

Making IT Occupations more attractive to Māori: Key factors from the Literature

Mark Van der klei
University of Canterbury
mark.vanderklei@canterbury.ac.nz

Tyron Love
University of Canterbury
Tyron.love@canterbury.ac.nz

Trevor Nesbit
University of Canterbury
Trevor.nesbit@canterbury.ac.nz

Lloyd Carpenter
Lincoln University
Lloyd.carpenter@lincoln.ac.nz

ABSTRACT

Statistics show that Māori are underachieving in a variety of nationally based Information Communication Technology (ICT) benchmarks, including IT employment. The purpose of my research is to investigate this from a non-deficit based view to see how IT occupations can be made more attractive to Māori. Therefore the aim of this paper is to establish the key factors to consider when investigating the current culture of the IT workforce, and what it is that attract Māori into specific workplaces or occupations. This has been done by reviewing literature on IT culture at the national, organisational and occupational levels, and values that Māori find desirable in the workplace. This is concluded with a call for help from Māori who are either currently in or who have worked in IT occupations to participate in this study and help further the purpose of this research: to make IT occupations more attractive to Māori.

Keywords: Culture, National Culture, Organisational Culture, Occupational Culture, IT Occupational Culture, Māori Workplace Values

1. INTRODUCTION

We live in a digital world. A characteristic of this digital environment is rapid change which significantly impacts our modern workforce (Blumenfeld & Thickett, 2003; John, Shelton, Lang, & Ingersoll, 2016; Lopez-Bassols, 2002; Manz, Ross, & Grande, 2014). New jobs have been created in new marketplaces to satisfy new needs (Gephart, Jr, 2002; Yoo, 2010) and while we may not fully know the direction of future technological change, we know that change will invariably benefit some groups and not others (Easton, 1977; Marriott & Sim, 2015).

Statistics show that Māori are underachieving when compared to a variety of nationally based Information Communication Technology (ICT) benchmarks. These include access to ICT technology and infrastructure; engagement in ICT specific tertiary education; and low levels of employment in ICT careers (Dyson, Hendiks, & Grant, 2007; