māori understandings. Critical theory is driven by European sourced philosophies and understandings. They are without a doubt distinct theoretical forms.*

Both Kaupapa Māori and critical theory are able to inform each other, except the defining parameters of that relationship are negotiated from a Kaupapa Māori framework (Pihama, 2001).

### ***Critical theory***

Kaupapa Māori aligns itself with critical theory<sup>34</sup> taking only what is useful as Hoa Mahi. Critical theory originates from the late nineteenth century Socialist movement of Europe. The founding fathers of Marxism ideology were Karl Marx and Friedrich Engels who theorised on the political movement where the working-class (proletariat) would start a revolution to resist and remove the capitalist-class (bourgeoisie) from power. In order for change to occur, the powerless must understand the power relations that cause inequities. The powerful must be exposed, confronted and challenge. Here Robyn Munford and Wheturangi Walsh-Tapiata (2001, p. 20) state that:

*Critical theory is a perspective that holds that the social world is characterised by the differences arising out of conflict between the powerful and the powerless.*

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<sup>34</sup> For an overview of the use of critical theory from an Indigenous Māori perspective, read Graham Hingangaroa Smith (1997, 1999).

In relation to Kaupapa Māori, Indigenous peoples and Māori are included as the powerless who experience colonisation and cultural imperialism by the powerful Pākehā culture. Graham (G. H. Smith, 1997, pp. 37-38) from a Kaupapa Māori theoretical perspective aligns with critical theory to be a 'theory of change' for Māori in three important elements: conscientisation, resistance and transformative praxis<sup>35</sup>. The first one, conscientisation is to reveal the reality. This is when one is in a process to critically analyse and de-construct the existing hegemonies and practices, which entrench Pākehā-dominant social, economic, gender, cultural and political privilege. At this point in the process, it is important to develop a critical consciousness, dissolving the false consciousness enforced by hegemony. What starts to happen is not only the reality of the powerful, but also the reality of cultural loss emerges (where Māori knowledge, language, land and culture are marginalised and portrayed in a deficit and negative manner to the wider society through the mass popular media that is controlled by the powerful) (Pihama, 2000).

Graham calls the second element of resistance, oppositional actions. Here the powerless form a shared understanding and experience to create the political 'collective' entity. He provides two broad themes of reactive and proactive activities. The reactive is the collective responding and reacting to the powerful that provide oppression, exploitation, manipulation and containment. The proactive is the collective resolving and acting to transform existing conditions.

Graham calls the third element of transformative praxis, reflective change. This is the process where the collective undertakes transformative action to evolve change. The praxis is both reflective and reflexive in not only theory, but in practice, too. The

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<sup>35</sup> For further clarity of conscientisation, resistance and transformative praxis read Graham's (G. H. Smith, 1999) paper on *Paulo Freire: Lessons in transformative praxis*. There is a brief introduction on the work of Paulo Freire (a critical educationalist), but more importantly how his work contributed to theorising education for Māori. Graham makes the point the three elements are not linear but cyclical in fashion to explain how conscientisation, resistance and transformative praxis are always in dialectal interaction with each other. Also, read the paper by Anaru Eketone (2008) called *Theoretical underpinnings of Kaupapa Māori directed practice*.

evolution of change must be emancipatory. It is not enough to critique what is wrong, but to intervene and make a difference that benefit contemporary Māori and the next generations for cultural survival. Here the intervention should come from a Māori worldview and knowledge base in order to avoid re-colonisation. Leonie (cited in Smith, 1999b, p.186) concludes on Kaupapa Māori and critical theory alignment:

*...intrinsic to Kaupapa Māori theory is an analysis of existing power structures and societal inequalities. Kaupapa Māori theory therefore aligns with critical theory in the act of exposing underlying assumptions that serve to conceal the power relations that exist within society and the ways in which dominant groups construct concepts of 'common sense' and 'facts' to provide ad hoc justification for the maintenance of inequalities and the continued oppression of Māori people.*

Linda (L. T. Smith, 1999) concurs with Leonie and Graham that Kaupapa Māori is in relation to critical theory, in particular, to the notions of critique, resistance, struggle and emancipation. Here Sheilagh Walker (1996) explains that Kaupapa Māori is a resistance against the construction of Māori as the 'other'. She (1996, p. 119) adds that Kaupapa Māori is not the same as critical theory in terms of western theory:

*...Kaupapa Māori is not a theory in the Western sense; it does not subsume itself within European philosophical endeavours which construct and privilege one Theory over another Theory, one rationality over another rationality, one philosophical paradigm over another philosophical paradigm, one knowledge over another knowledge, one World View over the World View of the Other. Kaupapa Māori Theory is rather Kaupapa Māori Praxis. My problematic continues. I de-construct the title further; what remains is simply KAUPAPA MĀORI.*

Mana Wāhine theory and research infers the same direction as that of Kaupapa Māori theory and research, however, what is not addressed in Kaupapa Māori is the sexism of patriarchy and masculinist privilege.

## **Feminist theory and research**

Through the work of Kate Sheppard, during the Women's movement of the nineteenth century in Aotearoa New Zealand women advocated for equality and the right to vote, alongside men. Judith Aitken's work (1975, p. 2) explains the internalised sexism accepted as normal by society that feminism wanted to transform:

*Attitudes in our New Zealand society, include ideas and beliefs that: 1. a woman's place is in the home; 2. decision-making, particularly at public level, is a male right; 3. women are 'naturally' more interested in the early care of children than are men; and 4. a man must support his family, but a woman may choose to work as an optional extra only after all her other domestic obligations have been fully met.*

Feminist theory proposes that the power relations of society on gender benefit men over women and women are seen as the 'Other'. According to Nicola Armstrong and Wendy Boyce (1988) feminist theory is related to being pro-women and change-oriented. Feminists have the basic assumption that women's oppression and subordination brought on by men can be changed for women's self-determination (Armstrong & Boyce, 1988). Although feminism resists definitions, Assiter (1996, p. 88) says feminist theory is:

*A collective commitment to the undermining of oppression gender-based power relations, which constitute a shared set of values that make feminists feminist.*

Through subjective experiences, women are able to describe and 'voice' their oppression effected through gender-based power relations where feminist research is 'for, by and with women'.

According to Griffin (1995) feminist research for feminist researchers is based on four elements: firstly, there is the focus on women's experiences as a basis for research, including the development of theoretical frameworks. Secondly, there is the notion of the researcher as accountable to the research participants and to the wider

feminist constituency. Thirdly, there is the argument that the personal or private realm is political, and finally, a feminist researcher has a reflexive perspective on all research as part of a knowledge-validation process.

Mana Wāhine takes what is useful from feminist theory and research that addresses the oppression of sexism and the gender-based power relations of patriarchy and masculinism for transformative change. Mana Wāhine is also about being Māori.

### **Mana Wāhine as Māori feminism**

Mana Wāhine has been in academia since Kathie Irwin (1990) wrote her first article on the *Challenges to Māori Feminists*. The term Māori feminist was and still is very controversial to Māori women and men. For Māori men, feminism was seen to turn Māori women against them, as they denied their role in sexism as Māori male chauvinists (Te Awekotuku, 1991, 1992). The term Māori feminism was labelled as anti-Māori and pro-Pākehā. Kathie (1990, p. 23) asserted that Māori feminism was not against being Māori, it is about reclaiming the status of Māori women alongside Māori men denied through sexism:

*Māori feminism is not anti-Māori. It is pro-Māori, an integral part of Māori development and seeks to re-establish the Mana Wāhine of our women, to allow us to stand tall beside the men in our whānau again. Not in front of them, the movement is not anti-men, nor behind them, we are not apologetic for our strength or our visions, but beside them, where our culture tells us we should be.*

Māori women within the Women's movement criticised the hegemony of middle-class white women as racist who denied their role in the production of colonisation towards Māori, alongside their men:

*'White women' in the colonies are often positioned as agents and subverters of empire, the victims of patriarchy and the handmaidens of powerful men involved in the process of colonisation (Laing & Coleman, 1998, p. 4).*

White women's feminism was about emancipation of patriarchy, but still passionate in civilising 'the savage Māori' as the heathen 'other':

*At the same time, they were committed to 'civilising' a 'savage' people and/or converting 'heathen souls'. Their complex positioning as colonists involved in imperial strategies and as critics of the government appropriation of land, for instance, parallels attempts by contemporary feminists to challenge some of the legacies of colonialism, while acknowledging complicity in many of the practices that perpetuate power in Pākehā New Zealand (Laing & Coleman, 1998, p. 4).*

Māori women shared oppression of sexism with white feminism, but were denied a voice to critique Pākehā women's racism and colonisation, which perpetuated Christianity and denied Māori knowledge and culture (Awatere, 1984).

Mana Wāhine as Māori feminism is not for Pākehā women or Māori men to define, it is for Māori women to define. Ngahuia Te Awekotuku (1991) also agrees that Māori feminism is derived from being Māori, and that feminism must be defined by Māori women to be what Māori women want it to be; where Māori women's herstories and experiences are analysed to define and describe our oppressions as Indigenous women in the world. Here I agree with Ngahuia (Te Awekotuku, 1991, p. 20) on taking what is useful from feminism:

*For me, feminism means working as much as one can to end the oppression of women, to break our dependence on men, and to subvert, challenge, and ultimately destroy those bastions of male power that enslave us...I attempt to define a clear line for myself by as complete and uncompromised a commitment to women as I can possibly sustain.*

The reality for Mana Wāhine is the development of theories that consider both the Māori and women's movements as determining the oppressions Māori women experience. Here Kathie (Irwin, 1992b, p. 4) concludes on how Mana Wāhine contextualises from both Kaupapa Māori and feminism and will always continue:

*The development of theories of Māori feminisms is an urgent task facing both the women's and Māori movements if the life chances and life styles of Māori women are to be improved. This assertion is likely to be denied by some traditionalists, to be debated but not seen as a priority by some activists, to be laughed at by some chauvinist and*



*patriarchs, to be taken up by increasing numbers of Māori feminists. However it is received, it will remain permanently on the agenda of both movements.*

The remainder of this wāhanga describes the methods of Mana Wāhine. The methods are generating information through herstories, analysis and interpretation is through the results report and a second phase analysis, there is a method to develop the conceptual framework and finally methods of reporting back to the women participants.

### **Mana Wāhine methods**

As a holistic approach, Mana Wāhine methods are inherently interwoven with Mana Wāhine theory and methodology as already discussed. The philosophy, knowledge, theory and processes of enquiry of Mana Wāhine are inseparable from the methods, tools and research practices of Mana Wāhine. The Mana Wāhine methods utilised in this thesis are divided into the following four categories: generating information through herstories; analysis and interpretation; developing the conceptual framework and reporting back to the women who shared their herstories.

#### **Methods of generating information through herstories**

Māori women write Māori women's herstories through reflexivity of our herstorical context to make sense of our own lives. This, of course is a challenge to the societal construct of 'history' or 'his story' where historians, writers, authors and anthropologists have mainly been men and have traditionally constructed Indigenous women as 'other'.

Herstories underpin the methods of this thesis through my herstory, the herstories of the participants (in Wāhanga 5) and the herstories of other Māori women in professions and technology (Wāhanga 2). Herstories have been described by Kathie (Irwin, 1992b) as the study of our stories which may be able to reflect honestly on the realities of Māori women's lives; the connections we have with our past; our contemporary situation; and the dreams we have for tomorrow. Kathie asserts that

Māori women have a right to our herstories because Māori women's leadership has disappeared due to the creators of 'history'. Kathie (1992b, p. 1) articulates that:

*In order to make sense of the reality of Māori women's lives, our herstories must be told; they must be considered alongside the stories of iwi, our peoples; and of Aotearoa, our land.*

I have briefly reflected on my herstory at the beginning and in the conclusions of the thesis to show the reflexivity and accountability of kānohi kitea [the seen face] for my work. Kānohi kitea is about fronting up to the many communities that have a stake in this research: the Mana Wāhine in IT, Māori women in general, my whānau [family], Indigenous peoples and women, the research (Mana Wāhine, Kaupapa Māori, feminism) communities and the IT communities. Also, my herstory (Hamilton-Pearce, 2000, p. 13) provides the relevant context as to who I am at the outset, as an insider:

*I am on one hand Māori which looks at social, human, spiritual realms and not all things are knowable, controllable, measurable or quantifiable, where as, on the other hand I am an IT professional who hungers for IT progress, IT promotions and large amounts of information at the speed of light, and yet I am also a woman.*

I have always met resistance to having my herstory in the front of the thesis. I have been told it is not appropriate, as research is 'objective' and to place it in the Appendix. The majority of theses do not have a preface of the researcher's story, few have their story in the Appendix and even fewer have their story in the front. Leonie (Pihama, 2001) articulates that providing our story at the front is describing the method of being one's own case study, as it is 'only us' who can provide the appropriate context of the thesis. She articulates that telling our story grounds us in our research and centralises Māori women in the research. I am inspired by theses from Māori scholars such as Graham Hingangaroa Smith, Leonie Pihama and Jessica Hutchings who have written their stories in the front. As Graham states (Māori and Indigenous Analysis (MAIA) Ltd, 2007):

*...we should begin as we would in our cultural sense of putting ourselves in the middle of the text, in the story,*

*owning up that we are actually culturally formed, that we are part of the story and that we can't deny it...*

In gathering the herstories of the twenty-four Māori women in IT participants, this process started in October 2005 by contacting Māori women in Te Waka Wahine Wa-Hangarau and other organisations<sup>36</sup>. Some women contacted other women on my behalf and some women we found through whakapapa connections. In total, twenty-eight women were contacted to participate however, one woman declined because she did not affiliate with her Māori whakapapa, one declined because of health reasons and two other women could not participate due to work commitments.

The methods of gathering information through herstories was achieved by using Kaupapa Māori and taking what is useful from qualitative<sup>37</sup> techniques, as Hoa Mahi. In this thesis the qualitative techniques can be characterised as “essential descriptions of people’s representations and constructions of what is occurring in their world” (Robinson, 1998, p. 409). According to Susan Plowman (1995, p. 19), “Qualitative research is organised in a variety of ways, from semi-structured interview schedules to open-ended attempts to absorb the entirety of a life-world.” Therefore, qualitative methods and herstories of Mana Wāhine have an alignment. There is a Kaupapa Māori approach to Mana Wāhine methods.

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<sup>36</sup> The first point of contact was Te Waka Wahine Wa-Hangarau (Society of Professional Māori women in IT). The banks were Kiwibank, ASB, ANZ, BNZ, TSB Bank, and Westpac. Some companies were Women in Technology, Webgrrls, Telecom, Telstraclear, Vero, Vodafone, IBM, Sun, Microsoft, EDS, TAB, Hewlett Packard and Unitec. Government agencies were Te Puni Kokiri and the Ministry of Justice. Some Runanga [Māori organisations] contacted were Ngai Tahu, Turanganui a Kiwa, Te Rarawa, Kirikiriroa, Ngapuhi, Ngati Awa, Ngati Porou, Ngati Pikiao, Te Whānau-ā-Apanui, Te Whare Wānanga o Awanuiarangi, Cyberwaka, Metia Interactive and Cultureflow.

<sup>37</sup> Mana Wāhine methods are not reduced to qualitative techniques over quantitative. Mana Wāhine methods use any methods that can assist with solving research questions of concern to Māori women’s tino rangatiratanga [sovereignty and self-determination]. For this research however, I have chosen to concentrate on herstories and the voices of Māori women to gather information for analysis and complete the thesis.

The Kaupapa Māori approach (discussed under Mana Wāhine theory) is to do research in a Māori orientation of the world and operating in the ways of our tūpuna [ancestors] while using qualitative techniques (see section on Mana Wāhine researcher). Here is an explanation by Raewyn Good (2000, pp. 89-90) who talks about kanohi kitea [seen face] as a qualitative method that matches the characteristics of researcher and researched for Māori:

*It is increasingly argued that kanohi kitea research is an effective research method for data gathering, especially when the researcher's characteristics match those of the researched – for gender, ethnicity, age and culture and the ability to empathise/relate/interact and to gather information and analyse and check back. The ability to match such characteristics has been restricted by the characteristics of many research units and teams and relatively low levels of experience with qualitative applied research. I would argue that it is vital to not only match interviewer characteristics – it is also vital to ensure that representatives of the groupings of characteristics important to the project are included in the design of the project, in the analysis and in the report write up. This is particularly important to avoid bending information through lenses constructed in different value systems, beliefs and language.*

The women were individually interviewed kanohi kitea between October 2005 and May 2006 at their place of residence or work in the cities and towns of Kaitia (1), Auckland (14), Whakatane (4), Wellington (4) and Christchurch (1). The women were interviewed if they:

1. identified with their Māori whakapapa;
2. were female;
3. were current in IT professions; and
4. were willing to be interviewed individually and have wanted to attend a hui.

Before the interview the Participant Information Sheet (Appendix A) was sent to find out if they wanted to be in the research. If so, the process on the sheet was followed and each woman sent me her CV containing important IT job details.

Alongside the kanohi kitea individual interviews I used Kaupapa Māori methods of introducing myself with a mihi [greeting] and sharing my whakapapa. Before the start of the interview, I would take a koha [gift] to show gratitude for their time and effort to see me. To some houses I would take dinner because this would relieve them of the work and home commitment of organising dinner for their tamariki [children].

During the interview, I would take my cues from their willingness to talk, respecting their whānau and tamariki. This is where whakawhanaungatanga is used as described in Russell Bishop's (1996) book on *Collaborative Research Stories: Whakawhanaungatanga*. Russell believes the research process should change to ensure that researcher and researched come together in a whānau environment, divorced from 'hierarchy' methods where the researcher is the expert and the researched are the objects. Russell wants to ensure that the concept of whānau remains in the cultural context of what it means to be Māori and practice in research.

I would start by going over the Participant Information Sheet again so that they were comfortable to sign the Consent Form (Appendix B) and provide information on the Demographics Sheet (Appendix C). Then the first interview question was, "Where were you born and what was family life like?" This one question would move from schooling to their current IT jobs. Then questions would be about the motivations, initiative, barriers and strategies to remaining in IT. The questions were broad in order to encourage an interactive process of telling, listening, clarifying and understanding (Waitere-Ang, 1999).

Each interview was between 60 and 90 minutes, recorded on a dictaphone, and transcripts were emailed for approval within one week. Each woman was given the chance to provide an alias, but if one was not given I provided one.

### **Methods of analysis and interpretation**

I had two stages of analysis and interpretation. The first was to provide a Results Report of themes from the kanohi kitea individual interviews after all transcripts were checked and approved by the women for analysis. Twelve of the twenty-four women then came together in a hui [Māori gathering] to read the Results Report voicing their suggestions, improvements and modifications in a kanohi kitea process with the other women, the supervisors and myself. The women had some changes to be made to the results report. The changes and comments from the hui provided the second analysis phase. The second process of analysis and interpretation involved the herstories provided in Wāhanga 5.

#### ***Results Report and Hui***

The Results Report was produced from 24<sup>th</sup> May to 24<sup>th</sup> June 2006. The Results Report had a mihi [greeting] dedicated to all Māori women and acknowledgements to everyone who had made the research possible to date. A number of the women asked that I tell them my story. They wanted to know what I had been through in my family life to my IT profession as well. I provided my story in the report appendices. The Results Report provided broad themes (as written in the Participant Information Sheet Appendix A) on background herstories (family, school and IT) of each Māori woman (appendices); defining IT professions; their motivations, their barriers, initiatives and strategies, and strengths. The themes were the answers to the questions asked in the individual interviews. From these overall themes, the assertion of cultural survival became more apparent. The report was 88 pages long. However a hui was organised to bring the women together in a cultural setting and discuss the results report.

A hui is a Māori ceremonial gathering between 2 or more people at home, work or marae [sacred communal grounds and buildings] (Salmond, 2004). The hui is important to the study of contemporary Māori society because it is this context that

te reo me ngā tikanga are most deeply expressed (Salmond, 2004). On Saturday 24<sup>th</sup> June 2006 at 9am, twelve<sup>38</sup> Māori women in IT gathered at Ngā Wai o Horotiu marae AUT University, Auckland city. Some of the women had not met other Māori women in IT. Some women had met each other before and the hui was a chance to catch up. The women were also able to meet and ask questions of both supervisors Professor Felix Tan and Dr Tess Lomax.

The women stood at the gate entrance waiting for the karanga [calling] to be welcomed onto the marae<sup>39</sup>. Inside the meeting house the process of mihi whakatau commenced with karakia [prayer], mihi [greetings] and whakawhanaungatanga [family togetherness]. After the mihi whakatau the eating of food (morning tea) was conducted to satisfy the spiritual and cultural formalities of the hui. After morning tea, the hui resumed in the meeting house to go over the Results Report of the twenty-four individual interviews. The women were divided into two groups of six women reading and discussing the report. Professor Felix Tan was with one group and Dr Tess Lomax was with the other group. Everyone was prompted to offer opinions, suggestions, changes, improvements or modifications after discussing each section of the report. This process continued until 5pm.

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<sup>38</sup> All twenty-four women were invited to come, but twelve attended. All women travelling from Christchurch and Wellington were gifted airfares to attend the hui. One of the Auckland women went to the airport to pick up and drop off the women flying by plane. The women from Whakatane were sent petrol vouchers as they travelled together in one car. Petrol vouchers and taxi fares were also given to women who were travelling in the Auckland region. I would like to acknowledge and thank my husband Grant and son Te Pirihi for being the caterers for the hui. Also, thanks to my daughter Atareta for typing the notes of the women's discussions on the laptop.

<sup>39</sup> There were discussions before the karanga on what process was going to be used because there were no men present or invited to participate in the hui. The process of mihi whakatau [less formal welcome] was preferred over the process of powhiri [formal welcome] by consensus of the women. Although Professor Felix Tan was present, he did not join the hui until morning tea, which was after the mihi whakatau.

From the hui process of the report the women asked to:

1. remove all the background herstories in the appendices for privacy,
2. re-analyse the herstories looking at themes relating to oppression (barriers) to the cultural identity and survival of being Māori women in IT and how these women cope with such oppression.
3. When these themes are identified their needs to be statistical information of how many women discussed each theme. This analysis and interpretation of the herstories is used in Wāhanga 5 of the thesis looking at Māori women in IT growing up, schooling, first exposure to computers, and working in IT.

I removed the background herstories of the original Results Report and posted all twenty-four women and both supervisors their copy. I phoned everyone to ensure they had their copy. The second analysis was then conducted.

### ***The second analysis***

To be congruent with Mana Wāhine theory and methodology as already discussed above, the analysis and interpretation methods are very critical to the research design. The second analysis was to start with the growing up herstories of the women, schooling and IT work. The theme of colonisation as oppression and how to cope with such oppression deserved a closer textual analysis, so this was conducted. The textual analysis was done through re-reading the transcripts and Results Report many times, while reflecting on my own oppressions and coping strategies. I copied and pasted into thematic files the information on how these women grew up, their schooling, first exposure to computers and working in IT (Wāhanga 5). At the same time, I counted how many times each woman discussed each theme.



### **Method in developing the conceptual framework**

The Mana Wāhine in IT conceptual framework was developed using the following:

1. Mana Wāhine discourses, principles, and theory. The herstories of Māori women in other professions and Māori women's perspectives in technology (Wāhanga 2 and 3);
2. the discourses of the under-represented groups in IT (Wāhanga 4);
3. the herstories of Māori women in IT (Wāhanga 5); and
4. my herstory at the beginning of the thesis.

When considering what should be added to the conceptual framework a list of criteria was needed. Jessica (Hutchings, 2002b, p. 77) established a criteria to assist her when developing a Mana Wāhine conceptual framework in relation to genetic modification (GM) which I utilise here. The criteria:

1. must be pertinent to Māori women;
2. must make visible the concerns and struggles of Māori women;
3. must challenge colonial patriarchy ideologies and Māori masculinist hegemonies;
4. must be relevant to the discipline of study (i.e., IT);
5. must be supportive of a decolonising agenda; and
6. must be supportive of the Indigenous women's agenda.

The Mana Wāhine in IT conceptual framework is presented in Wāhanga 6. Again, I do not impose a framework on Māori women or Indigenous women. The framework is flexible to be modified within each element of indigenising, decolonising and colonising of IT. Others may engage with the framework as they wish, making it relevant and specific to their chosen discipline and agenda from a Mana Wāhine philosophical and spiritual knowledge base (Hutchings, 2002b).

### **Methods of reporting back to the women**

The 'reporting back' methods were a way of ensuring the women were well informed of my progress while having a chance to voice their opinions throughout the research process. I have often been involved with research that drops the participants as soon as they have finished the interview. In parallel, as a participant I have had no chance of participating in the analysis or final submission of the thesis or research report before publication. I wanted to counter this practice and communicate with the women in every way possible during the process while I informed them of my progress and for them to voice their opinions from start to finish. The two methods of reporting back to the women were email updates and reading a draft of the thesis before submission.

The email updates – at the beginning of the research process, emails were sent regularly to inform the participants of my next up and coming processes, i.e., finishing interviews, hui at AUT, how the writing was going, and what struggles I was experiencing. During the writing process, the emails decreased because there was little news to share. The last email was informing the women that I was moving offices from AUT to the University of Auckland with a new full-time position in the Faculty of Engineering—Electrical and Computer Engineering department.

Three women provided feedback from a draft of the thesis – half way through the writing process I wanted to ensure that some of the women had the chance to read a draft copy of the thesis before it was submitted. I found that these three women would critically analyse the thesis and tell me what they thought. I postponed the final draft reading twice realising I was not going to finish the thesis. These three women have been extremely supportive and understanding as I delayed finishing the thesis over two years. I had struggled with constant changes to the thesis focus and then I undertook full-time employment. The women's feedback from the draft before submission was vital for me and I could not submit the thesis without putting this method in place. It was important that I had their opinions, suggestions,

improvements and modifications to all parts of the thesis, which led to the Mana Wāhine in IT conceptual framework.

### **Summary**

As a unique approach to centralise the realities of Māori women, Mana Wāhine underpins the research design and the philosophy of this thesis. Mana Wāhine as a framework asserts the inseparability of philosophy, principles and practice. The philosophy of Mana Wāhine starts with mātauranga wāhine, the discourses and principles of Mana Wāhine (Wāhanga 2). Mana Wāhine leads to the practical instruction of any research design that is undertaken with whānau, hapū, iwi and especially Māori women – research for, by, and with Māori women. There are aspirations of self-determination and awareness of oppressions due to hegemonic colonial patriarchal ideologies, which uncovers the position of Indigenous women in colonised societies. Indigenous women are no longer the researched, but the researchers. Research takes on a new dimension of positionality, reflexivity, ethics, theory, methodology and methods. For a Mana Wāhine researcher it is vital to understand Kaupapa Māori connected to feminism as *hoa mahi*. Mana Wāhine is Māori feminist theory and research design as a methodological foundation. Finally, the methods used are herstories, the results report, hui, developing the conceptual framework and reporting back to those that participate in the research. At every possible moment the voices of Māori women must be consulted, heard and made visible. It is Māori women that must benefit from the research.

Centralising Māori women's herstories through a Mana Wāhine research design has not been achieved in prior IT research. The next wāhanga provides a discussion on the discourses of under-represented groups in IT from the cultural context of ethnicity, race, gender and Women of Colour.

## Wāhanga 4

### *Ngā Whenu – Discourses of under-represented groups in IT*

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*Ngā Whenu are the vertical threads of the Kākahu. Ngā Kaiwhatu Kākahu prepares ngā whenu ready for weaving.*

**Quote by Te Waka Wahine Wa-Hangarau (TWWW) (2004a, p. 1):** *TWWW brings three dimensions together: Māori, Women and information technology professions. TWWW is about privileging all these attributes.*

**Participant quote by Katarina:** *To me I have always said I have three barriers to being successful, I am a female, I am over 35 and I am also Māori – I think these barriers affect me especially in the IT world. When I say I am in IT, people think I am joking, how can I be in IT? There are a lot of stereotypes in the IT world.*

### **Introduction**

The dominant literature of IT education and professions for under-represented groups is constructed on single characteristics of cultural identity. For example, the Māori and Indigenous peoples' literature is reduced to race or ethnicity. It is mainly concerned with early access (or lack thereof) to computers at school, university and in the home. The well-known 'digital divide' discourse correlates to limited access to computers with low socio-economic factors and racial background. Therefore, Indigenous peoples only need to 'catch up' to prepared societies. This literature has little critique of race-neutral discourses that underpin IT.

In parallel, the women's literature is reduced to the gender inequity of women in IT. This literature concentrates on the dearth of women when there is a human resource

crisis in the IT workforce. Studies emphasise the shrinking pipeline issues as women enter IT education and the workforce less frequently than men do, so only need to 'catch up' to men or become more masculine. Many studies examine how to improve recruitment and retention of women in IT and the discourse of gender-neutrality that underpins it.

Although, the Indigenous peoples and women in IT literature is becoming mainstream, the reductionism and fragmentation of both entirely ignores the joint effects of colonisation, indigeneity, racism, sexism, patriarchy, masculinity, and gender politics operating in IT for the Indigenous women's cultural survival of those who try to remain in IT. Trying to deal with reductionism, the sparse Women of Colour in IT literature starts to deconstruct and address the triple jeopardy of race, gender and class unequal power relations and politics (Kvasny, 2003). The category of "Women of Colour" is not a group that is studied (Lopez & Schulte, 2002) where the politics and multidimensional cultures are considered. Women of Colour have to participate in two separate organisations of either race and gender; yet one group on its own meets only half their needs (Taylor, 2002). Women of Colour scholars critically analyse how race, gender and class unequal power relations and politics of having to 'catch up' to white supremacist men can explain the low recruitment and retention in IT. This literature acknowledges that incorporating race and gender cultures when learning and working in IT is a solution. However, this literature does not address indigeneity for Indigenous.

The next section discusses the ethnicity and race discourses for the participation of Māori and Indigenous peoples in IT.

## **Ethnicity and race**

### **Māori**

Māori have been seen as active participants in adopting western Pākehā technology for many years using iron, steel, the pen, the bible and the written word (Jenkins, 2000; Kamira, 2000b). This brought on Māori information and communication technology such as Māori newspapers and magazines, Māori books, Māori radio (Laws, 2001), and the establishment of Te Pouaka Whakaata Māori [Māori Television Service] in 2004.

Before the arrival of the computer, Whatarangi Winiata (1985) claims that Māori information systems were about the oral informational needs of waka, iwi and hapū planning, development and progress through the Māori mind. Given that Māori had not designed a written language in pre colonial times, Māori relied heavily on the memorising capacity of the mind for storage and transmission using a variety of external aids to assist the process of retrieval (Winiata, 1985). Through such a process, Māori information systems could recite thousands of names for whakapapa, sing many waiata and haka, and name many landmarks. Esoteric knowledge was passed on to the few who were tapu [sacred] for the benefit of the whānau, hapū and iwi (Winiata, 1985). Such information and knowledge was becoming lost and Whatarangi would hope that computers would assist.

In order to give effect to what Whatarangi was pointing out was the critically analysis of education through computers to be the next colonising tool.

### ***Educational colonisation through IT***

Derek Stewart (1993) asserted that computers were the second wave of colonisation, through schools for Māori children. Derek surveyed the PĀ SITE software of the 1990's, for form 1 and 2 children where they designed an archaeological site of a Māori pā (grounds). Derek found the software to be culturally insensitive to Māori

knowledge of pā sites, narratives of elders and Māori concepts that were tapu. Derek found the Pākehā concept of archaeology digging up wāhi tapu [sacred sites] with no consultation process with the people, and asserted that Pākehā cultural imperialism should not be taught to Māori children. Derek asked Māori teachers to evaluate what is being taught on computers; whose knowledge is validated through the computer; whose interests do computers benefit; are Māori children going to gain Māori knowledge through computers; or is the computer invalidating Māori knowledge, pedagogy and ideology?

It was not until 2000 an evaluation was conducted by Robyn Kamira (2000a) with 50 Māori secondary school teachers in the information and communication technology professional development programme. Robyn used the following methods: questionnaire, document review, literature review, interviews and hui [Māori gathering] (phone, face-to-face). She found cultural issues where protocols that include tikanga would gain a high level of ownership and compliance and that te reo forums and training would have enhanced the programme. A quote (Kamira, 2000a, p. 9) from one of the teachers said it is:

*...critical to maintain a Māori flavour by ensuring kai [food] was available at face to face gatherings, making use of the kumara [sweet potato] vine and whānau contacts, and participating in local Māori community...that teachers found it easier to ask for help from a Māori hub coordinator (reducing whakama [fear]).*

Typically, the online environment of racial culture emulated the offline racial culture where the English language and culture dominated (Kamira, 2000a).

Cultural imperialism was also an issue for Māori educationalists who participated in an e-learning hui for the Institutes of Technology and Polytechnics of New Zealand in 2004 stating that (Neal, Barr, Barrett, & Irwin, 2007, pp. 121-122):

*...e-learning should not be allowed to become the new vehicle for the promotion of monoculturalism or monolingualism. Worse still, the main threat identified was that e-learning could function as another tool in the colonisation of our*

*people. At issue was the legacy of colonisation and the political/cultural agenda of assimilation and social control, which dominated our past. It took over a century to turn such policy around and to launch a successful cultural renaissance that has seen Māori reclaim education. Losing momentum with this vital social project is a prospect that our people will never countenance again.*

However, the government continued to look at Māori as the problem that should 'catch up' to prepared societies of IT through closing-the-gaps policies called the 'digital divide'.

### ***Digital divide***

The worldwide discourse on the digital divide started in 1996 after the speech by President Bill Clinton and Vice President Al Gore in Knoxville, Tennessee USA (Clinton Presidential Center, 1996). The discourse of the digital divide was about gaps between access, ownership, resources and skills required for computers/IT/Internet between certain socialites, groups and countries. Prepared societies were called 'the haves' while 'other' societies were called 'the have nots'. The deficit theory for closing the gaps of the digital divide was based on 'the haves' society, to which the 'have nots' aspire.

It was not until December 2000, that the Hon Steve Maharey (Minister of Social Services and Employment) and Hon Paul Swain (Minister for Information Technology) initiated the closing of the digital divide (Maharey & Swain, 2000) in Parliament, Wellington. Māori, alongside Pacific peoples, low-income people, sole parents, older people, uneducated, unemployed, untechnical, women and girls, and the disabled were named as the 'have nots'. Therefore, the 'have' societies were non-Māori, rich, traditional families, educated, employed, technical, men and boys, and the abled. Research (Te Puni Kōkiri, 2001b, 2001c) around Māori and the digital divide negatively portrayed Māori as the problem for being poor, uneducated, unskilled and unable to access or use IT. Although anecdotally, Māori in IT did not believe there was a digital divide, structural mechanisms included the 'haves', and excluded the 'have nots'. Robyn Kamira and Graeme Everton (2001, pp. 3-4) explain:



*IT is controlled by the dominant culture, it has become a modern and rapid tool for further colonisation...The potential to prevent further pillaging of our culture exists only when Māori are able to participate in the decisions about the use of the technology. By reaching mastery of technology, we can be vigilant about how others are using it and respond to the risks to our culture?*

Government reports through Te Puni Kokiri published, the “Closing of the gaps” series having established that Māori are economically disadvantaged across a range of areas, especially IT. “The Digital Divide and Māori” report for Te Puni Kokiri by Infometrics Ltd (2001, p. 2) established that:

*Māori own fewer computers than non-Māori, use the Internet less, are less likely to be employed in occupations that use computers, and are not as likely to train to be IT specialists.*

Establishing that a gap does, in fact, exist between Māori and non-Māori, the report found that the digital divide issues would become increasingly costly, not just for Māori but the whole of New Zealand. Māori are portrayed as bringing the country to ransom in the report because of their being unskilled in IT. Ironically, the report does not offer a solution that is specific to Māori, but tries a scatter approach where funding schools with new computer technology may reach Māori children. At an adult level, the report talks of trying to turn a Māori farmer into a technology entrepreneur. Of course, this is from the view that all Māori men and boys are to become farmers and labourers; so targeting this occupation is a solution to increase participation. Again, the report is insensitive to Māori.

Te Puni Kokiri (2001b) had another report, by ACNielsen Netwatch 2000, surveyed Māori access to information technology, especially the Internet. The report found that 46 percent of Māori had Internet access whereas 75 percent of non-Māori had access. In addition, 34 percent of Māori and 60 percent of non-Māori possessed a computer in the home. Māori (40 percent) who had computers in the home only used it for games and entertainment. The report highlighted Māori in the deficit by merely playing games and owning the highest percentage of Sony Playstations. No

Māori specific recommendations were given, only deficit statistics that subordinated Māori to non-Māori.

Although the government had dropped the digital divide policy for the new Digital Strategy by 2005, they still continued to ignore the sovereignty of Māori as tāngata whenua and their partnership with Māori through the Tiriti o Waitangi. The digital and draft content strategies relegated tāngata whenua to 'community' alongside pony clubs, being left out of business and government content in which tāngata whenua have a huge stake (Kamira, 2007b). According to Robyn (Kamira, 2007b, p. 15), both strategies "...failed to recognise the historic and spiritual body of knowledge and the inter-generational and unique nature of Tāngata Whenua." Although tino rangatiratanga was affirmed with Māori, it was not within the IT sector, especially where the government was concerned. Colonising practices at the governmental level for IT will continue until Māori reclaim control.

### ***Reclaiming control***

From 1960, IT was solely in the control of western educationalists and the government. By 1997, in two separate surveys of the Internet by Alastair Smith (1997) and Catharina Muhamad-Brandner (2007) found an increase of Māori information by non-Māori, the government and by Māori. Catharina was interested in the two second-level domain names of .iwi.nz. and .maori.nz. Catharina found the first to be an initiative of the government and the latter to be an initiative of the New Zealand Māori Internet Society (NZMIS). NZMIS was essentially trying to indigenise Aotearoa's cyberspace themselves (Muhamad-Brandner, 2007).

However, to be cautious, Alastair (1997) identified some issues that would impact on Māori and asserted that Māori would need to take control. He found that Māori would have threats to their cultural values; loss of control of information when it is digitised; intellectual and cultural property ownership issues; accuracy and authority; and commercialisation of information. For the threats to culture, Alastair gave one example of a US tattoo site showing images of Māori moko [tattoo face] and

preserved heads hanging on meat hooks. Disgusted by the images, Māori on a NekeNeke e-mailing list asked the owner to take the images offline, which happened.

From 1999 to 2007, Robyn Kamira from Te Rarawa and Te Aupouri wrote extensively to address the lack of Māori control with Māori information, cultural loss, intellectual and cultural property ownership and governance (Kamira, 1999, 2000b, 2003, 2007a; Kamira & Smith, 2004). Robyn identified through case studies such as the Māori Land Court, Online Authentication for E-Government, and a health informatics system called kidZnet that western concepts of ownership gave more control to the coloniser (Kamira, 1999, 2000b). She also identified that Māori decision-making and concepts needed to counteract that ownership in order for IT to benefit Māori. Robyn (Kamira, 1999, 2000b, 2007a; Kamira & Smith, 2004) presents the Māori concept of kaitiakitanga, the guardianship and governance in the case of IT for data and information that has enormous spiritual and cultural significance for Māori. Robyn (Kamira, 2007a, p. 42) explains what kaitiakitanga is:

*Kaitiakitanga (and the person or group who performs the kaitiakitanga role of kaitiaki), implies guardianship, protection, care and vigilance of data about Māori that is collected, stored and accessed. It introduces the idea of an inter-generational responsibility and obligation to protect, and enable the use of mechanisms such as tapu, the setting apart or restriction of knowledge or things, and rahui, the necessity to conserve, protect and restrict.*

The underlying base of kaitiakitanga is the Tiriti o Waitangi through Article I and Article II (Kamira & Smith, 2004). Article I of the Tiriti guarantees Māori control and enjoyment of their valued possessions – tangible and intangible. Article II of the Tiriti affords Māori the attainment of equal human and social rights as non-Māori. According to Robyn (Kamira, 2000b), Māori (whānau, hapū and iwi) become first beneficiaries of IT. The concept of ‘collective’ ownership (and privacy) as opposed to ‘individual’ ownership should be used for the control of grouped data and information on Māori (Kamira, 1999, 2000b, 2007a; Kamira & Smith, 2004).

In order to continue reclaiming control Māori discussed the encouragement of Māori capacity as mastery.

### ***Māori capacity***

To encourage Māori capacity to move from a role of passiveness to mastery using kaitiakitanga in IT, Robyn goes further to demystify the definition of IT in Māori terms. Robyn's (Kamira, 2002b, p. 18) definition of IT offers simplicity:

*Potentially, any means of storing, analysing and disseminating information can be included – even our minds. By ignoring the jargon and focusing on this idea, it is clear that Māori concepts such as “matauranga” and “hinengaro” can encapsulate (and enhance) what we believe about information technology and offers a wider context. Matauranga refers to education and intuitive intelligence, and is linked to the divine. Hinengaro is the mind, the thinking, knowing, perceiving, remembering, recognising, feeling, abstracting, generalising, sensing, responding and reacting. In this light, Māori knowledge informs us about why Māori might be highly motivated to take up information technology and why concepts of information technology, as its industry sees it, are not only accessible to Māori, but [also] even simplistic.*

The issues of increasing Māori capacity within technology mean that Māori are in a position to learn the tools of the coloniser, achieve informed decision-making and move away from a passive role to mastery (Kamira, 2000b, 2002b). Māori technological capacity continued where Māori established tino rangatiratanga as a means to harness IT for Māori through establishing three groups: the New Zealand Māori Internet Society (NZMIS), the Māori Information Technology and Telecommunications Council (MITTC), and Te Waka Wahine Wa-Hangarau (TWWW), the Society for Professional Māori Women in IT.

The New Zealand Māori Internet Society (NZMIS) was established in 1997 and recognised the urgent need for Māori to define the Internet for Māori. NZMIS wanted to promote Internet service creators over users and participants. In order for the Internet and World Wide Web (WWW) to become more supportive of Māori culture and identity, there needed to be more Māori Internet developers who can

become authors and creators of web functions and web structures that are more conducive to Māori needs and aspirations (New Zealand Māori Internet Society, 2006). NZMIS was instrumental in establishing the .māori.nz for domain names. Ross Himona, Karaitiana Taiuru and Te Rangikaiwhiria Kemara established the organisation.

The Māori Information Technology and Telecommunications Council (MITTC) was established in 1998 and was a national representative body promoting the views of Māori who either worked in or utilised information technology and telecommunications (IT&T), for the advancement of Māori. The body was established as a formal representation on boards or organisations in the IT&T sector. The organisation recognised that developing IT&T policy by government was conducted without any consultation, contributions and benefits to Māori (Te Puni Kōkiri, 2001a). MITTC saw their role of supporting the participation and development of Māori in the IT&T sector. Anthony Royal, Terry Smith, and Graeme Everton established the organisation.

In 2001, Te Waka Wāhine Wa-Hangarau (TWWW) was established. This Trust would endeavour to provide an environment where wāhine (women) could interface effectively providing support both culturally and as IT professionals. Robyn Kamira and I were the co-founders and trustees. With just the two of us we were certain we could find other wāhine and by 2003 our membership had increased to forty.

It is obvious wāhine were less likely to enter IT professions than other groups in Aotearoa New Zealand. This has become critical as we seek to improve the conditions for our whānau (family), our people and ourselves. An ultimate vision was that our people would create IT tools and applications from our cultural values and beliefs. IT should help us to 'work smarter and not harder'. The central kaupapa (purpose) of TWWW is to create an environment where wāhine can affect their potential as professionals in IT. TWWW brings together and privileges three cultural identities of Māori, Wahine (woman), and IT professions. The name Te Waka Wahine Wa-Hangarau (TWWW) literally means the seafaring vessel by which Māori women

journey through the information and technology age. The IT fields supported by TWWW include information systems analysis and design, implementation and programming, IT networks, IT projects management, information systems administration, IT development, broadcasting, the IT multimedia industry and more.

There is importance here for whānau and Papatūānuku representing the connection to the land, tāngata whenua, environment, health and well-being of Māori. The cosmological connection to Papatūānuku encapsulates the nurturing essence of all women. She represents resources such as herstories, human resources, the utilisation and strength of the land and environments that TWWW will stand in.

In the section titled, “Being Māori, being women and being IT professionals – aue [alas]”! (Te Waka Wahine Wa-Hangarau, 2004b, pp. 1-3), the identity politics of colonial and men’s attitudes towards them when studying in IT education was blatantly difficult:

*“Women don’t have the right attributes for computers and you should un-enrol”, “...to combine Māori and computer science into a post-graduate degree will be “professional suicide”, “...my big puku would not fit behind their state-of-the-art “unpregnant” table-chair combos – I sat at lectures on the ends of rows – sideways!*

The section explains how their qualities through this struggle and difficulty are recognised as:

*“We get a sense of stubborn determination from these women, that despite the blatant resistance, [they] entered the strange and isolated world of information technology”, “Māori women are challenging that ideology and bringing IT to our culture to add value”.*

The section continues by recognising that cultural identity is vital to work in IT:

*All of our Māori women agree that the domain of IT cannot be at the expense of being wahine Māori. They pursue a space where being professional wahine Māori in IT is held first and foremost.*

The issues of cultural survival for Māori women span many discourses of spirituality, whānau, colonisation, and with Indigenous women. This study takes into consideration all these discourses for Māori women's identity.

In 2003, the three Māori IT groups came together to form a Korowai [cloak] group. The Korowai group initiated a project plan for Māori Information and Communication Technologies (MICT) Strategy that would act as a blueprint for government policy around MICT (Kamira, Smith, Everton, & Royal, 2003). The Tiriti o Waitangi was located at the beginning of the plan with the following kaupapa [mission]:

*Māori will contribute to and benefit from information and communications technologies that will support increased well-being for existing and future generations (Kamira et al., 2003, p. 8).*

Māori (and some non-Māori) have been working in areas of Māori culture to bring the kaupapa to reality, such as whakapapa, whānau, whenua (WWW) and te reo.

### **WWW – Whakapapa, whānau and whenua**

In relation to whakapapa and whānau, Julia Ngatuere (2003) looked at the issues surrounding whakapapa on the Internet for her Ngāti Kahungunu ki Wairarapa whānau. Whakapapa is seen as a taonga [treasure] for her whānau and information that is tapu [sacred]. Julia asked two questions: 1). is whakapapa on the Internet appropriate? and 2). as kaitiaki [guardian] of that knowledge how is it supposed to work in an online situation. Julia found the tapu nature of whakapapa contrary to the openness of the Internet where information was free for everyone to access. From this perspective, Julia outlined the above as a proposed topic for a Masters thesis.

On the other hand, in relation to whakapapa, in his Masters thesis Manjit Singh Gill (2006) wanted to investigate the process of gathering user requirements for a computer system to support processes involved with Māori whakapapa system. Manjit had not addressed the issue of tapu knowledge of whakapapa that Julia had raised. He also did not consider the impact of whakapapa on the Internet or on a stand-alone system for each individual whānau that Julia had also considered.

Manjit's thesis was concerned with usability 'methods' that could be applied to a Māori whakapapa system. Despite such an approach that seemed culturally neutral, the benefits to Māori would be ineffective if any process does not use a Māori cultural approach with Māori participants, consulted and guided by Māori cultural experts of whakapapa information in a digital form. Therefore, I understand when Manjit says the research raised more questions than answers in terms of user requirement; as these questions would have been around including a more Māori approach to usability.

In relation to whenua, Garth Harmsworth (1997) determines that geographical information systems (GIS) are complementary to Māori knowledge systems that have been traditionally stored and transferred orally. He uses the example of GIS storing knowledge in relation to wāhi tapu [sacred sites], Māori place names, ancestral sites, tribal landmarks, special plants for weaving and medicine, and food-gathering sites. This information is important for resource management and environmental planning of Māori, especially in relation to Māori land. Garth provides a conceptual framework of Māori land information being stored in a database structure for cultural sensitivity.

However, beyond separating whakapapa, whānau and whenua the research by Radka Charkova, Aimee Lin, Tony Clear and Tess Lomax (2003) started to address the interactions of people, land and histories with a tribal membership register for Te Runanga a Iwi o Ngapuhi. Through a capstone project undertaken by students at Auckland University of Technology (AUT), they were able to develop and critique a data model called GENTECH designed in Texas for the register. In conclusion, the focused moved away from technical matters to factors of designing around the iwi and the importance of the land for the iwi. Beyond whakapapa, whānau and whenua the revitalisation of te reo was critical to Māori reclaiming control in IT.



### ***Te Reo***

It has already been established that the revitalisation of te reo is crucial to the survival of Māori. Research to date has looked at improving interface usability and design, but most recently the development of linguistics, Māori and computer science teams working to include te reo in application of different software. Through his empirical study of children using a Māori language word processor called Tā Kupu Tamariki [The printed word of the child], Gregory Ford (1993) established that children (aged 5–9 years) were able to use a mouse interface better than the keyboard or pen-touch screen, to create written work. Gregory used log files, two field studies and observations for his work.

The initial work of Dr Mark Laws (2001) from Ngāti Awa, Ngāti Tūwharetoa and Te Arawa established that new language modalities for te reo can be created combining traditional western paradigms of language, linguistics and computer information technology. The language paradigm is around bilingualism for te reo and English. The linguistics paradigm is an output of phonetic profiles for a spell checker, and the technology paradigm is an output of database systems of an Internet translator. As a result, Mark concludes that the new language modalities as a systematic framework is an appropriate evolutionary process required for integrating te reo using IT for developers of Indigenous languages.

Through his research, Te Taka Keegan (2007, 2008; Keegan, Cunningham, & Apperley, 2007) from Waikato-Maniapoto and Ngāti Porou has established that te reo can be difficult in bilingual and multi-lingual interfaces on web sites. Through transaction log analysis and client feedback of a web site on Niupepa [Māori newspapers], Te Taka was able to see how translation issues from literal English to te reo could be confusing. For example a link called 'He Rāpopototanga Reo Pākehā' [about English abstracts] was in high usage because client feedback identified a different meaning of 'a summary in English' (Keegan, 2008). Therefore, direct translation from English to

Māori is problematic. Te Taka teaches computer science to Māori students in te reo at the University of Waikato, School of Computing and Mathematical Sciences.

However, beyond Aotearoa Māori were leading the Indigenous peoples agenda at the World Summit on the Information Society for reclaiming control.

### ***Leading the Indigenous peoples' agenda at WSIS***

On 25<sup>th</sup> June 2002, Robyn Kamira presented a paper to the first Preparatory Committees (PREPCOM) of the World Summit on the Information Society (WSIS), Geneva, conference to place Indigenous peoples on the agenda. Robyn provided the issues for Indigenous peoples of further colonisation, authenticity, cultural misappropriation and use of data, access to infrastructure and skill capacity, and intellectual property. Robyn (2002a, p. 1) made a recommendation to the PREPCOM that:

*Indigenous peoples are included explicitly, separately and permanently on the WSIS consultation agenda.*

The twenty-seven page report of the first PREPCOM meeting of WSIS on the 12<sup>th</sup> July 2002, did not accept the recommendation. The principles section of the report had one sentence that mentioned the word 'indigenous' alongside other under-represented groups:

*The importance of utilizing ICT's for the benefit of disadvantaged communities (e.g. women, youth, children, the disabled, indigenous groups, migrants) (World Summit on the Information Society, 2002, p. 26).*

However, since the WSIS Indigenous peoples and IT projects have increased.

### **Indigenous peoples**

The need for cultural survival for Indigenous peoples while participating in IT education and the workplace is a complex issue as already discussed with Māori reclaiming control at WSIS. According to Packer, Rankin and Hansteen-Izora (2007, p. 38), cultural demise is a problem for Indigenous peoples and the digital revolution:

*Half the planet's languages and cultures are held by 5% of its population – 370 million Indigenous peoples – the most marginalized, fractured and least represented. For every group disposed, urbanized or assimilated, a culture vanishes taking with it unique worldviews and ancient knowledge of the environment, irreplaceable skills, artistry and stories – the rich diversity of humanity. The digital revolution, rather than creating a “global village”, accelerates this worldwide cultural demise.*

The literature within the South Pacific, Australia and America for Indigenous peoples is less concerned with this cultural demise, but more concerned with assimilating into the dominant culture and the digital divide. The next sections discuss IT participation for South Pacific, Australian and Native and Latin American Indigenous peoples.

### ***South Pacific***

The following two studies are related to culture in different ways within the South Pacific<sup>40</sup>. Lynch et al. (2002) considers a model of national culture when comparing Indigenous Fijians and IndoFijians when adopting IT. Through a colonial gaze, the culture of Indigenous Fijians is lacking when adopting IT. However, Robbins (2007) looks at cultural inclusion of South Pacific students at the University of the South Pacific. Two very different studies, but the literature in the South Pacific is concerned with adoption and not control or representation in IT education or work, of the South Pacific peoples for South Pacific self-determination.

Comparing Indigenous Fijians and IndoFijians when adopting IT using Hofstede's (1980, 1991) dimensions, Lynch et al, (2002) claims that Indigenous Fijians are less likely to adopt IT because of collectivism, large power distance through chieftainship, high uncertainty avoidance and being less assertive. The IndoFijians would adopt IT more easily because of individuality, low power distance, low uncertainty avoidance

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<sup>40</sup> The research by Latu and colleagues (Latu, 2005; Latu & Dyson, 2006; Latu & Young, 2004) has not been included in this section because of studying Pacific Island students outside of their indigenous context and homelands of Tonga. The students were studied in New Zealand.

and being more masculine. This research portrays the perspective of the dominant coloniser where the culture of the Indigenous Fijians is the problem. Not only are IndoFijians classified as westerners, but they are seen as superior to Indigenous Fijians because they have what it takes to adopt IT better. This research clarifies that the colonial masculinist as the dominant culture produces IT. At no point should the Indigenous Fijians, the people of the land, have to change their culture to adopt IT, IT as the visitor must change. The national cultural model of Hofstede is western knowledge of what culture is. This model is not the same as Indigenous knowledge of what culture is. Using such models to understand the culture of Indigenous peoples is an irrelevant context that is not of the people themselves who are being studied. According to Myers and Tan (2002), IT research that looks at cultural difference needs to move beyond models of national culture as described by Hofstede. Lynch et al. (2002) may have highlighted the underpinning culture of adopting IT is western culture, but the solution is not to assimilate into the foreign culture away from the Indigenous Fijians' culture.

Contrary to Lynch et al. (2002), Robbins, (2007) research was about cultural inclusion through educational technologies<sup>41</sup> at the University of the South Pacific (USP)<sup>42</sup>. According to Robbins (2007, pp. 67-68) when looking at designing multimedia for South Pacific students the design must be of that culture and flexible for localised content. Robbins demonstrated how three concepts of culture could interface with three areas of designing multimedia. Firstly, the interface design can incorporate the cultural pedagogy of learning through wholes. This is where the interface maintains the big picture while focusing students on specifics. Secondly, the interaction and functionality design can incorporate the cultural pedagogy of encouraging observation and imitation. By using the cultural concepts of the students for new

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<sup>41</sup> Educational technologies used were audio and video conferencing, web based group activities, interactive CD-ROMs, video broadcasting of lectures, email, faxes and CB radio.

<sup>42</sup> USP has 12 mini-campuses in Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu.

tasks and instructions there is a familiar knowledge with which to start using the technology and learning faster. Finally, the decentralised content localisation of education technology needs to utilise vernacular metaphors and languages. This is where the technology allows the students and teachers to provide content, explaining their concepts in their culture, metaphors and language. For the language of Fijian, Kiribati, Samoan and English multilingual and multimedia designs were vital to the success of adoption and use.

### ***Indigenous Australians<sup>43</sup>***

The most extensive work on the participation of Indigenous Australians<sup>44</sup> in IT education has been through the Faculty of Information Technology, University of Technology Sydney – the Indigenous Pre-IT Program (Dyson, 2002; Dyson & Robertson, 2006; Grant, Hendricks, & Dyson, 2007; Robertson, Dyson, Norman, & Buckley, 2002a, 2002b). This literature confirms the dearth of Indigenous Australians towards IT education. Indigenous Australians may enter IT education, but completion rates are lower than enrolments (Dyson & Robertson, 2006). The problem of low participation in tertiary IT education would lead to low participation in the IT workforce (Robertson et al., 2002a).

Dyson (2002, 2003, 2004) highlighted the issues and politics of culture, culture-neutral theories and technology determinism that affect Indigenous Australians. Dyson talks about whether the low adoption of IT by Indigenous Australians has anything to do with a rejection of western values embodied in the technology. Just as fast as this question is presented it is rejected as being of any concern. Dyson interprets a way that Indigenous learning styles with the digital divide discourses

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<sup>43</sup> In the book titled *Information Technology and Indigenous People* by Dyson, Hendriks and Grant (2007) there are approximately 20 (6 chapters and 14 case studies) out of 42 articles related to Indigenous Australians and IT. This section will not go through all this literature but concentrate only on the literature in relation to participation and the issues of culture.

<sup>44</sup> The Aboriginal and Torres Strait Islanders.

(Dyson, 2002, 2003, 2004; Samaras, 2005) can align with western computer education to increase participation. The digital divide theory continues to dominate such theories of low participation for Indigenous Australians (Dyson, 2003, 2004). The Indigenous Pre-IT program illustrates its successes (Grant et al., 2007) that must be appreciated.

On the other hand, this thesis asserts more research is needed to expose the colonisation of IT; the deficit theory of the digital divide; and the norm of the culture-neutral and technology determinism discourses. These hegemonies must be on the table for more debate, especially by, for, and with, Indigenous peoples. The decolonisation and indigenising of IT cannot be realised without addressing western cultural norms, controlled mainly by men embedded within IT education, management, design, implementation and work. The digital divide discourse is continued for the Native Americans, but the Latin Americans look beyond this deficit theory.

### ***Native and Latin Americans***

Highlighting the digital divide discourse within the Native American literature exposes the deficit theory<sup>45</sup>. Without any reference to years of colonisation, Sherson (2000) looks at the lack of infrastructure by Native Americans to access computers and the Internet, where the mainstream Americans are portrayed as superior. For example, Sherson (2000) says that mainstream American people have phones, telecommunication, utilities and even roads, but Native American communities are lacking these basic technologies. He continues that mainstream American people have an economic base, but Native Americans are economically weak. Finally, he says, that mainstream Americans are fully trained and educationally elite, but Native Americans are lacking in any educational skills. These deficit findings are stating the obvious and have no benefits or improvements to Native Americans. Again, the

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<sup>45</sup> I choose to critique the literature instead of repeating it.

Native American's are the 'problem' for not having money, education and technology. Sherson's finds that Native Americans need to 'catch up' to mainstream Americans to benefit from IT.

Other research continues the digital divide discourse. McKinnon (2001, p. 7) states:

*...virtually all American Indian and Alaskan Native communities lack the technology infrastructure common to the other American communities.*

Downing (2002) emulates this discourse for Aboriginal peoples in Canada<sup>46</sup> saying they have a learning divide with low relative access to, and completion of, education and training. Secondly, there is a social-economic divide of poor economics, health, and social conditions. Finally, the Aboriginal people have a digital divide of less connectivity, access to the Internet and use of computer technologies than Canadian people do.

The Native Americans and Aboriginal people of Canada are the 'problem' for being weak and lacking education, money and technology. The Native Americans and Aboriginal people of Canada are measured up against and must 'catch up' to their colonisers, in order to gain the benefits of IT education and work. The status quo for the colonisers remains intact and it is the Native Americans and the Aboriginal people of Canada who must change. The digital divide discourse is flawed for all Indigenous peoples and women, as colonisation is not critiqued and culture-neutral discourses remain the norm. However, there is theoretical relief with Latin American peoples' cultural construction of IT and self-determination.

Salazar (2007) through the Latin American people has developed the framework of the Indigenous peoples and the cultural construction of ICT. Salazar (2007, p. 15) makes a point about the digital divide:

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<sup>46</sup> Although the Aboriginal peoples of Canada are not classed as Native Americans, the literature is used to show how most Indigenous Peoples around America are seen in the same deficit nature.

*If digital division is cultural exclusion, digital inclusion has not necessarily meant cultural inclusion.*

Salazar highlights the culture-neutral discourse of the digital divide – culture is not the issue, access is. For Indigenous peoples though, digital inclusion has not meant Indigenous culture, but the culture of the coloniser. Of course, Salazar moves beyond the digital divide discourse to put control in the hands of the Indigenous peoples. Salazar (2007, p. 15) starts to bring forth the context of Indigenous peoples as seen in WSIS:

*On that occasion it was clear that Indigenous peoples do not seek inclusion in the information society at the expense of their civil rights, cultural identities, ancestral territories or bio-resources. Moreover, it must be Indigenous peoples themselves who decide on how and when they access and use new technologies.*

Salazar concludes by supporting the need for self-identification of local practices and knowledge with the communities in order to design adequate strategies to gain benefits from the use of IT. It could be argued that Indigenous peoples have already been deciding how and when to self-identify with IT by not engaging until IT ‘catches up’ to Indigenous peoples’ knowledge, language and culture.

In summary, what this literature is truly lacking is the visibility and voices of Indigenous women within South Pacific, Australia and America. This literature is dominated by the deficit theory of the digital divide discourses that places Indigenous peoples and culture as the ‘other’ and the ‘problem’. Moving beyond the digital divide is the cultural construction of IT by, for, and with, Indigenous peoples. However, this theory needs a gender perspective to be of any benefit to Indigenous women. The next section discusses gender discourses in relation to theoretical frameworks called social construction of IT, socio-cultural individual differences and feminism.



## **Gender**

Through statistic analysis, the 'incredible shrinking pipeline' discourse was able to determine the dearth of women in IT. The incredible shrinking pipeline discourse originated with Camp (1997). She illustrated, between 1993–94, how the numbers of women entering and completing computing to professorial positions decrease significantly. The shrinking pipeline occurs at a faster pace for women than men. Women's numbers significantly drop from high school, to degree level and become invisible at the full professor level. The two main reasons for improving the shrinking pipeline are to satisfy the IT labour shortage and to increase the representation of women, who are half the population of the world who do not receive a share of the relatively high IT earnings. It is essential to have the statistical information of decline but this research failed to expose the underlying reasons why such a process was happening only to women and not men, offering no solution or transformative change to the situation.

## **Social construction of IT**

Man and machines, man-made technologies, and men's tools are the prevailing socially constructed discourses though decades of knowledge transfer and infrastructure of technology development in the home, school and workplace. According to Winner (1980), technologies are inherently political and biased because when designed, consciously or unconsciously, they can give open access to certain people and shut others out. Technology has become a material in the interests of male power providing structural inequities (Cockburn, 1981). According to Cockburn (1985b, p. 27) the social construction of gender and technology is a male process:

*The social process of technological development has been overwhelmingly a male process... women have worked for men, whether the man was head of household, slave-owner or feudal lord. It is clear that they also produced by means of man-made technologies. They were subject to that particular form of material control that comes of men as a sex having appropriated the role of tool-maker to the world.*

The discourse of technology determinism prevails where 'only technology matters' (MacKenzie & Wajcman, 1999). IT determinism as a primary focus understands that: 1) IT 'progress' matters more than anything; 2) IT is gender-neutral; 3) women only need to 'catch up' to men for IT benefits; 4) there are only biological and psychological differences between men and women to explain the observed differences in their relationship to IT (Trauth, 2002). It is believed that IT just changes, either following science, impinging on society from outside where the developers, scientists, and technicians who produce them are objective and independent of social location and influence (Wajcman, 1991). The IT determinism picture is an IT developer who has a split second 'eureka' moment to provide technology for the good of humans. Technology change only happens through scientific advancement or following a logic of its own (MacKenzie & Wajcman, 1999; Wajcman, 2000) where no specific gender can cause technology progression.

The idea of the universal and normal discourse of technology being 'gender-neutral' ignores any notion of gender power relations that determine technology education and work (Wajcman, 2000). There is no critical examination conducted *before* technology is implemented into society, therefore women's under-representation in technology was studied from a technology determinist theoretical vantage point where women are the problem for 'not keeping up' with men (MacKenzie & Wajcman, 1999). Rejecting technology determinism, Cockburn (1983), through Marxist perspectives, identified that those technological explanations of women's subordination started from a simple desire by capital to exploit cheap labour, and for skilled and working-class men to protect themselves against women taking their jobs. A Marxist perspective could better provide an understanding of women's subordination and male power in technology work as the power relations began with capitalist men (Cockburn, 1981, 1983, 1985b). The hegemonic ideology being that the capitalist class owns technology production and labour, where men dominate the capitalist class, so technology production and labour is therefore owned by the domination and hegemony of capitalist men. What was concluded was the under-representation of women should lay blame with the technology education and work

structural inequities with capitalist men determining the sexual division of labour (Cockburn, 1981, 1983, 1985a, 1985b; Cockburn & Ormrod, 1993; MacKenzie & Wajcman, 1999; Wajcman, 2000). From capitalist men, the skilled to the working-class men, men looked after the interest of men in technology, skilled work and labour. Technology cannot be, and has never been, gender-neutral as technology determinism presumes. Technology education and work became men's work, male domains with masculinist culture and therefore women are not suited to work in technology. Male power is deployed in the interests of men where capitalist men own technology and design technology to keep women in the home (Cockburn & Ormrod, 1993). It was the 'patriarchal' power of technology that started in the home, created by fathers and husbands. Wives' and daughters' subordination to their husbands and fathers in the home made them become mere users of domestic technology designed by their men for domestic satisfaction keeping women at home using the dishwasher, washing machine, stove, microwave oven and so on (Cockburn & Ormrod, 1993). Furthermore, the power of patriarchy and masculinity in the home where sons inherited the technical know-how from their fathers to fix technology for bonding and leisure time (Cockburn, 1985b; Cockburn & Ormrod, 1993); this inherent passing down of knowledge from father to son became the infrastructure for the male supremacy of technology. Mothers and wives were not a part of such structures or part of designing the domestic technology that they became slaves to using and cleaning. Technology for male domination originated in the home with father, son and husband.

Ironically, research has found that women will try to 'fit' into the male domain and develop 'masculinist' coping strategies to remain in IT (Morgan et al., 2004; von Hellens, Nielsen, & Trauth, 2001). Through the work of Trauth and colleagues (Trauth, 2002; Trauth, Quesenberry, & Morgan, 2004; Trauth, Quesenberry, & Yeo, 2005) it was determined that socio-cultural experiences of individual women could be studied where women, through the importance of social networks, would comply trying to fit into the 'Boys Club' (Morgan et al., 2004).

### Socio-cultural individual differences

Working towards a theory of individual differences, Trauth et al. (2004) finds the causes of gender under-representation in the socio-cultural environment that shapes each woman's gender identity and her professional development, and her individual responses to these influences. Studying how women cope with the Boys Club as a social network that underpins the IT workforce Morgan et al (2004) found, from forty-four women in IT interviews, the varying response from proactive insider to reactive outsider in the following social network framework.

Open Network	
Category	Characteristics
Proactive Insider	Finds a way into the "Boys Club". Meshes interests with those of the men.
Reactive Insider	Gravitates to men because of preference or past experience. Same interests as male counterparts.
Reactive Outsider	Does not join any network. Not interested in the network.
Closed Network	
Reactive Outsider	Excluded from joining the network.
Alternative Network	
Proactive Outsider	Discovers or creates a new network.

Analysing the issues of work and family in the IT workforce was done using individual differences theory. Quesenberry et al. (2004) interviewed twenty-four women in IT and found three different categories: the non-mom, the working mother, and the back-on-track mother. The non-moms are the highest percentage working in IT rejecting the notion of being a 'cold careerist' and solely focused on themselves, but rather they do not want to make work-family tradeoffs. The working-mothers' motivations to work in IT are both financial and personal acknowledging the great support from their spouse to help with home. The back-on-track mothers took time away from work to raise children and return to the IT workforce. Returning meant high amounts of upskilling, preparation or education was needed to re-enter IT. These women have a spouse as the main income earner. The individual theory explains the low representation of women in IT using socio-cultural contexts such as social networks and work-family decisions.

As an alternative approach to socio-cultural construction and individualism to 'feminise IT' at a collective level, research begins to have a more 'female domain' (Wajcman, 1991, 2004; Webster, 1996) and technology can be considered in the terms of 'women' (Aurell, 2000). Although in reality, feminist projects have been about problemising IT before developing IT (Kvasny, Greenhill, & Trauth, 2005).

### **Feminism**

To 'feminise IT', there is a need to address philosophical levels and the knowledge base of both feminism and IT. However, there has been little work to pave a way to connect feminist philosophy and IT. According to Adam and Richardson (2001) feminist philosophy, in particular feminist epistemology, has been ignored in the mainstream information systems (IS) literature. Although critical theory is accepted in IT research, to go beyond to feminism is all but invisible (Adam & Richardson, 2001). By using IS case studies, Adam and Richardson (2001) were able to illustrate how feminist epistemology can unpack the concept of emancipation for IS philosophy that critical theory has not addressed.

Through reflexivity on their herstories and praxis, Kvasny, Greenhill and Trauth (2005) declare that management information systems (MIS) has not been adequately problemised to feminise IT. At the MIS level of examining the arrangement of computerised equipment, resources, and procedures that are required to collect, process and distribute data for use in managerial decision-making in business organisation, Kvasny et al. (2005) argue that three criteria are needed to give voice to feminist projects in MIS research. Firstly, there must be a challenge to the hegemonic dominance, legitimacy, and appropriateness of positivist epistemologies. The limitation of positivist research is to show a problem exists, but does not address why and how to solve problems of gender inequities in IT. Secondly, feminist researchers much theorise from the margins and privilege being the other, Finally, the need to problemise gender differences can be an emancipatory outcome.

Although feminist philosophy and research in IT since 2001 there is more work to be achieved. Feminising IT is only about gender, but does not look at the joint effects of race and gender that Women of Colour experience, this is discussed next as the last section of Wāhanga 4.

### **Joint effects of race and gender – Women of Colour**

Limited IT education research focuses on women of African American, Sub-Saharan African and Asian ancestry. At a superficial level, Lopez and Schulte (2002) ask the question, “Are African American women in computer science a group to study?” After looking at statistical information on women and men in non-historically Black Colleges and Universities (HBCU) and HBCU organisations, their results show that African American women are definitely a group to be studied. They found that African American women do not have the same characteristics, motivational factors or views of computer science as non-African American women. Their findings also show that African American women being awarded bachelors degrees in computer science has less to do with gender differences and more to do with ethnic similarities. They continue that African American women who have pride in their roots see beyond the systematic and institutional barriers to achieve academic and career success. Yet, Lopez and Schulte do not discuss any systematic or institutional barrier that African Americans experience. Furthermore, when Lopez and Schulte compare computer science degrees being awarded between African American women and men in HBCU, no gap exists, so their participation is balanced. However, a gap does exist between non-African American and African American women and men in non-HBCU suggesting that African American women fare better in HBCU organisations. Lopez and Schulte declare that women in computer science education research need to look beyond gender differences to include ethnicity factors for Women of Colour.

The separation of gender and ethnicity classifications for Taylor’s (2002) research articulates how an American African woman lecturing in computing for 20 years is oppressed because of being divided between two groups by society, by having double

the number of responsibilities and is isolated because of dismal numbers being the only lonely. Here Taylor (2002, p. 22) explains:

*In having a discussion with women faculty in computing about bringing your personal background into the classroom, the discussion was generally focused on being a woman faculty in a generally male-dominated class of students. Yet, my thoughts focused on being an African American woman in a generally white, male-dominated class of students. Further, in having a similar discussion with African American faculty in computing about bringing your personal background into the classroom, the discussion was focused on being African American in a generally white-dominated class of students. Again my thoughts focused on being an African American woman in a generally white, male-dominated class of students.*

To increase the representation of Women of Colour in computing Taylor articulates that a group that focuses on women of colour that does not separate gender and ethnicity factors must be established first.

However, Kvasny (2003, 2006) moves beyond double oppression to 'Triple Jeopardy' of race, gender and class politics when she observed 15 working-class African American women learning in a 14-week computer course, with over 50 informal interviews and analysing documents. Kvasny is an African American woman who is an Assistant Professor in the School of Information Sciences and Technology, Pennsylvania State University. Kvasny asserts that mainstream, highly educated, middle-class white women in IT literature have an underlying universal assumption of "womanhood" or a shared female experience on the reductionism to a single characteristic of gender, while ignoring the joint effects of race, class, national origin on the self-identity of Women of Colour. Therefore, interventions that are informed by these types of studies will fail to deal with the diverse and fragmented nature of Women of Colour needs and experiences. Kvasny articulates the same for research that uses reductionism with respect to race for minority research of African Americans in IT being a political act in that it ignores and trivializes the uniqueness of gender. The third is the absence of research that examines class issues that includes Marx's definition of the relationship to the modes of production and critique of

capitalism for the working-class. Kvasny challenges the taboo nature of organisational studies that ignore social class structures, which inherently place Women of Colour as slaves.

From a feminist theoretical perspective, Kvasny interprets the experiences of the 15 women coming to voice through three movements of experiencing oppressions, developing a self-defined standpoint and displaying acts of resistance against oppression. The results show that the women experienced oppression by city officials who failed to see how the elements of the digital divide are systematically related to larger schemes of race, gender and class inequities. Intervention programmes that only deliver IT access and basic computer literacy may have been less successful than expected because they fail to address the systematic barriers that limit IT access and skills in the first place. The discourse of technology progress is oppressive because it creates a belief system that is imposed on people who have little chance of actually benefiting materially from the IT use. The women fully understand how power relations in IT work, but believe in upward mobility and collective progress and vision for social justice to the road of empowerment which is what IT can deliver if these women *control* IT for themselves. They resist oppression to eliminate ignorance for enlightenment – a movement of entire groups, not individuals. These women viewed IT access and skills as a part of a strategy for escaping poverty, enhancing their parenting skills, and broadening their social participation in the digital society. With the women in control, technology can be a tool for uplifting the entire community.

Through their research, Nielsen, von Hellens, Greenhill and Pringle (1997), found the cultural factor of collectivism as opposed to individualism to increase the participations of Asian women in IT education. They found that Asian women were actually outnumbering other ethnic groups by 30–40% because of factors of security and status related to collectivism. Nielson et al. (1997) suggest that IT education and industry practices include cultural factors such as collectivism to increase the representation of Asian women in IT.



The research of Mbarika, Payton, Kvasny and Amadi (2007) involved interviewing 32 Sub-Saharan African women who attended an ICT programme at a Kenyan university. The research question was to see how the women responded to and have been empowered by ICT-focused educational initiatives within the programme. The results were discussed in relation to motivations, the value of ICT, barriers, attitudes and defining the digital divide. Firstly, the motivation of women for ICT training was to achieve gender parity and assume an active role in changing their society. Alongside this, the women wanted more tangible economic and entrepreneurial aspirations. Secondly, there was high value in technical skills and business prowess but they were disappointed as class projects and lectures were more theoretical providing insufficient practical skills. Theory was greatly devalued while practical experience was prized. Thirdly, the women believed the barriers were national IT policies and society's overall lack of knowledge and skills in ICT. Small numbers of women experienced gender discrimination. Fourthly, majority of the women believed technology is fundamental for their families and the other women were oppressed by it. Some women see new forms of oppression while others see freedom and opportunity. Finally, defining the digital divide on the personal level for some was about access. On a national and global level, having access to ICT is a human rights issue, but these women do not want to be measured according to western criteria. Typically, the results followed the digital divide discourse as to how the women as the 'have nots' are empowered by the progress of ICT with little cultural consideration. This research was disappointing to read because it did not address any power relations of ICT that I feel Sub-Saharan African women would have experienced because of gender and ethnic inequity as already illustrated by previous research.

### **Summary**

What the Women of Colour research has highlighted is the joint effects of race and gender. Women of Colour are faced with issues in developing race and gender appropriate mentors and role models, wanting to involve family, trying to offset internalised out-group status, finding places to recognise race and gender values and differences, and the eradication of institutional practices that marginalise women of

colour (Tapia & Kvasny, 2004). Women of Colour are forced to 'catch up' with white men and women and Men of Colour in IT to remain in the field. What is obvious is the complexity of Women of Colour in IT as opposed to the white women in IT literature. This literature has become vitally important for Indigenous women in IT. Although feminist theory has been used, there have been no research theories, methodologies or methods from the African, Sub-African or Asian ancestry of the women being studied.

The women in IT literature move beyond the shrinking pipe line theory and critical theory to social constructist theory, socio-cultural individual differences theory and feminist theory. The qualitative methods of interviews are prominent. The literature critically analyses the gender-neutral discourses that underpin IT to explain why women are not participating in IT. The social networks of the Boys Club is alive and well (Morgan et al., 2004). White women will try to 'catch up' to their men, becoming masculine or feminise IT but remain outsiders. However, these theories are colour-blind (hooks, 2000; Kvasny, 2003) with no connection to ethnicity, race, indigeneity and colonisation. Although a start has been made to feminising IT, the voices and knowledge of Indigenous women are virtually invisible and unstudied throughout the white women in IT literature.

On the other hand, the literature in relation to Māori and IT is continuously critiquing the colonisation of education that led to the colonisation of IT. The Māori qualitative methods of hui and case studies through te reo me ngā tikanga are cultural forms of research. With Māori control, increased capacity and tino rangatiratanga, cultural concepts of whakapapa, whānau, whenua, te reo and leading the WSIS debate begins to decolonise IT. This literature is so far imperative for Māori women in IT explaining how colonisation is the reason for low participation and adoption. Yet, the literature is invisible to Mana Wāhine critique and voices of Māori women.

Most of the Indigenous peoples' literature is antiquated and stuck in the universal culture-neutral and digital divide discourses that are of no benefit for Indigenous peoples. Indigenous peoples are the 'problem' and need to 'catch up' with the

coloniser to gain the benefits of adopting IT. Existing literature and statistics are used to identify that participation is low, but lays blame with Indigenous peoples and not with neo-colonial (institutional, structural or societal) power relations. At no point have any Indigenous research theories, methodologies and methods been used to study Indigenous peoples.

On the contrary, Indigenous scholars are fighting back to indigenise IT, developing the cultural construction of IT for Indigenous peoples (Kamira, 2002a; Salazar, 2007) developing conceptual frameworks from Indigenous rights and self-determination. Although a start has been made to indigenise IT, the voices and knowledge of Indigenous women are virtually invisible and unstudied through the Indigenous peoples' literature.

The recent discourses of under-represented groups in IT are only a starting point for Indigenous women. It is problematic to align with one body of knowledge, which only meets one part of our cultural survival. This research brings together the fragmentation of the Indigenous, Māori and women's cultural context. The research will expose the oppressions of geek, neo-colonial, masculinist hegemony and ideology underpinning IT, experienced through the herstories of Indigenous Māori women who learn and work in IT—this is discuss next in Wāhanga 5.

## Wāhanga 5

### *Ngā Aho – Indigenous Māori women in IT herstories*

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*Ngā Aho are the horizontal threads of the Kākahu. Ngā Kaiwhatu Kākahu prepares ngā aho ready for weaving.*

**Quote by Te Waka Wahine Wa-Hangarau (2004b, p. 1):** *All of our Māori women agree that the domain of IT cannot be at the expense of being wahine Māori. They pursue a space where being professional wahine Māori in IT is held first and foremost.*

**Participant quote by Mereana:** *For me the number one thing is my identity, I am Māori Pacific Indigenous, I'm a woman and a mother and that's where it all begins, so I see ICT as just a tool and we are the holders of our vision and our kaupapa [ideas].*

### **Introduction**

The pivotal part of this wāhanga is to share the herstories of the women and make visible their 'voices'. Fourteen of the twenty-four women grew up in the postwar era and in the women's movement of the 1950's and 60's. Nine grew up in the 1970's during the tino rangatiratanga movement and being Māori by then was no longer a negative experience. One woman was born in 1982 before the Māori education movement began.

The women were divided into eight organisation types: Ministry, tertiary, business and corporate, IT, own business, Rūnanga (Māori organisation), Rumaki Reo (Māori-medium school), and Wānanga (Māori learning centre). These organisations target four different markets: 1) mainstream<sup>47</sup> and public service, 2) corporate businesses, 3) Māori, and 4) a mixture of mainstream, corporate business and Māori. Within the organisation types the following names are aliases chosen by the women; however if an alias was not suggested, one was made up.

### **Ministry**

1. **Aorangi** is 38 years, from Te Arawa, Ngāti Whakaue, Ngāti Pīkiao, and Ngāti Porou iwi. She is a Systems Administrator and Helpdesk Assistant. She has one tamaiti [child], married and is a learner of te reo.
2. **Katarina** is 46 years, from Te Roroa. She is a senior regional support officer, with two tamariki [children], divorced and beginner of te reo.

### **Tertiary organisations**

3. **Mata** is 39 years, from Ngāti Tai and Ngāti Porou. She is a Helpdesk Systems Administrator with one tamaiti, defacto and beginner of te reo.
4. **Ria** is 45 years, from Ngāpuhi, Te Mahurehure and Te Aupouri iwi. She is the manager of the School of Computing and IT. She has two tamariki and 3 mokopuna [grandchildren], married and a beginner of te reo.

### **Business or corporate**

5. **Ataria** is 28, years from Ngāti Kahu as a Website developer. She has no tamariki, married and a beginner of te reo.

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<sup>47</sup> Mainstream is the dominant normalised foreign culture of the west (Europe and America) brought to Aotearoa New Zealand.

6. **Atawhai** is 44 years, from Tainui. She is a Business Systems Coordinator with no tamariki, divorced and a beginner of te reo.
7. **Kahu** is 41 years, from Ngāti Kahungunu and an IT Service Manager. She has one tamaiti, divorced and a beginner of te reo.
8. **Mākere** is 27 years, from Ngapuhi, Ngāti Kahu and Te Aupouri. She is a PC and Networks Administrator with no tamariki, defacto and beginner of te reo.

### **IT organisations**

9. **Amīria** is 48 years, from Ngapuhi and Te Rarawa iwi as a Technical Solutions Architect. She has no tamariki, single and no te reo.
10. **Hana** is 24 years, from Ngāti Porou in Technical Support with no tamariki, single and beginner of te reo.
11. **Hera** is 33 years, from Ngāti Porou, Ngāti Hine, Ngāti Manawa, and Ngāti Rangiteaore. She is an Analyst with no tamariki, defacto and beginner of te reo.
12. **Maia** is 32 years, from Ngapuhi and Rongomaiwahine. She is a Software Developer with no tamariki, single and conversational in te reo.

### **Own business**

13. **Hēni** is 33 years, from Te Whānau-ā-Apanui, Ngāti Porou, and Ngai Tahu. She is a Director of Entertainment Development. She has two tamariki, defacto and a learner of te reo.
14. **Hūhana** is 33 years, from Rangitane o Wairarapa and Ngapuhi. She is a Director in Advertising with two tamariki, married and conversational with te reo.
15. **Huria** is 33 years, from Ngāti Kahungunu and Ngapuhi. She is an IT consultant and technician. She also lectures in computer science. She has one tamaiti, single and a beginner of te reo.
16. **Mereana** is 43 years, from Te Aupouri, Whakatōhea, and Ngai Tai. Director and designer of Māori software solutions for te reo. She has three tamariki and one mokopuna, married and a learner of te reo.

17. **Rawinia** is 34 years, from Tainui and Ngāti Mahuta. She is a Client Manager for e-learning and educational systems, with no tamariki and has a partner. She is a beginner of te reo.
18. **Tia** is 44 years, from Te Rarawa and Te Aupouri. She is a Director of Website Design. She has two tamariki, single and conversational in te reo.

### **Rūnanga**

19. **Ana** is 38 years, from Ngāti Kahu and Ngāti Porou. She is an ICT and Financial Officer with three tamariki, married and a learner of te reo.

### **Rumaki Reo**

20. **Tui** is 28 years, from Ngapuhi and is a Web Designer. She has one tamaiti, single and fluent in te reo.

### **Wānanga**

21. **Aparangi** is 42 years, from Te Whānau-ā-Apanui and Whakatōhea. She is an online lecturer with three tamariki, married and conversational with te reo.
22. **Awatia** is 57 years, from Ngāti Hokopu, Ngāti Awa and Ngāti Maru. She is a lecturer in Distance Education and Applications Software. She has four tamariki and five mokopuna, married and a beginner of te reo.
23. **Mahurangi** is 49 years, from Ngāti Kahungunu and Tuhoe iwi. She is an assistant lecturer in business administration and IT. She has two tamariki and two mokopuna, single and a learner of te reo.
24. **Peep** is 53 years, from Ngāti Awa and Te Whānau-ā-Apanui. She is a Senior Projects Manager of education, e-learning and policy. She has four tamariki, married and conversational in te reo.

The next sections describe the herstories on how the women grew up, their schooling, their first expose to computers and working in IT. The herstories of working in IT are related to colonising experiences of oppression against ethnicity,

race and gender. The women had experiences of decolonising and indigenising strategies to resist oppression by asserting their rights to participate in IT.

### **Growing up**

In growing up, the women lived in the city or the country, spent plenty of time with extended whānau and were forced to learn English. However, they were brought up with inspirational Māori women role models.

### **Country or city living**

Six women describe living in the country. Rawinia talks of “12 acres of lifestyle blocks”, where her father built a glasshouse and raised sheep, cattle and other farm animals. Aparangi remembers a “rural Māori area”, but Peep is able to describe what it means to her to be living with the wider hapū [sub-tribe]:

*Family life was centred around the village of (place)<sup>48</sup>...within the wider hapū...Everything was centred around the marae [meeting grounds]...As a child and because our house was right next to the marae I would wake up and go to sleep listening to the sound of the karanga [women’s calling]...(Peep).*

On the other hand, eighteen women grew up in the city as many Māori whānau did looking for employment and opportunities. Awatia called the city whānau, “the townies”. However, for Amīria living in the city “had a rural feel” because she lived in a small suburb outside of Auckland and everyone knew each other in her community. Katarina had the same memories living in the city:

*...but we had a lot of friends in the neighbourhood, so we were influenced a lot by them. In the 1960’s and 70’s if you were in the community all the mothers and the kids were supportive of each other. If Mum were at work, we would go*

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<sup>48</sup> Some names of places and people have been omitted from quotes to protect the identity of the women.



*home after school and the neighbour would look after us. When the neighbour was at work, Mum would have 11 kids after school. It was a close-knit society, but you don't get that these days.*

Although some women felt disconnected with whānau growing up on their ancestral lands, two women describe going home connecting with relatives and experiencing “fond memories” (Tia). Huria had fond memories with her cousins in her homeland, but found the move to the city different:

*...we came to live in Auckland, but then it wasn't so cool because we had no family, no cousins as I remember spending every weekend with my cousins...the whole city was so different.*

### **Extended whānau**

Eighteen women saw their whānau life as normal or “*primo*” (Hana), whereas six women talked about difficulty through violence, sickness, alcohol and dysfunction. Although, there was difficulty, fifteen women talked about the importance of the extended whānau as “*enjoying whanaungatanga...as opposed to just the immediate family*” (Peep), being close to “*cousins*” (Kahu, Huria), and being brought up by grandparents (Aorangi, Hera, Maia, Hana) while going “*in and out of each other's houses*” (Awatia). Being a part of the extended whānau, it was “*typical*” (Awatia) for the older children to take care of the younger children – the “*pōtiki*” (Huhana) of the whānau. Mata explains how the holidays were always with the extended whānau:

*Most of the holidays would be camping in (place) with the extended family again – it would always be with the extended family. I really can't remember if we went away with just our family, Mum, Dad and the four girls.*

### **Speaking the white man's tongue**

Overwhelmingly, twenty-three women stated that parents or grandparents made the decision to stop te reo being spoken in the home and the whānau: “*needed to learn Pākehā*” (Awatia, Mahurangi, Aorangi, Rawinia, Hēni) to have better lives. In some

whānau, the grandparents or parents may have been the last of the “*native speakers*” (Peep, Hēni, Hana) or the “*last Mohican*” (Mahurangi). As the practice of assimilation into the Pākehā culture continued: “*the perception of being Māori was very negative*” (Tia).

Twenty-one women described how whānau members had been “*strapped at school*” or “*not allowed to speak Māori*”, and how this aided in their decision to replace te reo for Pākehā, here Aorangi and Ataria explain:

*My grandparents didn’t believe in carrying on Te Reo. They didn’t think it was necessary to have – that you couldn’t get far knowing your language and we should be fully immersed in English. They grew up getting beaten for speaking Te Reo at school (Aorangi).*

*I have heard that my Grandmother was rapped across the knuckles in her schooling...my father told me that she was told off for using Māori in school. There was no te reo or Māori culture in the home while I was growing up (Ataria).*

Kahu said her Hungarian father did not encourage Māori culture, as he was “*slightly racist*”. Living in mixed-raced marriages, some women describe difficulty with their identities. The racial labelling of whānau changed from being “*full-blooded Māori*” to “*half-caste*” (Mahurangi) or Pākehā Māori (Ana) – half Māori and half Pākehā, where some whānau members may have more Māori features and other members may have more Pākehā features.

Hēni and Mahurangi had difficulty as they grew up accepting their parents’ decision to stop te reo in the home, however with the awareness of what their parents went through they began to understand and make changes for their own tamariki. Here Mahurangi explains:

*My Mother thought we needed to learn and speak English because it would be better for us in our lives. There was a time in my life when I thought, “How could my Mum do that? Why didn’t she teach us how to speak Māori?” In some ways, I was blaming her, but I did get over that. I had to see it from her side and to see what was right at the time. I also wanted to make sure that my children had the opportunity to learn*

*the language as young adults before it was too late. Of course, many of us are in the same situation in our lives where we know now we must hold onto our language and everything else to do with our culture.*

Due to the language revitalisation of the 1980's, twelve women are beginners of te reo, five are learners, five can have a conversation in te reo, and one is fluent in te reo. There was only one woman who was not learning te reo.

Although the Pākehā language was spoken predominantly, tikanga [customs] may have been practised, for example manaakitangi [sharing], respect for the elders, being good hosts, attending tangi [funerals] or pōwhiri [welcome ceremony], learning to weave kete [flax bag] and attending events on the marae [meeting grounds].

### **Women role models**

When growing up twelve women talk of their grandmothers, mothers, sisters or women friends as role models and women of “*strength*” (*Ria*). Three thought men to be role models whereas nine women did not have any role models.

Tia's grandmother was considered “*to be a lady with great mana [power] and people looked up to her*”. Ria talks about her Mum that whangai [fostered] her into their whānau as “*making things better for her kids*” and being strong with a heart of gold, however, she was also known as “*the ‘sheriff’ because when she is around everyone jumps*”. Katarina describes how her mother's strength stopped violence in the family. Whereas, Amīria talks about both her grandmother and mother in her life being strong role models:

*Nanna is a strong activist and her best friend was Whina Cooper...My grandmother was one of the founding members of the Māori Women's Welfare League. So from her we had a lot of exposure to Māori culture... Our family is a very strong sporting family. My mother was probably the first Triple International in New Zealand sports.*

From being around role models such as grandmothers, mothers, sisters or friends, it was in schools the women experienced culture shock to assimilate into Pākehā culture.

### **Schooling to learn the white man's knowledge**

Although, whānau members made the decision to replace te reo with English, the government policies since the beginning of the nineteenth century to assimilate Māori into the Pākehā culture was determined by schooling. All twenty-four women describe being in mainstream Pākehā schooling in primary, intermediate and high school, where few Māori children attended. For Peep, being in a school with no Māori content where only two Māori children attended was a “*cultural shock*” for her. Ana found the politics of difference with her Pākehā peers in class different from her Māori friends who called her “*Pākehā*” because she was a high achiever. Being a Māori girl in school for Ria was about being teased:

*As a Māori girl in school I can remember the nicknames and the ‘Marmite’ jokes...we were just teased a lot being Māori.*

There may have been kapa haka [dance] from Taha Māori programmes in the 1970's, but there was no value in Māori language and culture, as Tia describes here:

*...schooling was very Pākehā and I cannot recall anything to do with Māori unless it was very tokenistic. In school life, being Māori was a non-event and at that time Māori was being taught as a fledgling subject, it wasn't being treated seriously at all around school.*

Hana was the youngest of the women, at school Pākehā culture changed te reo from its ancestral origins:

*...there is modern Māori to learn but this modern language is closer to Pākehā language than what our ancestors did. I love our language, but I would want to speak how our ancestors did. The modern Māori is a barrier for me and that's what I believe about the Māori life.*

In mainstream schools, the women had experiences of being put in poly classes, being top achievers and as girls learning technology through secretarial studies.

When computers became normal in schools, the women were either interested or not interested in computers. These experiences are discussed next.

### **Poly classes**

During school especially at high school in the 1970's and 80's, two women talk about special classes for Māori and Pacific Island students. Hēni called this class a “*Poly class*” for mixed Māori and Islanders who were known as the “*naughty*” class. Huria talked about special classes for Māori girls to enter science, but was unhappy after being taken out of a class she enjoyed:

*I remember getting isolated as a Māori girl and there was a separate unit for us at about fourth form. They [the school] were trying to get Māori girls into science...there was no need for me to be there, I was mighty fine without it...they took me out of a class I was happy in and put me into another class, so I ended up failing.*

### **Top achievers**

Despite learning Pākehā education, nineteen women describe being top achievers academically in school or later on in university, determined to make a better life through education. However, most times the achievements were not attributed to being Māori, as Makere describes, “*no Māori being in her class only Pākehā*”, and her best friends were “*Pākehā*”. Ana knew being in the “*A stream*” she was the top achiever and the C stream was the educationally challenged where most of the Māori students were. She felt being Māori in the A stream she had to “*work doubly harder*” not to be recognised as the Māori girl, but on the same level as the rest of the class who did not need to recognise their race or gender. When Ana won the first “*Top Māori Student in Fourth Form award*”, she became unsettled because she was recognised as being Māori and not the same as the other students in her class.

The qualifications gained through high school were: four women with fifth form, four women with sixth form, and two women had seventh form. Fourteen women did not

have school qualifications, but later on in tertiary education gained qualifications for non-IT and IT courses (refer to Table 2).

Table 2. Qualifications

Non-IT Qualifications	IT Qualifications
Certificate in Adventure Based Social Work Certificate in Hotel Reception Certificate in Sport and Fitness	Certificate in Business Computing Certificate in Multimedia Advanced Certificate in Business Computing
Diploma in Māori Studies Diploma in Primary Teaching Diploma in Teaching	Diploma in Business Studies endorsed in Information Systems Diploma in Information Systems Diploma in Media and Design Diploma in Multimedia National Diploma in Computing
Bachelor of Arts Bachelor of Arts in Psychology Bachelor of Arts in Psychology/Sociology Bachelor of Education Bachelor of Social Science Bachelor of Teaching and Learning Bachelor Science (Hons) in Biochemistry & Molecular Biology	Bachelor of Business – Information Systems and Technology Bachelor of Computing Systems Bachelor of Technology (Computer Systems Engineering) – Massey Bachelor of Science in Computer Science
Postgraduate Diploma in Business (Māori Dev) Postgraduate Diploma in Education Postgraduate Diploma in Leadership (Māori Dev) Postgraduate Diploma in Science, Psychology	Postgraduate Diploma in Computer Science, IT and Māori Postgraduate Diploma in E-Education
First Class Honours, Psychology	Masters in Computing Masters in Design and Technology Masters in Science in Computer Science
Master of Education (Hons)	
PhD Psychology	

### Secretary studies

Being a girl, school subject choices were limited to cooking and sewing to be good wives for their husbands. Later on, girls were given the option to be good secretaries, as Ria describes:

*I grew up in an era where girls went into secretarial studies and the academic side wasn't encouraged. It was decided [by educational institutes] that because I was female and Māori I*

*would make a good secretary – yeah right. That was in the days of manual typewriters, so you only learnt how to type, do shorthand, cooking, sewing, and how to be a good secretary or wife.*

Eight women talk about the “big push” (Mata) in the 1970’s for women to be typists or secretaries, where ‘Pitman’ tuition and exams were highly encouraged. These women explained that the new technology of manual and electric typewriters was exciting to learn and to become “proficient” (Peep) users. Awatia couldn’t wait to open up the “microwave” sized box to start playing with the “first memory typewriter of 250 characters”. Peep talks about how the secretarial studies of technology from typewriters to word processors, such as “Super Writer” (Mahurangi) and “Word Perfect” of the 1980’s were a “natural progression with the technology”. Most of these women attribute their secretarial beginnings to the IT profession they now hold. However, for Ria she wanted to learn more than subjects determined for girls, she “disliked being targeted as only learning secretarial or home keeper subjects in school”.

### **Not interested in computers**

For seven women who were at school when computers were being used, they had no interest in them. In the class, the computer was only good to “play cards” (Rawinia, Hana and Hūhana) or “so old” (Mata, Aorangi, Hūhana, Ataria) that they were not worth the time or effort. During school, Mākere did not think that computers were that important especially to learn to get a job in IT:

*There was a computing paper, but we just played with some programming and we didn’t even have the Internet. There was nothing back then that made me think, “IT or computing that’s what I am going to do”.*

Yet, Peep asserts that Māori children were excluded from using the computers as they were for “the geeks” (Mata):

*At the time, computing was something that Māori kids just looked through the window – they just weren’t allowed in*

*there. It was never catered for Māori and it was just for the 'elite' the 'middle-class Pākehā males'.*

### **Interested in computers**

On the other hand, six women talk about being interested in computers. Before computers, there was an interest in calculators first for Atawhai and Ana. Atawhai enjoyed using her *"Alfa-numeric"* calculator that did some computation as well. Ana tested her memory capabilities with her *"Master Blaster"* calculator by playing a 10 number memory game to be repeated in a second. For both of them it was a natural progression to computers after calculators. All six women talked about mathematics being the subject that you had to be proficient at alongside logic, solving puzzles, and programming. Hera, Maia and Atawhai all talked about learning the programming language *"BASIC"* on computers in school. Hera entered her program in a mathematics competition. The program calculated the area of an object and displayed the calculation on the screen – she didn't win anything, but had so much fun. Maia at nine years old at a friend's house with her Commodore 64 computer wrote a couple of lines of code to leave messages on the computer screen for her friend's brother, such as *"John sucks"* (Maia). The teachers in intermediate and high school noticed Maia's programming talent. Atawhai enjoyed BASIC programming on a Commodore computer because the teacher took an interest in her learning and he was *"brilliant at teaching"*. On the contrary, to the women not interested in computers, these three women expressed that the schools were well equipped with the *"newest of everything"* (Atawhai) to provide students with the necessary computer technology to learn and practise programming and computing. Although interest in computers helped to give first exposure to IT there were other ways women started to use computers. These experiences are discussed next.

### **First exposure to computers**

There are five different ways the women had their first exposure to computers, adult education centres, New Zealand Post Office, high school, whānau and a friend.



Nine women explained that computers were not available when they grew up during the 1960's learning secretarial studies, so they learnt to use computers in adult education centres. Five of the nine women went to the Waiariki Community College in Rotorua to do business administration and word processing, or other courses such as Māori studies or social work using computers to do assignments. One of these women said it was not until she brought a *"computer for home" (Aparangi)*, did she realise what it could do. Four of the nine women went to a polytechnic, university or a private centre in Auckland to learn computer basics. Amiria was given an aptitude test at the polytechnic and did really well, so she was accepted to do the Certificate in Computer Studies.

Also, during the 1960's New Zealand Post Office employed women for banking, tolls or telegraph operators and this is where five women were first exposed to computers. Tia worked at the Post Office in the banking part where she loved the *"dinky little machines at the counter"*. She liked the *"challenge of getting to know the machine better than anyone else there. Therefore, if anyone had any problems (she) could go and sort it out"*. Mata was a telegraph operator with the *"big earphones"*. She stayed with the New Zealand Post Office when it became Telecom and then became a tolls operator with the *"digital flashing dashboard"*. Katarina also worked in the telegraph section with *"teleprinters"* where she would type up the press releases for reporters and send the reports out to routers all over the world. Then the reporters started to move away from telegraph to fax machines. Katarina remembers, *"the first fax machine in Auckland, which was the size of a washing machine – it was huge"*. Ria worked at Telecom for 10 years before she was made redundant. She was involved in the *"computerisation of Telecom's directory services and the conversion of data from phone book pages to listings of a more computerised search function for day-to-day use instead of using large ring binders and memory"*. Ana had the same experiences as Ria in Telecom with directory filing lists on computers, forms online and low-level data entry. Ana was impressed because as a *"systematic person...this system makes everything nice and clean...making her job more efficient"*.

Nearly all fourteen of the women in the 1960's described how they "*fell-into-IT*" as a progression from secretarial work of typewriters, word processors, New Zealand Post Office and for some women the business they now manage themselves.

By the 1970's, computers were being introduced in to high schools and eight women describe exposure through school (herstories explained above in schooling).

Yet, Maia describes being with her friend when she had her first exposure to computers at nine years of age. On the other hand, Ana and Tui talk about their brothers being the first people to get them to "*take a computer apart and put it back together*". Ana got a "*screw driver and put most of it back together with a couple of parts left over*"; this thrilled Ana and her curiosity continued to become interested in computers. Tui thought her brother becoming a systems analyst was "*Yuck!*", but later realised she could be as good as him. Ana and Tui were the only ones that described first exposure to computers through a whānau member, which shows that IT and its knowledge base is not handed down through the generations.

The next section discusses how Māori women worked in the white man's IT world. The experiences of colonising IT provided oppressions against ethnicity, race and gender cultures. The concept of geek neo-colonial masculinist is introduced to describe the colonising of IT. On the other hand, the women asserted their rights to participate in IT by resisting oppression with strategies to decolonise and indigenise IT.

### **Working in the white man's IT world**

When working in the white man's IT world these women are faced with many forms of oppression. The main overall oppression or compounding power relations that impact Māori women is called 'geek neo-colonial masculinist'. Normally society calls an IT professional a computer geek, but the reality for Māori women goes beyond the geek image that not even the white women experience. On the level of masculinity Māori women and white women have similar experiences, but in relation to

colonisation, white women are silent. When faced with geek neo-colonial masculinist Māori women are isolated being the only lonely where these oppressions colonise IT.

Beyond oppression, domination and loneliness Māori women are slowly looking for strategies to decolonise IT. These women accept the colonisation of IT to take what is useful and continuously learn the white man's IT knowledge, alongside this demystifying the elitism of IT to be 'only a tool'. However, some women believe it is better to stay away from the geek neo-colonial masculinist by having their own businesses or working in Māori organisations with and for Māori; these are just some strategies Māori women decolonise IT.

The cultural identity of being Indigenous Māori women in IT does not exist and is left at the door when entering the IT workplace. In small and persistent ways the women use the strategy of reclaiming tino rangatiratanga. Firstly, these women assert tino rangatiratanga for Indigenous peoples and language revitalisation in software development. Secondly, these women assert tino rangatiratanga for whānau [family], whakapapa [genealogy], te reo [language], wairua [spirituality], whenua [land], and tutu [play] concepts in the IT workplace. Finally, these women assert tino rangatiratanga for being women, using nurturing and caring concepts to produce better information and communication technology. These are strategies to indigenise IT and produce Indigenous Māori women's cultural construction of IT. Indigenous Māori women assert their rights through their herstories to participate as Indigenous, as Māori and as women ensuring to decolonise and indigenise IT.

The past has shown that colonising, decolonising and indigenising contexts for Indigenous Māori women herstories perpetuate from growing up and attended school and then lead into the IT workplace as Table 3 overleaf illustrates.

Table 3. Herstories and Contexts

	<b><i>Colonising</i></b>	<b><i>Decolonising</i></b>	<b><i>Indigenising</i></b>
<b><i>Growing Up</i></b>	<i>Forced into the city and to live as Pākehā, speaking English</i>	<i>Determined to learn Māori, have women role models and connect to iwi and hapū</i>	<i>Continue extended whānau connections, being women and speaking Māori</i>
<b><i>Schooling</i></b>	<i>Forced to learn the white man's knowledge as valid. Learn that Māori knowledge is invalid. Learn that Māori girls are wives, cooks or secretaries and not IT professionals</i>	<i>Wanting to learn Māori and be top achievers despite being a Māori girl. Poly classes are introduced. Interested in computers, but not encouraged</i>	<i>Determined that a Māori girl can learn computers</i>
<b><i>Working</i></b>	<i>Forced to assimilate in geek neo-colonial masculinist culture. Own culture is constructed as the 'Other' and the only lonely, only Indigenous Māori woman</i>	<i>Will continuously learn what is needed to stay in IT, demystify IT as a tool, work in their own business and work in Māori organisations</i>	<i>Assert the right to be in IT, extend on tino rangatiratanga, living as Indigenous peoples, living as Māori (for whānau, whakapapa, te reo, wairua, whenua and tutu), and as women.</i>

In order to understand the strategies of decolonising and indigenising IT within the workplace, the herstories of colonising IT are discussed first. The colonising of IT is related to geek neo-colonial masculinist culture as the dominant ideology and hegemony. Moving to an individual ethnic and race oppressions globally for Indigenous peoples and then locally as Māori. The oppression does not stop there, but highlights masculinity of the Boys Club. To increase the colonisation of IT there are experiences of white women in IT devaluing Māori women's participation in IT. All this points to Māori women being the only lonely. These concepts are discussed next.

### Colonising IT

The IT workplace is a site of struggle continuing the same patterns of cultural assimilation into the dominant cultures for Māori women, as told through whānau and school herstories. All twenty-four women describe colonial oppression as a site of struggle in some form or another while working in IT. Māori women working in IT are a "minority-within-a-minority, where females are a minority and so is being

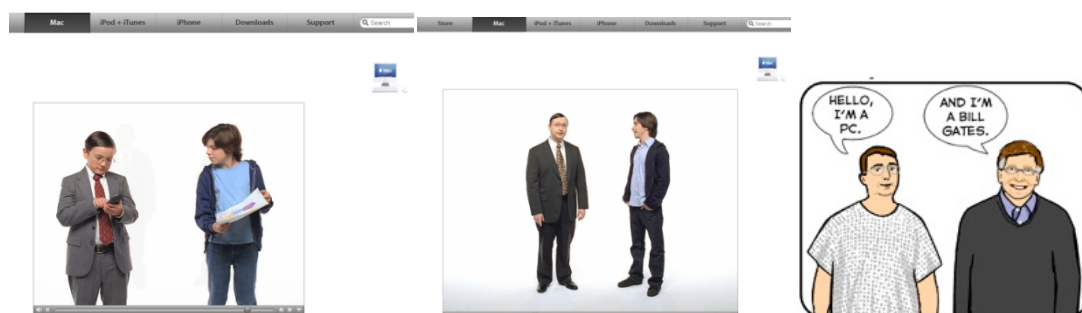
*Māori*” (*Ria*), alongside the minority of being Indigenous cultural survival is noticeably a complex issue.

### ***Geek neo-colonial masculinist***

The experiences in the workplace through unequal power relations means working where “IT professionals are always male and nerdy types” (*Tia*). Māori women have a “real challenge dealing with decades of IT perception that are completely different” (*Tia*) from whom we are. The unspoken normal, universal, mainstream and dominant culture in IT is oppressive through the power relations it produces. The power of “the elite, middle class Pākehā males” (*Peep*), the “Pākehā computer geeks, who are generally males...that are old, middle aged or young white guys” (*Tui*), that normalise and produce “white male dominance” (*Maia*). The image of the geek for Mata is the “Joe 90’s”:

*The Joe 90’s was a TV programme about a white boy...with glasses and the greasy combed back hair and geeky look.*

The Joe 90’s images used in MAC advertising<sup>49</sup> from 2006-2008 depict what is a MAC and what a PC computer is (images below). MAC and PC computers are promoted as white boys, growing up to white men, in relation to the powerful Bill Gates.



<sup>49</sup> The ‘Get a Mac’ advertisement <http://www.apple.com/getamac/ads/> conceptualises that a PC computer is the white man and boy with glasses. The MAC is the more contemporary white man and boy without glasses.

Advertising and promotions (see images below) show the IT professionals, as a computer geek or the Joe 90's image that Mata describes.



These images are everywhere in books, on TV, the Internet, the teachers in schools, lecturers in universities and upper management in the workplace. The unspoken normal, universal, mainstream and dominant culture in IT is more than just a geek, but a white man's IT world that has a *"whole set of rules that are going on"* (Mereana). The powerful geeks, *"legitimise themselves"* (Tia), *"walk in and they think they know everything"* (Huria) and *"all come from the same point of view when they look at a problem"* (Maia), so *"that is how they get to where they are and that is how they stay there too"* (Atawhai).

The women perceive the geek as arrogant, where the relationship often turns into a *"them and us situation"* (Tui). Ataria says, they try *"to mark out their territory and there is a lot of competition where they try to see who is brainier than who..."* or where *"someone's software is always better than someone else's software"* (Awatia), so you have to *"deal with big egos"* (Ataria), with *"an air of superiority"* (Peep). Hera finds the older fatherly approach condescending when the *"old boys with their beards, hand on chin, you know that look, and they start to stroke their chin saying, "hmmmm..."* while looking down at you.

Mahurangi and Katarina deal with geeks who *"don't like to part with any knowledge"* (Mahurangi), as they *"would hold that knowledge because they think that knowledge equals power and they won't empower you with any knowledge"* (Katarina), so it is a situation without *"manaakitanga [reciprocity]"* (Mahurangi) very different from the Māori world. Katarina thinks it is a strange attitude. This is when the women would lean on their *"Māori side...for the warmth and support"* (Tia) they need.

As IT continuously progresses with new technology every day, Peep experiences geeks who try to act *“like God with their gadgets...hooked on the language buzz”*. Aorangi asserts the geek tries to use knowledge and language to make them look powerful, she says, *“those guys just use all their flashy terms to look brainy instead of using terms for us to understand – why don’t they speak properly?”*. Tui says this is when the guys *“up speak”* themselves. Amīria says they speak in their own language to give them their own exclusivity, have control over their domain and keep out those who need to be kept out; therefore *“they will always talk in geek terms”* (Amīria). Aorangi believes there is too much *“pressure to learn all those white man’s terms”*.

The underpinning value of the geek neo-colonial is money in the corporate world. Mereana and Rawinia talk of neo-colonial oppression attached to the geek image and money. Mereana describes a business research school, which is largely about ICT businesses where *“young Pākehā men dominate it”* and what is *“at the heart of their work (for most it seems) is money; it is the prime motivator and driver.”* Mereana had to continuously demonstrate how her ideas were *“going to sell and how much money she would make”*, to them *“the sales is [the] only point of validity”*. Mereana does not mind doing business and making money, but she didn’t mind *“giving stuff away”* too.

For Rawinia she describes how companies that try to make money and be successful in business are *“not a great place for Māori women to be nurtured”*. As a result of neo-colonial oppression, both women got out of mainstream IT and started their own businesses. *Businesses don’t care and don’t see it as their problem to nurture Māori women”*, she continues:

*That’s what the IT world is about and it is not about understanding cultures or acknowledging cultures, it’s about making money and doing the business. So for Māori women who want to be creative or explore their culture, to find out who they are, and what they stand for, will find they can’t do that in the IT corporate business world.*

The women do want to earn a good income from IT. Ten women work in IT for the high income to survive; whereas seven women describe they are not working in IT for

the money. The income levels for the women are eight earning over \$60k a year, nine earning between \$45k and \$60k, three earn between \$40k and \$45k, two between \$25k and \$40k, and two have an income less than or up to \$25k. Huria noticed a business degree had an annual income that started at \$20k and went up to around \$40k, but the IT degree started at \$40k and went beyond \$300k, so she *"picked IT for that reason"*. Makere is motivated to buy her own home with her own room, as she has had to share with her sisters. Her goal is to make *"\$100k in six more years"*. What motivates Mata is to earn enough for her and her baby as she is on her own, she says, *"IT would be good money to earn and take care of us both"*. Kahu is the same as Mata, her son is happy and she is not in debt. For Amīria, Rawinia and Ataria each time they have progressed in IT their salaries have increased.

In the end some women are in IT for the money to earn a good living, but for cultural survival *"IT is a difficult profession to further yourself because it is a white man's area"* (Aorangi). It is *"oppressive and I just couldn't be myself, play my music, or think and create"* (Mereana), because most times, *"with a change of tone in their voice that lets you know you are not included"* (Atawhai); *"you have to understand and think about the way in which they communicate to be able to make headway"* (Amīria).

### ***Global and local colonisation***

To continue at a global level, the geek neo-colonial goes further to oppress Māori women for being Indigenous<sup>50</sup>. Mereana describes how IT is another form of imperialism and colonisation for Indigenous peoples and language:

*...white men sitting in Silicon Valley with their ones and zeros, not even remotely interested on the impact of their programmes on a native language in the back end of nowhere...we are not a big market to them...We just keep going on in this digital world and we tend not to think about how the imperialistic nature of that world...I see imperialism*

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<sup>50</sup> Although there were only two women who talked about oppression of Indigenous peoples, more women talk of oppression for being Māori, which is discussed in the next section.



*in relation to Indigenous peoples—it's like another layer of colonisation.*

Mereana articulates colonisation as “two hundred years, through processes of foreign domination and assimilation”. Mereana questions the many losses that Indigenous peoples suffer:

*At the heart of it is the ‘loss of being’ Indigenous peoples; we have lost our land, millions of people, lost our sense of identity, lost our art and so many things – why do we have to keep losing things.*

She asserts that, “we have to turn this loss around where we find ways with technology to work for our benefit”. Tia has a “definite heart link” to other Indigenous peoples in IT. She says, there is the “obvious alignment” with Indigenous peoples and IT who share the process of healing from colonisation; however, she is not convinced forcing an alignment is going to take Māori women in IT forward. Tia asserts that Māori women in IT have to look to ourselves and from there the right alignments will come.

To continue, at a local level the geek neo-colonial goes further to oppress Māori women for being Māori. Fourteen women describe being Māori as a barrier while working in IT. Ria was doing a Strategic Change Management plan and was to implement a Māori dimension into the computer teaching of the educational institute she works in. She had arguments with staff because “computing is not a Māori topic”. Ria had to convince staff a Māori dimension is not topic-based, but it is about ethics as Māoridom is a part of Aotearoa New Zealand. Ria explains the staff’s resistance to things Māori:

*It’s the arrogance of some staff where they don’t know about Māori, the Treaty of Waitangi and care more about foreign students and staff more than the people of this land. They cannot comprehend embracing Te Ao Māori [the Māori world]. To me it is such an easy matter, but for them they cannot see past the resistance they built up.*

Ria believes that computing should embrace all cultures and that staff needs to “acknowledge the Treaty and the partnership they agreed too—walk the talk”.

However, Ria continues that, in the end, *“nothing gets done and nothing is contributed”* to Māori from IT.

Katarina’s workplace has to acknowledge the Treaty of Waitangi being a government organisation, however Katarina’s painful experiences were about attending her father’s tangi [funeral]:

*...he passed away and I went up North, the situation was very difficult because they couldn’t understand why I needed to have three to four days off; I really needed more than that and culturally they didn’t understand what was going on. To this day I still can’t understand it and that was a painful experience for me and I must admit that brought a few home truths to me because I am Māori.*

Peep talks of being the only Māori in a meeting and being brought to the table of technical projects simply because she is Māori. Peep says, *“all they want is a brown face to tick off to get the money for research projects”*, so Peep feels used. Furthermore, for Peep to remain in the project she is told to write a ten-hour program on what is a Māori:

*Who gives them the right to ask me to justify being Māori – I am not prepared to justify being Māori, I don’t have too. They think because they pay me, they have a right to interrogate my integrity of my Māoriness. I don’t buy into that anymore and I don’t have to – it’s too tiresome. That’s why I work at a Māori organisation because I don’t have to justify being Māori – this is the way we do it and the way it is done.*

Atawhai had a similar experience to Peep in being used as the token Māori in the organisation:

*So the barrier is once you are labelled as the Māori person you are expected to do waiata [singing] practice, be the protocol expert, Māori language practice for greetings and everything becomes light hearted and not academic...it is easy to lose the whole IT component and become the Māori planner, token Māori or dial a pōwhiri [welcome].*

Atawhai believes her organisation has no idea on how to consult with local Māori and that is why she became the Māori planner. However, she had to work doubly hard to include this new duty to her already busy IT job, but there was also no change to her salary to become the new Māori planner, the job was not recognised as being important:

*...not happy to do that because my salary should reflect that role. Therefore, the organisation can use me in that way and the role will not be given the respect it requires because it is the European world where respect is money.*

Tia elaborates on how Māori women are unable technically to include their Māori culture in design and development of IT:

*Those Māori women who are in the technical side could be quite passionate about their Māori side, but those hard skills don't give much leverage and application towards that passion. For the technical side you have this great tool, but they don't necessarily have something to apply it to that is distinctly Māori, not yet anyway.*

Tia comments that it is useful for Māori to know “the essence of IT is binary and critiquing back to binary we may have to do”, but she continues that if Māori want binary to describe the spirituality of Māori it will be a struggle. Tia explains that Māori need to know the limitation of IT:

*Many Māori don't know that underneath all the flash bells and whistles is a simple on and off switch which is the logic of IT and this highlights the limitations of IT...If you want to change that tool at the zero and ones level it would be better to create another tool.*

The next section provides the women's herstories on sexist oppression for being women.

### ***Masculinist***

The geek neo-colonial masculinist goes further to oppress Māori women for being women. Seventeen women say, “males dominate the field and IT has systems that don't encourage Māori women into the field” (Tia). Heni noticed IT being the same as

other industries where it is *“90% male-dominated and 10% females”*. Kahu noticed when she *“progressed further up the chain...women kept dropping off”* and in the *“tech support there seems to be no one else”*. Amīria experiences male domination in the *“technical and executive teams”*. Hera and Atawhai call this the *Boys Club*:

*It is very much old school with the Old Boys Network (Hera).*

*Being in an Old Boys Club they have a history – it may appear that you are in there, but when push comes to shove, you know you’re not (Atawhai).*

Mereana is against the Old Boys Club and has *“issues around patriarchy”*. The women describe the sexist ways they are excluded by the Old Boys Club. On applying for a job at Telecom, two men were on an interview panel where Tia was treated badly. Tia says, the two men insisted they would be *“wasting their time with me, because I would get married and they didn’t want to invest their training in a woman”*. Tia had a similar situation at Polytechnic when she got *“100% in their aptitude test”* for computer science when a teacher did not want to teach her and decided that she shouldn’t be in his class. Strangely enough, Katarina had the same experience as Tia when applying for a manager’s position:

*...they sent in a person to do a psych test on me – my test came back and the manager said to me, “You should never be in IT, you shouldn’t be doing that job.” I said, “Why?”, he said, “Your psych test said you should be in sales and marketing, there is no way you should be as successful as you are”, I said, “your joking”, he was saying this to my face you know, and then he said to me, “I will give you a copy of your psych test, you shouldn’t be in IT”. I will never forget that.*

Hera had the same experience at university when she was warned of a lecturer with his background in engineering who *“doesn’t like females and they are useless at computer science”*. The lecturer believed that *“women would sit, flash their eyelashes and things would get done this way”*. The lecturer believed Hera to be no different.

In meetings, Ria asserts she has as much knowledge as the technicians, but she must deal with a large group of Indian males who insist that she *“take the minutes”*. She

comments, *"...they do not give me the respect they give to the white techo that is sitting next to me even though I am his boss"*.

Ana describes the same as Ria when walking into an office with a co-worker; the person in the office will come with their PC and automatically carry it straight to him. Ana says that both of them will have the same understanding of how to fix the problem, but it is *"him they think they need to deal with"*. Ana believes people think she is an *"oddity that she works in IT, by herself and unsupervised"*.

Huria also says that people *"freak at the sight of having a woman in IT coming into do the job – they think IT is for men only"*. Makere noticed the different attitude toward her male colleague as opposed to her and Katarina describes the same as Makere with different respect given to men:

*But for the guys as soon as they walk into the room there is instant and total respect for them, even with the cabling guys, with the engineers, but with me I have to sell myself to them...I have always found this a barrier.*

Huria is continuously *"over-watched"* in her job, as people do not trust her to do the work. Ana, Katarina, Kahu and Peep are made to feel *"dumb"* or like a *"bimbo"*, when the men continuously *"talk down"* (Ana) to them and do not *"respect our knowledge"* (Katarina). Katarina finds she has to *"work doubly harder than the guys"*. Although Katarina has been working in IT for years, she has had to *"work over-time"*.

On the development side, Hēni talks of working in an environment where she has to deal with *"sexual parts in gaming"*. Hēni comments on the issues with female characters in games that are unrealistic. She wants to change the sexism to attract the female market as games are targeted towards men and boys, where *"female characters are so unrealistic – with big every things and it is not attractive to a female to look at"*. Hēni gets annoyed with listening to jokes about *"Angelina Jolie's bum"* in the workplace. Hēni asserts that the IT workplace is not a *"female-friendly place"*.

Tui says, “...as a mother, it is about questioning, can I bring my baby?”. For the women their tamariki [children] and mokopuna [grandchildren] are extremely important to them and their whānau. Tia had the same barrier of being a mother:

*I was in a department that was oblivious to the characteristics of being a Mum...I could get through those bits about being a Māori and being a woman, but being a mother and having a little life to look after had a bigger impact...towards me having a baby and bringing baby with me was negative...zero tolerance for anything to do with whānau.*

The women in total have thirty-three tamariki and eleven mokopuna. There were nine women who did not have any tamariki.

Amīria talks about men who “think, work and act in male type attitudes”. What Amīria is describing is how men are less people-and process-oriented:

*I see that women tend to look at the process that makes the problem crop up in the first place and we want to fix that process so that the problem doesn't come back – guys will keep fixing the problem repeatedly because that's their mindset. Women would like to fix the attitudes or the people who contribute to that problem. Women also tend to convey information a lot more so the information is designed to help and educate the whole team so the same mistakes are not made again. Guys are more ends focused, when they have fixed the problem it has gone away, they have done their job.*

Although Māori women share oppression with white women on sexism, white women colonise Māori women because of ethnicity and race.

### **White women**

Although male-domination is oppressive, eight women talk about the power relations of white women while working in IT. Māori women sometimes join equal opportunity women's groups, such as “WIT (Women in Technology)” (Atawhai) or “Women in Science” (Hera). Women in IT for Tia means “Pākehā women in countries like England, America and NZ” and these women can be “high-powered women” (Hēni) or the “team manager or leaders” (Hana) in some workplaces. Although,

Atawhai wonders when WIT will have a Māori committee that will meet her needs, Tia finds aligning with women in IT is “offensive”:

*...we are talking about our colonisers...telling me to align with our colonisers to find ourselves that's very ironic and offensive...Trying to compare us with women in IT is irrelevant. We may have more affiliation with men in IT who come from Taiwan, than we have from Pākehā women in NZ. I think we have completely different worldviews. It is annoying to me to always be associated with women in IT...I think it will do us a disservice if other people are trying to align us with Pākehā women in IT and by trying to get a context for us by looking at them first...The distance between women and us in IT is quite huge culturally, spiritually and in values, we are very different and it makes comparing it irrelevant. If the only reason to compare them is because we are all wearing skirts then that is very superficial.*

Mahurangi has often worked with white women who are “just like the guys”, very “tomboyish”. Tia believes that “women in IT tend to follow the same path as their men. I don't think they critique the technology any more than their men folk do”. Pākehā women will “apply their characteristics to the tool that is distinct for them” (Tia). Tia thinks they, “talk about ‘feminist’, but don't link it well to IT”.

Atawhai is objectified to names used by a white woman co-worker:

*She calls me her Māori princess and she makes it a ‘point of reference’ when she should just call me, (name) – it is the ‘us and them’ rule. European people have no idea what we are going through, no idea.*

Awatia is the only one who talks of teaching white women as a barrier:

*When I was at another mainstream tertiary organisation the barriers were white women. Whenever I taught a class with white women in it who were about my age; it was hard for me to get anything across to them. They would turn up to my class probably thinking I was a white woman and I always found it hard in that first lesson to get through to them. They would be asking questions all the time and the question was really aimed at, ‘what do you know that makes you so special to be standing up there telling me this?’ – in a roundabout way. Their body language would show that too...but if there*

*were white women in my first class I wouldn't let assumption come into it; I would explain the whole thing face value, which can be a boring way to teach (Awatia).*

Due to white women's racism and geek neo-colonial masculinist culture colonising the IT workplace on a global and local level, these Māori women feel like the only lonely.

### ***The Only Lonely***

Overpowered by geek neo-colonial masculinist attitudes through racist and sexist oppression and power relations, the women felt like the only lonely. Peep explains the complexity of being the only Indigenous Māori woman in IT:

*...quite lonely and quite up against it – we don't enjoy the credibility that we deserve based on our skill level and knowledge, we are already disadvantaged by the perception of others.*

Twelve women commented on being the only Māori and the only women in the workplace. Ana explains that she “*was out of place because [she] was wearing a skirt and [she] was Māori...I found that a bit intimidating because I felt like the oddity*”. Here Huria describes being the *only lonely* for her:

*I reckon it would have motivated me more, knowing I was one person of two people and not one of one. I would of driven myself to work harder and not have felt the only lonely. Yes, for some the only lonely is sometimes the key to leaving. When people don't feel comfortable they go (Huria).*

Hūhana calls this barrier the ‘*one of few*’, especially as Māori women are not many “*in terms of tech support*” (Kahu, Mata, Maia). Atawhai and Ataria haven't “*met any other Māori women or even any other women as there are always men in the IT jobs*”. For Hēni, her developments in her business mean she will be “*the first woman in New Zealand to start up a company (like hers)*”. She will be the only Māori too. Peep believes it is not until “*someone wants something do they value our women and our culture*”.



The strategy for Māori women to resist oppression and assert the right to participate in IT is to start decolonising IT. These women continually learned what they could about IT, demystify IT as a tool, started their own businesses to be in control and work with whānau, and work in Māori organisations. These strategies are discussed next.

### **Decolonising IT**

Māori women in IT are challenged by unequal power relations of a geek neo-colonial masculinist nature and working as the only lonely – most times, the only Indigenous person, the only Māori and the only woman. These women remain to decolonise IT. They remain to take what is useful from the colonial world and learn the white man's knowledge through continuous learning. They play down the elitism of IT as only a tool. They create their own businesses or join Māori organisations where tikanga is taken for granted. Ultimately, these women establish their tino rangatiratanga [self-determination] through strong and persistent *“will power” (Hera)*.

### ***Continual learning***

Overwhelmingly, twenty women remain in IT to be *“committed to continual learning”* (Tui) of the geek neo-colonial masculinist knowledge that colonises IT. Hana found the knowledge overwhelming, *“learning so many different things in one day”*. Awatia says the same as she learns *“ten new things a day”*. Ana never stops learning as she *“discovers a whole new world”*. For Mahurangi, it is all about *“on-the-job-learning”* and for Makere she is *“always learning new stuff”*. Hana says it is like putting a *“big jigsaw puzzle together”*, which has taken her almost a year to pick up. Hana has the *“hunger to know everything”* and that's what keeps her going. All the women love the challenge of learning IT and gaining new skills. For Ana, she was *“curious to learn more...developing her own software”*. Atawhai, Makere and Hana believe the challenges and the continuous learning prevent them from getting *“bored”*. On the other hand, Makere says she is *“never going to know everything in IT”* and Atawhai

says the same as she *“does not exhaust the knowledge that’s there”*. Ana says that IT will never be totally mastered<sup>51</sup> being a broad environment:

*...there are always new products, new hardware and new software to develop, so we can be creators and we can never master everything because it is evolving every day.*

Although there is continuous learning of colonial knowledge, for Tia she wants Māori women to always have a *“critique strategy”*, that means Māori women are independent to have *“empowerment and mastery”*<sup>52</sup>. Here Tia explains:

*The more we learn, the stronger we get at critiquing, the technical side as well as the creative side...We need to critique it, but we might not need to discard the whole thing. ‘Critique Strategy’ is important...I am more likely to learn the skills myself and no longer depend on someone else. If I let someone else do it for me I am left just as unskilled as before.*

Tia asserts that mastery and control are closely linked together and if Māori women don’t control the technology someone else will control it for us. Tia wants to wrestle the control of IT out of the hands of others and gain mastery of technology.

Finally, the learning of IT for Tui, Hana and Ana is to teach others. Tui is motivated to learn so that she gets her *“daughter learning through the technology”*. Hana *“trains people at work and identifies what is fun for them, which motivates them to learn”*. Ana loves being in a *“learning environment”* and is *“training people to use software, so they can use what they have on their computer effectively and efficiently”*. The cycle of learning continues for Tui, Hana and Ana as they transfer their learning to others.

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<sup>51</sup> Ana quietly says, *“Masters is the only word I can think of, I know it has its male connotations”*.

<sup>52</sup> Tia says the same as Ana that, *“‘mastery’ is a very masculine word”*. She says the word the government uses in the Digital Strategy is ‘capacity’, which fits more with her word of ‘mastery’. Tia says that capacity means the degree of knowledge that you have grows to a point where your dependency on others is reduced.

### ***Only a tool***

Thirteen women describe the computer as “*really only a tool*” (Peep) to eliminate the elitism that people build up towards IT and its technology. Peep declares that “*IT is nothing*” and Mereana asserts, “*if Māori merely see IT as a tool you will be able to see a whole different view of it*”. Mereana gives an example of comparing a computer to a pen:

*To me it is only a tool just like a pen – a pen draws and writes and helps pass information from one place to another, so that we can communicate and express ourselves. Computers are fancy and expensive pens really and that’s all a computer is to me. I don’t think there is anything mysterious or fantastic at all about them.*

In her classroom, when Mahurangi talks to her students, she downplays the computer, so that students do not see them as perfect:

*To me a computer is a wonderful tool, but they aren’t everything and they aren’t better than our own brains. That’s what I tell the students – never rely on the computer for everything, we are far better than the computer. Students have a tendency to build up the computers saying, “They are so wonderful”. I say, “No they aren’t, remember it is you that is doing it”. I have to remind the students that they are the one in control – it’s just a tool, like a car, stove and microwave. In the same time, humans make them therefore they will break down – they are not perfect.*

Tia and Mereana state, “*Māori are about the application of the Pākehā tools...made by cultures and people with characteristics and values different from ours*” (Tia), so we are always “*using someone else’s tools*” (Mereana). Both Mereana and Tia alongside other women know that this is the only position available when working in IT. Eventually, the goal is to be creating our own tools. Tia wants to be clear that Māori need to make the “*distinction between the application of the tool and the creation of the tool*” because for Tia, Māori “*are not creating tools at this point in time*” for Māori informational and technological use. She continues that Māori will create the tools on a “*needs-based*” situation and currently Māori are about using the “*best tool for the job*” that is available. Tia continues, “*we need to understand the*

*technology (that's the confidence and critique side) and use it for what it is good for".* Therefore when critiquing the tools, the limitation of that tool becomes apparent; *"we will need to critique what is inherent in the tool itself when some values might clash with ours" (Tia).*

### ***Own business***

Six women have their own businesses. There is a common theme to meet the needs of whānau. The women have the flexibility to set the rules of that business and work the way they wish in the environment that suits them and their whānau. As a girl, Mereana growing up with *"entrepreneurial parents"* where the whole whānau were expected to work. It was natural for Mereana to start up her own business when she grew up. For Mereana being in business is having *"control and ownership of the whole process, making the rules and defining what happens with (her) projects"*. Mereana develops software to assist with the revitalisation of Indigenous languages and she started with te reo. The software was *"something that Māori need"*. Mereana develops software to enhance *"the relationship between language, expression and culture"*. The one disappointment for Mereana was finding out that *"no Māori programmers"* existed. Mereana has a goal of providing jobs to her own people where she knows their value systems are the same as hers. Mereana believes her business and the importance of culture helped her to fall into ICT:

*If it were a bike that was impacting on our language, I would design a new bike – it just happened that everyone is on computers, so it was about the 'fall into ICT' and I never intended to do it at all.*

Mereana also goes further to express that Māori women do not *"necessarily have to go through a traditional learning pathway of IT they don't have to go to University and learn IT and how to do programming if they don't want to"*. She explains that if they see IT *"as a tool you will be able to see a whole different view of it"*. Mereana encourages Māori women to *"pay other experts to do what we want to create"*.

Hūhana's main motivation for her business was to help whānau to get better jobs, as she was trying to find her brother a job. She was looking for jobs in the mainstream papers and recruitment agencies that *"wouldn't show jobs that needed Māori skills, but only mainstream vacancies"*, therefore Hūhana wanted to solve this problem through IT. Hūhana asserts, *"Māori have specialised skills such as te reo, Māori tikanga, karanga, and so on – not everyone has these skills – these are extra skills on top of our daily jobs, so why aren't we getting paid for it?"*. Through Hūhana's technology, *"it is a 'one-stop-shop' for whānau, Māori and iwi to get better jobs – to let them know there are Māori jobs available"*.

Rawinia wanted to get out of mainstream education and develop digital educational resources for Māori education. She wanted to work with her whānau, so her brother and sister are in business with her. Rawinia is motivated to *"employ other Māori women"* and her company is about *"maintaining cultural identity"*.

Hēni is in the business of entertainment when her niece was playing the PlayStation game 'Tomb Raider' and her niece said, *"...wouldn't it be cool if she was Māori with Māori weapons"*. Hēni agreed with her niece and has been trying to develop a Māori female role model through films and gaming, but has started with smaller game development.

For Huria, she has had to make a choice between her business and more time with her son. Huria has an IT consultancy business while lecturing computer science and completing her Masters. Huria decided to decrease her consultancy business for freedom:

*I wanted freedom to go to my son's basketball games, and to be free from my mobile phone. When I run my own business I can't be free from my mobile phone because it is the source, my credibility and my protocol. If you are going to run a business you need to be there – on call, or you become unreliable. If you become unreliable it is hard to find business and credibility.*

Tia concentrates on “four areas of (1) Strategies, (2) Project Planning, (3) Management and (4) Evaluation” for her IT contracts. She focuses on “what is saleable so that (she) creates a profit and finds the areas that make (her) money”. Tia has noticed over the years that Māori “consult differently” from mainstream:

*If you write a user requirements document before the technical specs, a Pākehā consulting firm might speak to three people. Some of the projects I have worked in have been for more support to talk to a lot more people across the board, so that idea of how we see users tends to be a far bigger group. The result of that is getting more ‘buy in’. Pākehā firms have had conflicts and resistance to a point of a project falling over because they wouldn’t consult properly. There is a whole way of doing things that Māori can contribute overall to a project and being successful.*

Recently, Tia has wanted more involvement with design and creativity through storytelling. Tia believes that “storytelling is a really powerful medium that influences people’s thinking”, therefore “the influence is to bring us **past the point of de-colonisation** and into the point of creating, innovating and looking at things in a real positive way”. The audience of the stories are Māori and have two strengths:

*...they seem to target children, but actually they target adults as well. They focus on restricted ideas about our culture and try to flip them upside down – I describe it as ‘taking tikanga to the edge’...my stories are telling our myths from a different perspective.*

Tia has done storytelling in front of IT and Maori audiences. Her discovery of using storytelling and using multi-media with music, pictures, and sound drew out a whole lot of emotions and feelings that text cannot even touch on. She is now moving into storytelling in film.

### ***Working for and with Māori***

Eight women work with Māori in Māori organisations where being Māori is normal. Rawinia has noticed that Māori women are going straight into “Māori trusts, organisations, and iwi, so some are not having to deal with corporate IT companies”.

Aparangi relates working in a Māori organisation as being at home:

*...being Māori is what the [Māori organisation] is all about and everyone here is Māori – I feel like I have come home. After working at a mainstream university, working here is like being home...this is my dream job being with my own people.*

Mahurangi says the same about getting away from mainstream and being in her own environment:

*I call it 'my environment' because I am comfortable in it and I never have to explain why I do it this way because this is how I am from my upbringing.*

Aorangi believes she takes her Māori environment for granted, as their IT team is “like a whānau”, as Māori women are in a supportive environment “where (they) don’t scratch each other’s eyes out”, where she can “be Māori” and where “tikanga” just happens. Aorangi says, “tikanga comes before the rules, policies and money because people and our culture are the most important things in the Māori world”. I know that in my team “if you cover me, I will cover you”.

However, on the other hand Ana has had experiences of sexism by Māori men. Ana has a dual role of an IT and Financial Officer where she believes management of the organisation do not value the IT role, but because she is a woman has to do both with a low salary range:

*I don’t think my work and IT is being valued, I’m not recognised and I think it has a lot to do with ignorance about the amount of time, effort and ability that a person needs to do this job so it is not rated highly enough, which shows in my low salary range. I don’t mind the salary range for one of my dual roles but not for both and I am the only one that has dual roles. Basically, that tells me that there is a undervaluing of the IT portion of my roles and because I am a woman that can do the two jobs, I do them...I think if I were a man, I wouldn’t have that problem and if I was a man I would command a much bigger pay rate, but I am dealing with the old male ways of thinking.*

Tui went to her first conference on Māori and IT where she noticed many “*Māori fella IT geeks displaying the ‘them and us’ situation*” with the three wāhine who were mainly principals of a kura [school]. Tui felt there was a hierarchy of where the Māori men had more power over Māori women in relation to technology, computers and IT projects.

On the contrary, for Mahurangi the IT guys in her organisation display manaakitanga [sharing]:

*...the IT guys are not like the IT dudes elsewhere...our IT guys because they are in a Māori environment the majority of them have that manaakitanga – they don’t seem to be power tripping at all. I couldn’t believe it because they were sharing all this information with me, they had no problems telling me and breaking it down when I couldn’t understand them – they weren’t ‘standoffish’ and it was fabulous.*

To ensure the cultural context of being Indigenous, of being Māori and of being women was not fragmented, these Māori women asserted their rights to participate in IT by standing confidently as ourselves with tino rangatiratanga.

### **Indigenising IT**

#### ***Tino rangatiratanga to be ourselves***

Kahu says “*to feel the fear and do it anyway, to go beyond and don’t be afraid to go that extra step*” – stand confidently as Indigenous Māori women in IT. Mereana asserts what tino rangatiratanga means:

*Everything that I do is about Tino Rangatiratanga, it’s about sovereignty about being able to do what we want, how we want, with whomever we want, using whatever we want, and that should be our end goal – that should be the beginning, middle and the end – the rationale should be about Tino Rangatiratanga so the process is about it, the outputs and our outcomes should be all about it – that is who we are and what we are about – it’s not about someone else’s stuff and their values – it’s about us and who we are.*



Tino rangatiratanga for being Indigenous peoples is discussed first. Tino rangatiratanga for being Māori is discussed second and tino rangatiratanga for being women is discussed finally at the end of this wāhanga.

Firstly, for tino rangatiratanga as Indigenous peoples, Mereana does more than just discuss colonisation of Indigenous peoples in her lectures at university; she creates software to help revitalise the language of Indigenous peoples starting with te reo. The software assists the written language where the cultural well-being of Indigenous peoples is situated:

*At the heart of it all is our cultural well-being and at the heart of our cultural well-being is our language – the ability to express who we are, where we are from, how we relate to the land, the sea, the rivers, the mountains, and with each other, so it is all there in those words. Not just for us but also for everybody, Indigenous, for Pacific, for Tongan, for Samoan and so on.*

With her software, Mereana helps to revitalise her Tongan language. From there she went to Hawaii to develop the same technology with the Hawaiian language and people. Then she went to the South West Pueblo tribes in New Mexico to develop the technology for Native Americans of the TIWA and TEWA tribes.

Secondly, for tino rangatiratanga as being Māori, twenty women articulate how the Māori concepts of whānau [family] and whakapapa [genealogy], te reo [language], wairua [spirituality], whenua [land], and tutu [play] are necessary for the workplace.

Sixteen women talk of whānau and whakapapa. Tia asserts that Māori women take intergenerational responsibilities very seriously; *“not only to do what is right by our tupuna [ancestors], but what is right for our kids”*. Tia continues to articulate that whānau and whakapapa is *“what drives us...we not only see our responsibilities and obligations to our past in our ancestors, but we also see our obligations to our future, not only our children, but also generations to come”*. From Tia who describes using the technology to tell the stories of our tupuna to Tui talking about her daughter

using technology to learn, sixteen women take their whānau and whakapapa seriously when working in IT; one of the hardest, but vital responsibilities to carry.

Ana and Awatia believe that IT should start at the marae [meeting grounds] where whānau and whakapapa unite. Ana holds computer sessions at her marae where whānau come and take computers apart then put them back together again, just as her brother taught her. Awatia is developing genealogy software that centres the main ancestors of the marae to the whānau. Amīria also says that Māori women should be developing genealogy software because mainstream developers cannot:

*This is an opportunity for Māori to create and design software in tracing your family tree because existing software doesn't fit the extended family mould – so someone in an extended family knows how this works in order to design this. This is not what a white European middle-class male would be able to think about because that is not his mindset. Therefore, Māori women can design for a tribal specific family and capture information and tribal traditions before it is lost for the next generations.*

However, Huria had trouble with her whakapapa software over the Internet, as whakapapa was very tapu [sacred] to her whānau, *“that whakapapa is not supposed to be publicly displayed, but kept within the whānau”* and not put at risk by being on the Internet. These are the many issues of whānau and whakapapa experiences in relation to IT that Māori women are concerned with, however, their workplaces are incapable of giving these concerns primary focus, so are usually done outside the workplace.

Seven women describe the revitalisation of te reo as necessary for the workplace. Mereana has already developed language software that is reclaiming the importance of Indigenous languages. However, outside of their workplaces, Hera and Tui are both developing Internet software for beginners of te reo who learn through te reo books and tapes of Waikato University. Here Hera describes how she started:

*I thought I better learn about my Māori heritage. I did the course and got an A+. There was a lot of drill pattern teaching...there was no computer help or support in this day*

*and age...I started bouncing around the idea of developing software...and turning it into a Masters.*

Tui has developed a website that looks at the same te reo books and tapes of Waikato University, but concentrates only on the exercises being available. Both women did not know they were working on the same te reo resources towards easier access of te reo through the Internet. Both women are in contact with each other now.

Five women talk of wairua. Atawhai believes Māori women have a “*spiritual nature that can’t be explained*”. Atawhai sees “*more in people than just their output, so there is this unspoken spirituality*”. For Atawhai, Māori women can “*see spirituality in other people and can connect with them as it is a major part of our culture*”. Hera also says, “*most Māori women are very spiritual and more in touch with who they are*”. Hera believes that spirituality can be connected to computer science, but it “*depends on the person doing the job and their spirituality*”...however, for Hera “*the connection between Māori women, spirituality and IT has not been made properly*”, yet she continues by relating Māori women’s spirituality to be “*attuned to Mother Earth*”. Mereana also connects with Papatūānuku as being her point of validation for being a Māori woman.

For Aparangi, the difference working in mainstream to working in a Māori organisation has to do with the wairua of working with whānau:

*I wouldn’t have the wairua I have connected to working here at home with our people. The wairua for me is working with our own people and especially within an online environment.*

Ana was the only one that talked of “*developing software for the whenua [land]*” because she believes it is her “*passion of promoting being Māori*”. Ana designed a database to type in the Māori land shares of an owner and the total land mass area. The system would calculate how much land an owner had for their shares. Ana’s brother helped her with the necessary formula, different block rates and understanding Ahu Whenua amalgamation in the Māori Land Court.

Thirteen women talk about the “tutu factor” (Tui) of teaching themselves to ‘play around’ with technology and eliminating the fear of using it. For Tui she just loves to tutu and finds it is the *“best way to learn how to express [her] self with computers, ae, me tutu [Yes, and play]...what does this button do, and click”*. Makere says she just *“jumps on the computer and has a tutu”*, so she can work it out herself. When Ana knew computing was what she wanted to do, she started to learn about any programs and teach herself. Hera calls tutu her *“sticky fingers syndrome”* where she puts all her fingers on the keys and pushes all the buttons to see what they do. Hera just loves *“working with her hands”*. Here Huhana describes how being hands-on and practical helps confidence when using IT:

*To me, it is about ‘hands on’ that increases the self-confidence to know that you can do it and that IT is not ‘out there’ or ‘far away’ that I can’t do it...I think you can talk about it all you like, but it is not the same as doing it for yourself and to realise “I can do it!”.*

Aparangi and Mahurangi used tutu to remove fear. Aparangi comments that she wasn’t comfortable until she had a computer at home, being self-taught as she didn’t take any computer classes. Mahurangi remembers when computers first came out and her excitement to use something new was about not being afraid of computers to *“play around”*. After a while, Mahurangi wasn’t afraid of computers and she explains that this is half the battle. Tia talks of tutu being used to increase confidence and learning by calling it the English equivalent of *“experiential learning”*.

Ana says as *“Māori we tutu and we are curious”*. Hera says tutu means to *“play...try things, go into menus, try different things and see what happens, crash it, and start again”*. Hera always perseveres to push the new technology to its limits and try every combination of the software. If worse comes to worse Hera will just go back to the *“last system restore”* and make sure everything is *“backed up”*. For Hera she would *“tutu and crash things”* all the time. Aorangi says the same:

*...it’s got a lot to do with being a tutu...if it doesn’t work just re-set everything and start all over again. You are not going to learn unless you tutu.*

Aorangi and Awatia talk of not bothering to read and use the manual even when one is provided. Tutu for them is to get straight in and *“pull things apart...even if you have the manuals...you play with it and learn by your mistakes”* (Aorangi). Awatia calls this a *“typical Māori”* thing to do, not *“using the manual...[and] just play with it”*. The manual is there only if it is needed.

Tia relates tutu with telling her stories using the technology. Tia has all the technology and tools available to her at home, so it is logical to use these tools to create her stories, so get *“on the computer and have a tutu”*. Tia says tutu is:

*Drawing pictures both on paper then on screen, researching the technology itself, going on the Internet, using Photoshop, online tutorials, animated cartoons, using flash – all of that is about having a ‘play around’ – it’s all tutu.*

Thirdly, for the tino rangatiratanga of being women, twelve women articulate how their womenness is necessary for the workplace. Maia describes how *“the women calm the boys down so the testosterone doesn’t fly around as much”*. When she has been on a project as the only woman she has been told she must *“keep the guys honest”*.

Amīria has an understanding of how women and men work differently in the workplace. She believes the *“guys like to fix problems, but they don’t like to look at the process or the greater team overall whereas women are more process-oriented”* and the *“guys just want to achieve the end result or do whatever it takes to fix the problem”*. Whereas the *“women tend to look at the process that makes the problem crop up in the first place and we want to fix that process so that the problem doesn’t come back”*, however, the *“guys will keep fixing the problem repeatedly because that is their mindset”*. Amīria believes that is *“why women are in the communication side as opposed to the technical side – in the technical type field the focus is on the problem and everything else is tuned out, that is why the guys like the technical side”*. Therefore, Amīria concludes that:

*Women like to be with other people and solve problems as a group, so project management is where women seem to be;*

*also service delivery, which is the interface between the technical people and the customer. So being in communications with multiple parties is an area that women are good at and plays to their strengths.*

Tia says that Māori women are seen mainly in the creative side as opposed to the technical side. However, the power for Māori women Tia asserts is *“joining both the technical hard skills and the creative soft skills...the strategies to communication, relationships, building confidence and the ability to create solutions that are not found by others”* with the *“IT technical side that can be quite stringent because it is a standardised discipline and requires efficiency”*. Katarina says it has to do with balance, where the good IT technical person has good people skills:

*When they have both, I call it the ‘X-factor’. It is important when someone has the technical skills and still can talk to someone about IT and it all makes sense, especially to someone who has never touched a computer before. Women are a group of people who can do that and should be doing that, I back that up.*

For Aorangi and the other Māori women in the workplace they are called the *“Aunties”*. Aorangi believes because of *“tikanga there is respect for your elders, where the boys do show respect for us a lot because we are the Aunties of the group”*. To work effectively, the Aunties like to have the workplace nice and clean:

*We are maternal and bossy...and like to be all nice and clean. We are trying to clean up this big room and lately the boys have been storing all their clutter in there, we had a cleanup and they were trying to grab their stuff, but we told them to leave their rubbish in the bin – they didn’t like that – it just sits there doing nothing and getting in the road, so out it goes...we asked to get the room refurbished because we wanted to have hooks and cupboards to store all our hardware, software and wires in nice and tidily.*

Tia suspects *“if Māori women want to do something for themselves it would be for their kids”*. For seven of the twelve women who have children, they *“think more about their children than themselves”* (Tia). Tui, Huria and Mata are motivated to work hard in their jobs for their children. Ria asserts that *“Māori women are great*

*mothers, who help the family and organise households”, which are skills that contribute to the workplace. For Mahurangi in her job she uses her “mother instincts” when working. Hūhana during her work “puts on 20 hats, like a Mum who is a negotiator, taxi driver, wife and so on”.*

### **Summary**

The cultural concerns of Indigenous Māori women in IT are summarised below:

To assimilate into the neo-colonial IT world has meant the *absence of the sacred* – te reo me ngā tikanga, whānau and whakapapa, wairua, whenua and tino rangatiratanga. The *oppression of racism* is continued through IT, but the women reject such power-relations to include Māori culture in IT. It is easier to work in Māori organisations where tikanga is taken for granted, but Māori masculinity is complex where sexism becomes oppressive. To live as tāngata whenua is our tino rangatiratanga.

To assimilate into the neo-colonial IT world has meant the *absence of being Indigenous* outside Aotearoa New Zealand and experiencing the *oppression of colonisation*. There are alignments with other Indigenous peoples of loss, exploitation and abuse. The revitalisation of Indigenous languages using IT is where Indigenous Māori women concentrate most efforts. To live as Indigenous peoples is our tino rangatiratanga.

To assimilate into the masculinist IT world has meant the *absence of being women* and experiencing the *oppression of sexism*. Before computers in school, these women were introduced to IT through secretarial studies and New Zealand Post. Although, there is an alignment with Pākehā women with respect to male-domination in IT, Māori women and Pākehā women are different spiritually and in values – sometimes using racism towards Māori women. It has made the inclusion to Women’s groups problematic and complex. Māori women like the creative, cleanliness and communication of IT with the importance of including whānau,

tamariki and mokopuna within IT environments. To live as women is our tino rangatiratanga.

To assimilate into the geek neo-colonial IT world has meant the *absence of being Indigenous Māori women in IT*. This is where these women are the only lonely. To decolonise IT these women continuously learn the dominant cultures language and knowledge and treat IT as merely a tool. Through the theory of Tutu, IT becomes a 'tool to play with'. Sometime, having your own business helps to have culture nurtured and respected. The 'critique strategy' and the combination of 'creativity with technical' skills is where our power lies. To live as ourselves is our tino rangatiratanga.

The next wāhanga starts with the Indigenising of IT where the local context of being tāngata whenua for tino rangatiratanga and Mana Wāhine asserts Indigenous Māori women's rights to participate in IT. This is the development of the Mana Wāhine in IT conceptual framework.



## Wāhanga 6

### *Te Whatu Kākahu – Mana Wāhine in IT Conceptual Framework*

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*Te Whatu Kākahu is the weaving process when ngā aho are woven between ngā whenu that are connected to Te Whakamata with Te Aho Tapu. The Kākahu is ready to be crafted. Papatūānuku and Hineahuone have provided all the resources. During the process of weaving the Kākahu, Ngā Kaiwhatu Kākahu enters the whare pora of Hineteiwaiwa, the state of consciousness, spirituality, intellect, and concentration for the fine techniques, mathematics and the art of weaving begins.*

**Quote from Robyn Kamira (2002b, p. 26):** *The lesson is in the strength of the culture and communities – not the technology itself...It is clear that information technology can contribute to the survival of our knowledge as long as our cultural contexts are maintained. It can support our language, images, concepts, histories, politics and development. It can sustain our choice to define and redefine, and to grow and change. Now that information technology is here, the process of reclamation has just begun.*

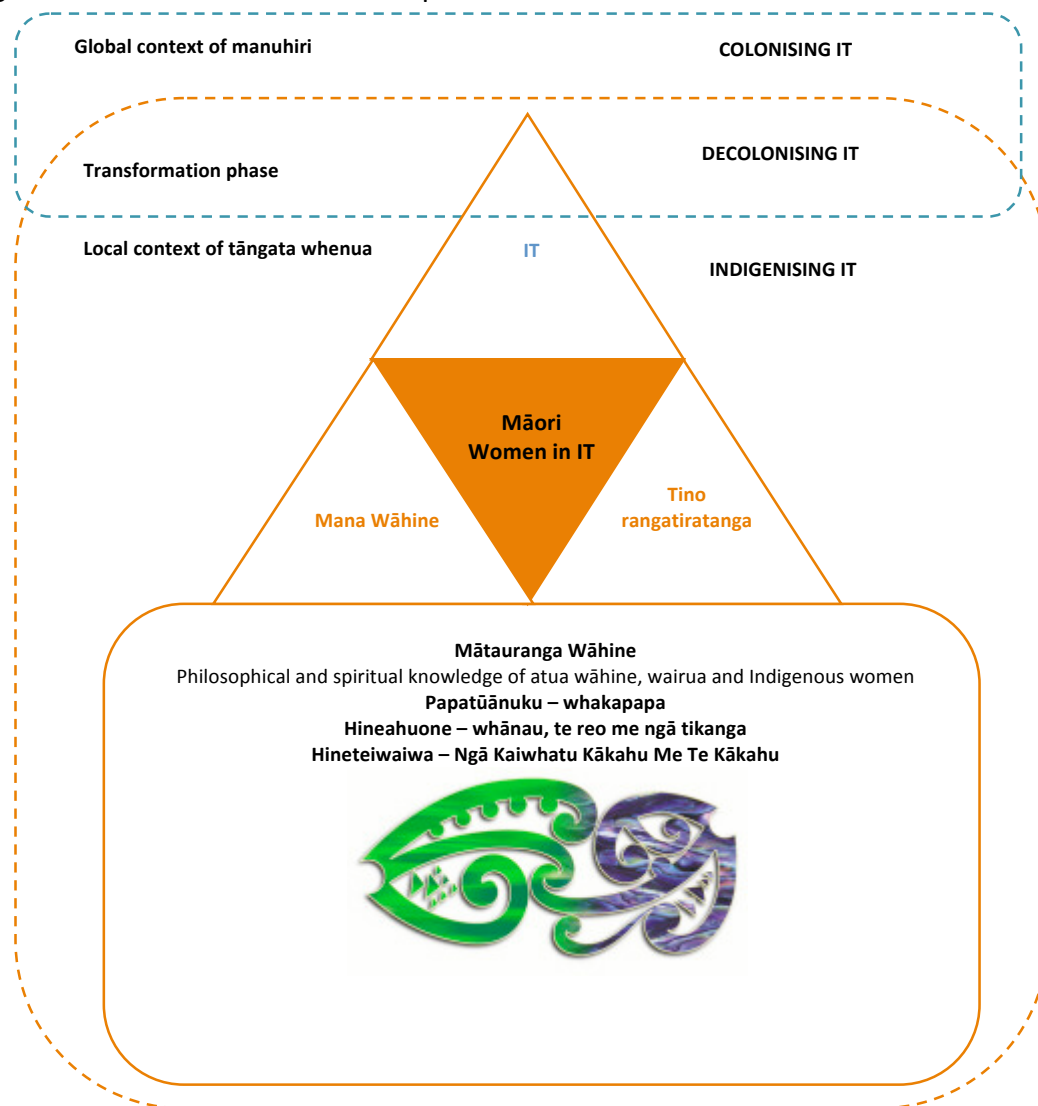
**Participant quote by Mereana:** *Everything that I do is about Tino Rangatiratanga, it's about sovereignty, about being able to do what we want, how we want, with whomever we want, using whatever we want – that should be the beginning, middle and the end – the rationale should be about Tino Rangatiratanga so the process is about it, the outputs and our outcomes should be all about it – that is who we are and what we are about – it's not about someone else's stuff and their values – it's about us and who we are.*

### **Introduction**

The overall intent of this research is to develop a Mana Wāhine in IT conceptual framework. The research aim identifies the key discourses, principles and theories of

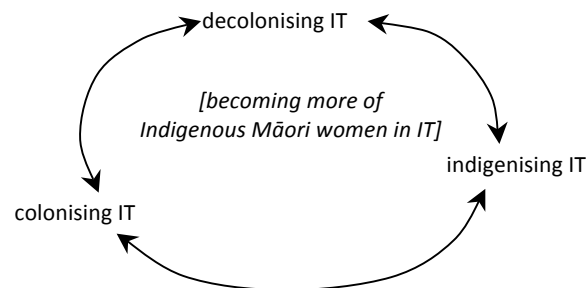
Mana Wāhine for an Indigenous Māori women's cultural construction of IT? The Mana Wāhine in IT conceptual framework weaves together Mana Wāhine (Wāhanga 2 and 3); the self-determination and cultural survival of under-represented groups in IT (Wāhanga 4); the herstories of Māori women in IT (Wāhanga 5); and my herstory (Kupu Whakataki – Preface). From this knowledge, the broad but holistical framework (Figure 4) provides the contexts of indigenising, decolonising and colonising of IT. The outcome of the conceptual framework is Mana Wāhine empowerment in a local context and the emancipation of geek neo-colonial masculinist power relations in the global context.

Figure 4. Mana Wāhine in IT Conceptual Framework



Before going directly into each context, it is important to look at the transformation cycle<sup>53</sup> (Figure 5) that Indigenous Māori women in IT are experiencing.

Figure 5. Transformation Cycle



Although the Mana Wāhine in IT conceptual framework portrays three separate and linear contexts, in practice it is not so. The contexts do not stand ‘individually’ but have a linear progression from indigenising, to decolonising, to colonising (or vice versa), but cyclical, as represented. All these contexts are important where they are in direct relationship with each other and can happen simultaneously. Māori women in IT do not enter through one to come out the other side in another. The majority of the time the participation in the transformation cycle is unconscious where these women often inadvertently participate for transformative change. This is the nature of colonisation, decolonisation and cultural survival. For example, moving away from the mainstream and starting a business, where te reo me ngā tikanga is slowly introduced to work with Māori who wish to learn IT. In one situation or another, each context is played out, as demonstrated by the directions of the arrows. The mere fact of being Indigenous Māori women means our personal is political and this will always be our reality. What each situation does is lead on to more conscious understandings of each context – the awareness of being political grows where women are in the struggle together. Unconsciously, we know each other’s struggle

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<sup>53</sup> The transformation cycle has been modified from the work of Graham Hingangaroa Smith (1999, pp. 35-41) in representing Paulo Freire’s concepts of conscientisation, resistance and transformative praxis for Kaupapa Māori education.

where it is often not voiced. Therefore, these contexts will occur in any order and sometimes simultaneously, providing a complex space that is often too difficult to comprehend or voice. This is when we must grasp the sacredness of who we are – to indigenise IT for cultural survival.

### **Indigenising IT – local context of tāngata whenua**

For the indigenising of IT, the key discourses, principles and theories<sup>54</sup> of Mana Wāhine have been identified for the foundation of this conceptual framework and are related to transform IT. This framework normalises the cultural and spiritual constructs that have been with Māori women since time began with Papatūānuku, Hineahuone and Hineteiwaiwa and is inherently driven from mātauranga wāhine as shown in Figure 4 for an Indigenous Māori women's cultural construction of IT. This thesis asserts that Māori women have always been information technologists. Therefore, IT is to be shaped to empower and enhance Māori women's cultural context and well-being. This is for the betterment of Māori and the wider society as a whole.

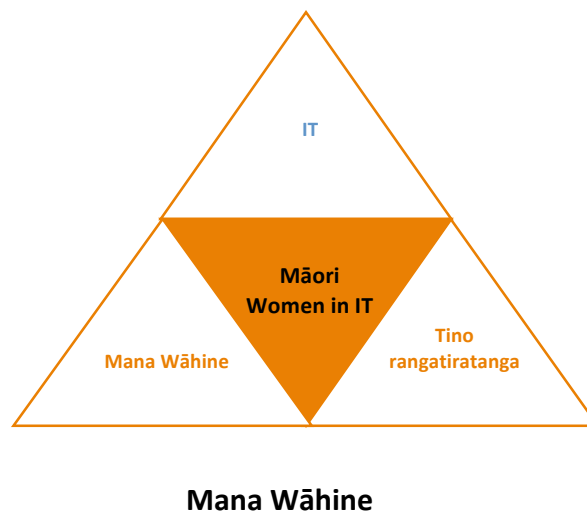
At the centre of the Mana Wāhine in IT conceptual framework are the tāngata whenua – Māori women in IT professionals located within the shores of Aotearoa New Zealand. The framework has the purpose of empowerment for retention within IT for cultural survival before any initiatives of recruitment – looking after the women who remain, instead of bringing new women into the profession to experience oppression and loneliness is not an ideal situation.

Connected to empowerment is emancipation from oppression and power relations therefore, embracing the women are the theoretical and practical fundamental

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<sup>54</sup> The discourses, principles and theory of Mana Wāhine are not an exhaustive list.

concepts of Mana Wāhine, tino rangatiratanga and defining IT in our terms<sup>55</sup>. These concepts are discussed next.



Mana Wāhine is the power, legitimacy, authority and spirituality of Māori women. Mana Wāhine is about controlling our lives, our intellect, our theories, our culture and the way we define ourselves in our context. Mana Wāhine gives us the power to move forward in our cultural form, drawing on the strength needed to decolonise the oppressions brought forward by colonisation. Mana Wāhine is the connection to Kaupapa Māori determined to 'live as Māori' and to have Māori as the first beneficiaries of all resources that reside in our shores alongside Māori men. Mana Wāhine is also linked to feminism as *hoa mahi* to 'live as women', which transforms to become Māori feminism. Mana Wāhine as a theoretical framework transcends to all Indigenous women for their own self-determination. This, in turn, will be empowerment and emancipation for all Indigenous peoples from our shared experiences of cultural survival and oppression from colonisation. Indigenous Māori

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<sup>55</sup> The framework is flexible enough to transfer the people of Māori women in IT to other Indigenous women and peoples. The concepts of Māna Wāhine, tino rangatiratanga and IT definitions can also be replaced. A slight modification can be Māori in IT at the center with Kaupapa Māori, leaving tino rangatiratanga and the IT definitions. Māori in IT would be driven by *mātauranga* Māori.

women have the right as *Mana Wāhine* to learn and work in IT as ‘Indigenous women’.

### **Tino rangatiratanga**

Tino rangatiratanga [sovereignty and self-determination] (refer to Wāhanga 2 and 5) is inherently connected to Mana Wāhine. The outcome of Mana Wāhine is tino rangatiratanga. Mereana (participant quote at the beginning of this wāhanga) talks of how tino rangatiratanga is everything – about being able to do what we want, how we want, with whomever we want, using whatever we want. Tino rangatiratanga takes Māori women to a space of being normal for our whānau, hapū, iwi and ourselves, which was taken away by assimilation into Pākehā culture (Awatere, 1982, 1983, 1984). Tino rangatiratanga empowers Māori women and Indigenous women to resist threats to culture and decolonise to emancipate from colonisation – avoiding the threat of re-colonisation. Tino rangatiratanga is informed by te reo me ngā tikanga when learning and working in IT. The foundation of any empowerment is the inseparability of language and customs. Indigenous Māori women have the right to *tino rangatiratanga* when learning and working in IT as ‘Indigenous women’.

### **Defining IT our way**

Through the empowerment of Mana Wāhine and tino rangatiratanga, it is easy to use cultural concepts such as matauranga and hinengaro (Kamira, 2002b) to define IT in our own terms. Robyn (Kamira, 2002b) writes how definitions of IT should not be limited to those found in IT journals. When the defining of IT is determined through cultural terms then the rising capacity of Māori in IT is achievable (Kamira, 2002b). This aligns with Kathie (Irwin, 1992b, p. 5) reminding us of our power to theorise:

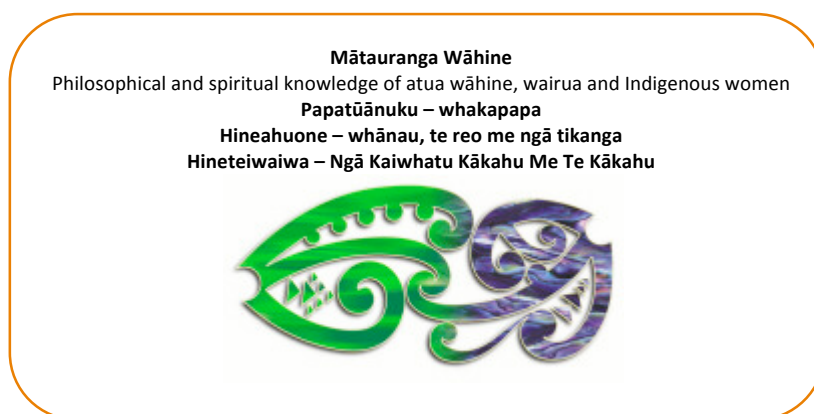
*We don't need anyone else developing the tools, which will help us come to terms with who we are. We can and will do this work. Real power lies with those who design the tools – it always has. The power is ours. Through the process of developing such theories we will contribute to our empowerment as Māori women, moving forward in our struggles for our people, our lands, our world, ourselves.*

Māori women have the *right to define IT for ourselves* so that we can learn and work in IT as 'Indigenous women'.

The next section discusses the philosophical and spiritual knowledge of mātauranga wāhine for Māori women in IT.

### **Matauranga Wāhine**

Matauranga wāhine is the philosophical and spiritual knowledge of Papatūānuku as the atua wāhine of Māori women. From her, the atua wāhine Hineahuone and Hineteiwaiwa were conceived. Reaching for the cosmological narratives of atua wāhine is the time when Māori women had roles in decision-making, power and authority alongside Māori men. From the atua wāhine as Indigenous women the wairua of Māori women is intact. The *tohu* [symbol] that depicts mātauranga wāhine starts from Papatūānuku. The *tohu* was commissioned by TWWW (Te Waka Wahine Wa-Hangarau, 2004c) trust members and designed by Henriatta Nicholas (HVN Design). When TWWW was closed in 2008, to keep the *tohu* alive I asked if I could modify it to suit the findings of the research.



As stated before, we earth our Mana Wāhine to Papatūānuku (Hutchings, 2002b, 2005). Papatūānuku is personified as the Earth Mother, and is regarded as 'earthness, the nurturing one'. The bottom left koru [spiral] is Papatūānuku with seven *nihoniho* [triangles] to represent whakapapa in which Māori women's life begins and ends with Papatūānuku. Hera and Mereana both describe the wairua of Papatūānuku. It is through whakapapa that Māori women are seen as the land, so

the nihoniho illustrate a support structure of whakapapa that keeps safe the identities of Māori women and challenge internal and outside structures. Papatuanuku encapsulates the nurturing essence of all women, Māori and Indigenous peoples. She represents resources such as stories, human resources, the utilisation and strength of the lands and environments that Māori women will stand in.

Papatūānuku is connected to the top left-hand side to Hineahuone illustrating a mangopare [fern pattern]. Hineahuone is represented by the koru with the five seeds of knowledge through whānau and te reo me ngā tikanga providing new ideas, information, understanding, wisdom and growth. After her birth, Hineahuone voiced the first words of te reo, 'Tihei Mauriora', 'I sneezed therefore I am alive' to validate the knowledge, legitimacy and authority of Māori women to determine our lives for ourselves.

To the second mangopare, the top right-hand side represents Hineteiwaiwa for technology and future vision. The two koru and the single seedpod represent the rapidly changing environment of technology to produce new ideas and progress for whānau, hapū and iwi. It is important to have skills in analytical ability, detail and flexibility.

Connected to Hineteiwaiwa is Ngā Kaiwhatu Kākahu Me Te Kākahu, the Cloak weavers and the Cloak represented by the two koru on the bottom right hand side and the nihoniho. Papatūānuku and Hineahuone provide all the resources where Ngā Kaiwhatu Kākahu enter the spiritual whare pora of Hineteiwaiwa to produce Te Kākahu of fine weaving, mathematics and information for, and with, the people. The main koru depicts the readiness to complete tasks effectively in the cultural, technology and personal environments of Mana Wāhine in IT. The nihoniho is technology defined from matauranga and hinengaro for growth, expansion, development and mentoring. The new smaller koru springing from the main koru is Te Kākahu supporting the kaupapa of Mana Wāhine in IT.



The use of the pounamu stone pattern on the left mangopare represents health, wellbeing, knowledge and nurturing with Papatūānuku and Hineahuone. Papatūānuku and Hineahuone represent our connections to tāngata whenua.

The use of the paua shell pattern on the right mangopare reflects the sea environment and hard work that Hineteiwaiwa and Ngā Kaiwhātu Kākahu Me Te Kākahu have within a technological, cultural and multi-dimensional world. Hineahuone and Ngā Kaiwhātu Kākahu Me Te Kākahu represent new changes, future vision, and the aspirations of our people that technology must meet for the future generation. Together they are the essence of Mana Wāhine in IT and our individual wairua that connect our culture as one. This is represented in the spiral that joins the two mangopare together. It is slight but very effective, it is a major link that moves and grows, but never breaks. It depicts the joining of the fresh water (pounamu) with the salt water (paua) of the ever-changing tides. For other Indigenous women, you will have your ātua wāhine and cultural concepts that fit your analysis and context.

For our tino rangatiratanga the relationship with other Indigenous women is imperative. The coping with oppression and isolation are better shared, discussed and voiced. There is Mana Wāhine, tino rangatiratanga and technological know-how in all Indigenous women. The time for the cultural construction of Indigenous women has begun.

However, the colonising of IT is important for developing a conceptual framework for Māori women in IT.

### **Colonising IT – global context of manuhiri**

On the other hand, the colonising of IT is worlds apart from the indigenising of IT. The colonisation of IT started in schooling that upheld the policy to keep Māori men in construction work and keep Māori women in cooking or secretarial studies. The channelling of Māori women into such areas meant that IT could be reserved for the hierarchy of the elite – firstly Pākehā men, then Pākehā women. Māori women were not meant to be in IT, but should be good housewives or secretaries ‘propping up’ the

strategy of the elites to remain and benefit. The global effects of geek neo-colonial and masculinist are oppressive to all Indigenous women in IT.

The colonising of IT is in fact a manuhiri [visitor] coming to the shores of Aotearoa New Zealand since 1960, a short time ago. IT has never had any process of pōwhiri [formal welcome] by Māori, but its existence dominate every part of our lives. The complexity of western technology, knowledge and practices coming into Aotearoa New Zealand shows little respect, or consultation, or accountability to the tāngata whenua, so here is where the colonisation of IT begins. The colonisation of IT makes invisible the philosophies and knowledge of mātauranga wāhine, rendering Māori women as the 'other' where we will need to 'catch up' to geek neo-colonial masculinist culture. Mana Wāhine and the identity of 'Indigenous Māori women IT' does not exist; or be left at the door when entering IT; is invalidated or is invisible due to the fragmentation between 'Indigenous', 'Māori', 'woman' and 'IT professional'. There is a false consciousness for assimilation into the geek neo-colonial masculinist culture to obtain the privileges and benefits of IT education and work.

Coping with geek neo-colonial masculinist culture and 'only the lonely' is to know who we are as Indigenous Māori women. Realise that the personal is political and that geek neo-colonial masculinist culture marginalises Indigenous Māori women as 'other'.

The decolonising of IT to transform the way Māori women participate in IT becomes vital and is described next. To decolonise IT the responsibility lies with Māori women, Indigenous women, Māori, Indigenous peoples, White Women and Women of Colour.

### **Decolonising IT – transformation phase**

The decolonising of IT is the hardest phase of transformation, resistance, and deprogramming, alongside the projects of reclaiming, restoring, revitalisation and re-programming. On one hand, there is the consciousness to decolonise what is 'mainstream', 'normal' and unchallenged. The realisation that IT education and work

are oppressive toward Indigenous Māori and women's culture is excruciating to tolerate. Realising that geek neo-colonial masculinist hegemony and ideology underpins IT, as the unchallenged 'normal' is a consciousness that starts to make sense. Making sense of being the only lonely and being isolated is in some instance tolerable. The problem is not with our people and ourselves, but with societal and institutional colonisation that exclude us from participating.

On the other hand, there is the hunger, determination and passion to find what is sacred, missing and has been absent for so many generations of our people's lives. The need to revitalise te reo is the first point of contact to increase the culture of oneself, then it continues to other cultural contexts. Consciousness for cultural survival becomes more than imperative, it become life itself.

Both strategies to decolonisation move hand in hand. Slowly, through decolonisation efforts, the false consciousness is slowly fading away, where understanding and making sense of what it really means to be Indigenous Māori women in IT is actually revealed.

### **Indigenous Māori women and Indigenous women**

For a local and global view, Indigenous Māori women and Indigenous women in IT need to:

- place ourselves in the centre with combined cultural context;
- reject culture-neutral discourses (race and gender) determined by geek neo-colonial masculinist as the 'normal' in IT education and work; and
- increase our cultural context from indigeneity, race and gender where IT must benefit us and the future generation first and foremost.

Decolonisation is not only for Indigenous Māori women and Indigenous women, other groups need to look at decolonisation too.

### **Māori and Indigenous peoples**

This research urges that Māori and Indigenous peoples in IT theorists and researchers should move beyond the digital divide theory or mere access to include gender descriptions asserted by Indigenous women. Although as Indigenous Māori we share the oppression of racism and colonialism, sexist oppression is not being addressed in this body of knowledge that affects the hearts and spirits of Indigenous women. For being Māori, the Tiriti o Waitangi, Kaitiakitanga and the Tutu theory need to be included within IT education and work.

### **White women and Women of Colour**

The mainstream white women in IT theorists and researchers should move beyond social and feminist theories to include ethnicity and race descriptions asserted by Women of Colour and Indigenous women. This knowledge is absent—the sacred or the spirituality of the people being studied. Even though the socio-cultural theories have tried to identify individual differences that women have when responding to experiences and oppression in IT, there is more work yet to be done on collectivism of Indigenous women. Although, as women, we share the oppression of sexism, racism and colonisation is not being addressed in this body of knowledge that affects the lives of Women of Colour and Indigenous women.

The Women of Colour body of knowledge can include the cultural context of African, Sub-African and Asian beyond models of feminism. Until Women of Colour use their spiritual knowledge base benefits will not be realised.

### **Summary**

Although broad, but holistical, the Mana Wāhine in IT conceptual framework is practical and theoretical. The decolonising of IT as the transformation phase is the hardest phase and context. Decolonising is not only for Indigenous Māori women or for Indigenous women; this phase can be motivating for other groups. The difficulty

is combining the efforts of deprogramming the geek neo-colonial masculinist to reprogramming the Indigenous Māori women – intimidating for anyone. Sometimes, it is safer and easier to stick with the status quo of the geek neo-colonial masculinist, the colonising of IT – this is our reality. Mana Wāhine identifies the complexities of the personal as political of both the decolonising and the colonising of IT. For the indigenising of IT, the essence of who we are is central and the sacred returns from matauranga wāhine, Mana Wāhine, tino rangatiratanga and defining IT in our own terms.

The conclusions in the last wāhanga describe how this research began by asking myself what it meant to be an Indigenous Māori woman in IT. The politics of culture must be rectified for Māori women to participate as Mana Wāhine in IT.

## Wāhanga 7

### *Ngā Kaiwhatu Kākahu Me Te Kākahu – Conclusions*

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*Ngā Kaiwhatu Kākahu presents the final woven Kākahu to the whānau. The Kākahu is a tribute to Māori women's spirituality, knowledge, information, herstories, techniques, mathematics and technology that will benefit our whānau, our people and ourselves.*

***Quote by Linda Tuhiwai Smith (cited in Te Awēkotuku, 1992, p. 54):*** *Just by being Māori and a woman, who thinks about her life, and her people – one is on the cutting edge. That is where Māori women live – on the cutting edge.*

***Participant quote by Tia:*** *Māori women have the advantage of coming from a less privileged background in IT, which means you haven't been brought into some of the habits of IT, and some of the expectations of the IT field. We are free to create from whatever our hearts desire – that is our advantage.*

***Participant quote by Peep:*** *I would love to see a Māori women's IT Tech Park – a Kohangarau.*

#### **Returning to my herstory**

I conclude by going back to the beginning of 1999. I had just started an assistant lectureship position within the School of Information and Mathematical Sciences Massey University, Albany. I had just finished four years of a Bachelors degree in Information Systems (IS), and a Diploma in Business Studies majoring in Communications Management. I thought finally I have a job where I can teach IS and know how to communicate effectively – setting myself up to start postgraduate studies and to take up any challenges that came my way. I walked into Dr Kay

Fielden's office to discuss what I was going to do for my honours project. She challenged me to write about being a Māori woman in IT. I thought "am I not here to find theories on how to manage IS more effectively or best practice on designing better software – topics such as these?". Kay drew a Venn diagram of three circles titled Māori, woman and IT pointing to a dot in the middle of the diagram asking me, what is it like to be a Māori woman in IT?, such a powerful question that has dominated ten years of my life trying to find 'an answer'. I was nowhere close to giving Kay a satisfactory answer in my honours report (Hamilton-Pearce, 2000) using myself as a case study. I was only scratching the surface of each of these titles, as I have never had to question my own cultural identity and relate it to IT before. I did not even think it was a research question I needed to ask or in what way would it be appropriate to research such a question – this is the state of being any Indigenous women who are colonised.

In 2001, I achieved first-class honours, worked as a lecturer and enrolled with Massey to do a doctorate with this topic, but it did not eventuate. One of the first limitations I found was being the only indigenous woman in the world to pursue an IT doctoral degree about cultural identity. Kay had left the university and without her encouragement to continue with such research, I did not believe in continuing. Also, another colleague said, "I was crazy, there was no literature on the topic" and maybe she was right.

I changed to a topic on the development process for a Māori organisation which wanted to implement a Kaupapa Māori Information Systems. This topic wasn't any easier because there was no literature. There was the separate literature on Kaupapa Māori and IS development so I thought it was my job to bring these together enhancing the Māori side of who I am. I was confident I was going to look at the development process using Soft Systems Methodology so concentrated on Kaupapa Māori after Glenis Philip-Barbara gave me the book by Linda Tuhiwai Smith (1999) on *Decolonising Methodologies: Research and Indigenous Peoples*. I was shocked to think western research of Māori and Indigenous peoples was so degrading. This book changed my life entirely. Also, Linda started addressing issues that Māori researchers

faced when researching with Māori communities while critically analysing the limitations of western theories and research methodologies. My dilemmas only began, as I would be warned many times by non-Māori academics to stay away from Māori research within my doctorate, as it was not valid for western institutions with western supervisors and western examiners.

My insecurities disappeared as Kaupapa Māori research, te reo and the weaving of my kākahu dominated my life. I spent another two years convincing myself that Kaupapa Māori was valid. The work of Graham Hingangaroa Smith's (1997) thesis *The development of Kaupapa Māori: Theory and Praxis* was instrumental in critically analysing mainstream education towards Māori children's underachievement at schools (Bishop & Glynn, 1999; Jenkins & Jones, 2000; Jones et al., 1995; Smith, 1988, 2003) I felt this applied to IT.

By the end of 2002, my lectureship contract was not renewed because of Performance Based Research Funding (PBRF) and I had no doctorate or research career. This is when I first thought about giving up the doctorate. However, I transferred the Kaupapa Māori Information Systems development topic to AUT University. I had a three-year Tūāpapa Pūtaiao doctorate contract from the Foundation of Research, Science and Technology (FRST) with my new supervisor Dr Mark Laws, the first Māori man to have a doctorate in IT (Laws, 2001) at the Knowledge Engineering and Development Research Institute, Tech Park Penrose AUT. About the end of 2004, the topic of Kaupapa Māori Information Systems was discontinued through software developers' inability to understand Kaupapa Māori; I lost my topic and two years of my funding.

It finally hit me, Mark was the first Māori man to do his thesis and I would be the first Māori woman in IT to write mine. That was kind of sad, I felt IT had been introduced since 1960, but Mark's thesis of Māori and IT was the first in 2001. I also felt the Kaupapa Māori Information Systems project was about cultural misalignment between developer and the Māori community, so Māori capacity in IT had to be increased for IT to benefit Māori. At the same time, I was also involved with Te Waka



Wāhine Wa–Hangarau (TWWW) for two years and our concerted efforts after some government projects to make gains were slowing down. Again, the theme of misalignment with culture would come up, but for Māori women it was about not only being Māori, but being women too. I felt I had to return to the original topic of Māori women in IT using Kaupapa Māori research. After some sleepless nights and reading Leonie Pihama's (2001) thesis on *Tihei Mauri Ora—Honouring Our Voices: Mana Wāhine as a Kaupapa Māori theoretical framework*, it was obvious the women's analysis of Kaupapa Māori was Mana Wāhine (Hutchings, 2002b, 2005; Irwin, 1990, 1992b; Smith, 1992).

By the end of 2005, Mark and I parted ways, our kaupapa were the same, but our approach to getting there were different. This is where I when Professor Felix Tan and Dr Tess Lomax ready to embark on a topic such as Māori women in IT. It felt normal to research the topic of Māori women in IT using the theoretical, methodological and methods of Mana Wāhine. At last, I was totally comfortable with the research question and the research design. I had to start listening to myself and remain strong to take on such a topic and research design in the area of IT, regardless of more warnings to discontinue by non-Māori academics.

I was inspired by the writings of Robyn (Kamira, 1999, 2000a, 2000b, 2001, 2002a, 2002b, 2003, 2007a, 2007b; Kamira & Everton, 2001; Kamira & Smith, 2004; Kamira et al., 2003) who pushed out the boundaries for Māori and IT. We both saw how Māori women's voices and a Mana Wāhine critique in IT was invisible, so the topic was finally set.

This thesis was not about how Māori women could increase participation into western IT professions to support the skill IT shortage for the dominant culture. This focus is from the dominant culture as gatekeepers saying that Indigenous women could be included, after being excluded for such a long time—someone had said, “we could join them now”. This thesis is about cultural survival for Māori women and contributes to Mana Wāhine. This thesis contributes by looking at controlling (and later to design) the application of IT from an Indigenous women's philosophical and

spiritual knowledge base by making visible Mana Wāhine, to indigenise IT (Mita, 1992, 2000; Paraha, 1992).

Therefore, Mana Wāhine in IT rejects any discourses of culture-neutral (both race and gender-neutral) and the deficit theory of the digital divide. This thesis moves beyond culture-neutral and the digital divide to the cultural construction of IT for Indigenous women.

### **Māori women in IT**

I found the women to be strong and persistent to cope with geek neo-colonial masculinist culture and being the only lonely when learning and working in IT. Mana Wāhine represents an effort by Māori women as Indigenous women to find a solution to the absences of the sacred, through examining the complexities of culture, cultural imperialism and culture-neutral stance in IT. Without inclusion of the sacredness of who we are, IT will never be able to fully benefit the next generations.

### **Indigenous Māori**

All the women would strive to have Māori culture included while they worked. Only two women looked outside of Aotearoa New Zealand to include Indigenous peoples' issues into their position. Those women in Māori organisations and their own businesses found including Indigenous and Māori culture much easier because *te reo me ngā tikanga* 'was normal', than those women who worked in the mainstream. In the mainstream, concepts such as the *tāngata whenua* and *Tiriti o Waitangi* were resisted and that "*Māori is not a computer topic*" (Ria). Some women worked as 'token Māori' doing Māori work on top of their IT positions without any recognition or extra compensation because this work was seen as unimportant. All women found the oppression from geek neo-colonials, from white Pākehā men and women, to be racist against ethnic and race components of their culture.

I had found the literature of IT in relation to Indigenous peoples and Māori to be very limited focusing on the deficit theory of the digital divide for Indigenous peoples to

catch up to prepared white societies of IT. There was no critique of IT being underpinned by geek neo-colonial hegemony and ideology that Indigenous women experience. The wider implications of this are the continuous teaching and design of IT from geek neo-colonial standpoints where Indigenous Māori knowledge is invisible. The roles of tāngata whenua and the Tiriti o Waitangi are non-existent especially in mainstream IT education and work. Māori and Indigenous scholars are moving into more cultural models from our knowledge and spirituality. This is the first step to ensuring that Māori belongs in IT.

### **Women**

Before computer classes in schools, women would be exposed to computing through secretarial studies and working in NZ Post, these women were more likely to be managers or have their own business later. It was found that when women had computers in school classes and were interested to tutu with them; they were good at puzzles, mathematics, programming and calculators.

All of the women would strive to have women's culture included while they worked. The Boys Club of masculinist hegemony and ideology would be sexist against the gender component of their culture. Those women who were mothers or grandmothers would be ridiculed about having children in the workplace. Those women without children did not want to deal with family and work conflicts but may have been ridiculed because they would have to give up work to have children later on.

I had found the literature of IT in relation to women in IT to be very limiting focusing only on gender inequity of the deficit theory for women to 'catch up' or become masculine to be accepted in IT by men. Although there was a critique of IT being underpinned by masculinist hegemony and ideology from feminist literature the cultural component of ethnicity and race was totally invisible. That was until the very recent and limited literature from Women of Colour in computing (Kvasny, 2003, 2006; Kvasny et al., 2005; Taylor, 2002). I found this literature to be bitter sweet.

Cultural identity was being debated to combine race and gender inequities of racism and sexism, but this literature used feminist theory and did not come from the philosophical and spiritual foundations of being African, Sub-African or Asian. The wider implications of this are the continuous teaching and design of IT from masculinist culture will continue to make gender and race cultures of Women of Colour and Indigenous women invisible.

### **Mana Wāhine in IT and Ngā Kāiwhatu Kākahu Me Te Kākahu**

The acceptance of joint effects of indigeneity, ethnicity, race and gender is imperative for Indigenous women's cultural inclusion to learning and working in IT. There is no doubt that through learning and working in IT, Indigenous Māori women are colonised by the dominant culture of geek neo-colonial masculinist hegemony and ideology that presumes a culture-neutral standpoint of technological determinism. Therefore, the cultural construct of Indigenous Māori women in IT does not exist, but we must assimilate into the dominant culture to remain in IT. Indigenous Māori women in IT become the only indigenous person, the only Māori and the only woman—the only lonely. This pertains especially to those women who worked in the IT mainstream field.

In rejection of culture-neutral discourses and reductionist methods of ethnicity, race and gender Mana Wāhine will remain in IT to decolonise IT by continuously learning, using IT as only a tool, working with and for Māori and establishing businesses where they have control. Tino rangatiratanga is the outcome—to be ourselves where indigeneity, Māori and woman exist as one. Mana Wāhine in IT is about working from the philosophical and spiritual knowledge of mātauranga wāhine and transforming IT education and work from this standpoint. This is where the powerful use of going back to move forward of Ngā Kaiwhatu Kākahu Me Te Kākahu, will benefit Mana Wāhine in IT.

### **The politics of culture**

I have shown that over the last five years of this thesis, my growth in identifying 'what counts as culture' for me has been in leaps and bounds. I have decolonised over these years to no longer live in the 'absence of the sacred'. The position of the sacred can no longer be invisible or be ignored or fragmented. I see the interconnecting cultures of being Indigenous Māori woman in IT as one, as 'normal'. Although the politics of cultural imperialism is to ignore, make invisible or fragment, to 'divide and conquer', the practice of stripping back the layers of geek neo-colonial masculinist culture and loneliness was powerful. The politics of cultural inclusion and exclusion plays such a vital role in who learns or does not learn, who works and does not work, who belongs and does not belong in IT. These practices must be exposed.

In theory, cultural inclusion should be easy. Māori women have the right as tāngata whenua to benefit from learning and working in IT. IT is manuhiri and should be seen as *hoa mahi* for the *tino rangatiratanga* of Indigenous women. IT is flexible, assisting with the revitalisation of *te reo* (Keegan, 2003, 2005, 2007, 2008; Keegan et al., 2007; Keegan, Lewis, Roa, & Tarnowska, 2004; Laws, 2001), and including Māori concepts of *kaitiakitanga* (Kamira, 2003, 2007a) and the use of *Tiriti o Waitangi* (Kamira & Smith, 2004) in government documents. As women, Māori women are stronger to critically challenge the Boys Club determining that women's culture be included. However, is this enough?

In practice it is not so simple. IT education, work and policy do not recognise the status of Māori women as tāngata whenua or the role of the *Tiriti o Waitangi* (Kamira, 2007b). By simply existing as Indigenous Māori women who walk into IT, our lives are political. We must give up our culture to learn, work and belong in IT. We must learn, work and belong in the absence of what makes us sacred – *Papatūānuku*, *Hineahuone*, *Hineteiwaiwa* and as *Ngā Kaiwhatu Kākahu*. Alongside this, Māori women and Indigenous women are not homogeneous. The diversity of our tribal affiliations, sexuality, our schooling, our work and background will show that the

philosophical and spiritual foundation of ‘what culture counts’ for each women may be the same or may differ. That is what makes us unique, there are so many more Mana Wāhine theories to analyse and use in practice to learn and work in IT.

### **Future research directions**

Indigenous Māori women in IT are on the cutting edge of our culture and the cutting edge of technology – *as Mana Wāhine in Information Technology*. The future directions of research in IT are the inclusion of Māori women as tāngata whēnua, the Indigenous women of the land as first beneficiaries of IT (Kamira, 2000b). There needs to be more Mana Wāhine analysis of IT from the bases of mātauranga wāhine to indigenise IT. There needs to be more Mana Wāhine analysis of IT from the bases of decolonising methods with the Tiriti o Waitangi. There needs to be more Mana Wāhine analysis on what the colonising of IT means to us.

Practically, Peep offers a powerful concept of a Māori women’s IT Tech Park – a Kohangarau; a perfect place to start such important research work. At the centre of this park is the *Ngā Kaiwhatu Kākahu Me Te Kākahu* visually demonstrating the arts of our tūpuna [ancestors], so that Māori women aspire to create, learn, design and implement such technology with mathematics and informational outcomes – the combination of the creative and the technical. Tia is correct: *“Māori women have the advantage of coming from a less privileged background in IT, which means we haven’t been brought into some of the habits of IT and some of the expectations of the IT field”* to be who we want to be and create what we want to create, with whomever we want to create IT with – that is our advantage.

Theoretically, there is much work to be done in the context of indigenising IT, as there are more theories to draw on and drive the transformation of IT from Mana Wāhine. However, the hardest work is in the decolonising and transformation phase of IT to articulate from the indigenous context what is needed from the colonising context. There are Indigenous women’s pedagogical theories to teach IT, such as Tutu. There are cultural theories that can underpin the workplace to increase the capacity of Indigenous women, such as kaitiakitanga. The last context of colonising IT

must always be challenged and critiqued to ensure that Indigenous women are not re-colonised. Theories of new and existing oppressions must be analysed to offer strategies to keep learning and working from an Indigenous women's and peoples' philosophy.

### **Contribution to ourselves**

The contribution of this research is to provide a thesis of philosophical and spiritual foundations from Mana Wāhine discourses, principles and theories that will transform IT for Indigenous Māori women—for ourselves. That is, all I wanted to do was to talk and listen with ourselves—to voice the 'normal'. Although Mana Wāhine is not new to Māori women, it is new to the IT academic field providing unlimited future research directions theoretically and practically. This thesis is not the end, but only the beginning.

### **Last words**

The last words go to Huria who shares what cultural survival means for her, for being normal, for being *Mana Wāhine in Information Technology*:

*Normality, I see them as normal and I feel at home, I feel accepted like I am with sisters and my whānau. I don't need to get approval and straight away we support each other. I miss that whānau feel and I find it hard to let go of any Māori women in information technology, I can't get any better than that. In some ways, I feel stronger and being stronger I feel more confident, then I succeed – we build this inner strength from each other...I have to be a part of them, so we are a whānau and I know they are all there for me, it is natural and that is our culture.*

### **Karakia Whakamutunga – Ending Incantation**

<i>Ko Hineteiwaiwa,</i>	You, can be compared to Hineteiwaiwa,
<i>Te whaea o Tuhuruhuru,</i>	Mother of Tuhuruhuru,
<i>He ruahine,</i>	An exalted woman,
<i>He tohunga raranga,</i>	An expert in the art of weaving,
<i>He wahine toa e.</i>	An awesome woman.
<i>Ma wai e takiri o rongō ki te iwi?</i>	Who will praise you to the people?
<i>Ma wai e takiri o rongō ki te iwi?</i>	Who will elevate your name?
<i>Tihei Mauriora!</i>	I sneezed therefore I am alive!

Moana Maniapoto (2002)



## Ngā Tāpiritanga – Appendices

### Appendix A. Information Sheet



Date Information Sheet Produced: \_\_\_\_\_

**Research Title:** The Experiences of Māori Women in Information Technology (IT) Professions

**Tēnā koe** \_\_\_\_\_,

He mihi whānui tēnei ki a koe e awahi nei i tēnei kaupapa. He putanga tēnei mahi rangahau nā wāhine mā. Nō reira, e rau rangatira tēnā koe, tēnā koe, mauriora ki a koe.

My name is Janette Hamilton-Pearce. I come from Te Whānau-ā-Apanui on my father's side and Ngāti Kahungunu on my mother's side. I am a doctoral researcher at Auckland University of Technology (AUT). My primary supervisor is Professor Felix Tan. I am using this research to obtain a Doctor of Philosophy (Information Systems).

I hope you would accept this invitation to participate in this research. The following information is to aid your decision to participate, and if more information is required, please do not hesitate to contact me (details below).

For University procedures, if there are any concerns regarding the nature of this project in the first instance please contact Professor Felix Tan (details below). Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUT Ethics Committee, Madeline Banda ([madeline.banda@aut.ac.nz](mailto:madeline.banda@aut.ac.nz), 917 9999, ext 8044).

The other participants in this research have been contacted from networking relationships through IT academia and industry.

#### **What is the purpose of this research?**

The purpose of this research is to identify Māori women's experiences (motivations, barriers, strategies and initiatives) as Information Technology (IT) professionals. The research questions I will be asking are:

1. Where were you born and what was family life like?
2. What was your schooling and education (primary to tertiary) like?
3. What attracted or motivated you to become an IT professional?
4. How would you define an IT profession?
5. What barriers did you experience or are experiencing in IT?
6. What initiatives would help to encourage Māori women into IT?
7. Name a strategy that you would like to see happen with Māori women in IT?

Mana Wāhine and Kaupapa Māori underpins this research, which means I will operate in a manner consistent with the teachings and practices of our tūpuna (ancestors). I will ensure to take care throughout the process sharing information, being approachable, taking my cues from your willingness to talk, and to show respect for you and your whānau (family).

This research recognises your accomplishments as an immense success for Indigenous Māori women and for the IT sector. For others who have yet to take this journey, your herstories act as a guiding light.

If at anytime, throughout the processes of collecting your information you feel discomfort or do not wish to disclose information this is entirely your discretion. Your personal information and your privacy will be totally confidential and it will only be collected for the purpose of this research. All information collected will be under lock and key where only I will have access to it. The interview transcriptions used for analysis will be by your approval. For your privacy, the option of using a pseudonym maybe appropriate as your information and the findings will be used in the final written thesis.

### **What happens next in the research?**

The next step is to contact me to advice of your acceptance or decline to participate in this research. If you have accepted, thank you in advance.

The next planned phases are:

1. For you to send me a current CV and the Demographics Information Sheet (by email).
2. We will establish an appropriate date(s) and time(s) for a long in-depth face-to-face individual interview to collect your information (approx 60-90 mins). If it is more convenient to break the interview into sections depending on available time and preferences please do not hesitate to make these suggestions. I will be bringing a tape recorder for the interview.
3. After individual interviews are finalised, a hui (gathering) will be organised for all participants to share their experiences and herstories together. The date, time, venue and cultural procedures for the hui are on Saturday 24<sup>th</sup> June 06 from 8:45am to 5pm, at the AUT Marae, so please put a whole day aside. The hui is used to go through the initial results of the individual interviews for your approval and to meet other Māori women in IT. The results report will be given on the day.
4. I will transcribe your interviews and hui information sending you a copy of the transcriptions for your approval. An iterative process may occur to finalise transcriptions. All transcripts and final results report will be used for analysis and interpretation phase.
5. I will provide feedback of how far I am in the research process of data collection with other participants, analysis phase, results phase, and writing/finalising the thesis.
6. As a token of my appreciation I will provide a copy of my thesis for all participants through a website only for participants to view.

Please do not hesitate to contact me if more information is needed. I look forward to your reply to participate in this research.

Mauriora,  
Nā Janette Hamilton-Pearce

<b>Researcher's Contact Details:</b> <b>Work</b> Faculty of Design & Creative Technologies Doctoral Lab – WT406 Wellesley Campus (09) 921-9999 ext 8953 <a href="mailto:janette.hamilton-pearce@aut.ac.nz">janette.hamilton-pearce@aut.ac.nz</a>  <b>Home</b> (09) 476-8471 <a href="mailto:janette.h@xtra.co.nz">janette.h@xtra.co.nz</a>	<b>Primary Supervisor's Contact Details:</b> Professor Felix Tan Faculty of Design & Creative Technologies Symphony House, Level 11, 300 Queen Street 917 9999 ext 9487 <a href="mailto:felix.tan@aut.ac.nz">felix.tan@aut.ac.nz</a>
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**Approved by the Auckland University of Technology Ethics Committee on: 25<sup>th</sup> October 2005. AUTEK Reference number: 05/139.**

## Appendix B. Consent Form



### Consent Form

**Research Title:** The Experiences of Māori Women in Information Technology (IT) Professions

**Primary Supervisor:** Professor Felix Tan

**Doctoral Researcher:** Janette Hamilton-Pearce

- 
- I have read and understood the information provided about this research project (Participant's Information Sheet dated \_\_\_\_\_.)
  - I have had an opportunity to ask questions and to have them answered.
  - I understand that the interview will be audio-taped and transcribed.
  - I understand that I may withdraw myself or any information that I have provided for this research at any time prior to completion of data collection, without being disadvantaged in any way.
  - If I withdraw, I understand that all relevant tapes and transcripts, or parts thereof, will be destroyed.
  - I agree to take part in this research.
  - I wish to receive a copy of the report from the research: tick one: Yes ☐ No ☐

Participant's signature:.....

Participant's name: .....

Participant's Contact Details (if appropriate):

.....  
.....

Date:

**Approved by the Auckland University of Technology Ethics Committee on:** 25<sup>th</sup> October 2005. **AUTEC Reference number:** 05/139.

**Note:** The Participant should retain a copy of this form.

## Appendix C. Demographic Information Sheet



### Participant's Demographic Information Sheet

Date: \_\_\_\_\_

**Research Title:** The Experiences of Māori Women in Information Technology (IT) Professions

**By:** Janette Hamilton-Pearce

**Primary Supervisor:** Professor Felix Tan

1	Name	
2	Pseudonym	
3	Age <25, 25-40, 40-45, 45-60 and 60+	
4	Iwi/Hapu	
5	Other ancestry	
6	Tamariki	
7	Te Reo, None, Beginner, Learner, Conversational, Fluent	
8	Relationship Status, single, divorced, married, or defacto	
9	Educational Background	
10	Organisation	
11	Position Held	
12	Area of expertise	
13	Sector	
14	Income Level, up \$25k, 25-40k, 40-45k, 45-60k and 60k+	
15	Postal Address	
16	Website	
17	Email 1	
18	Email 2	
19	Phone 1	
20	Phone 2	
21	Mobile	

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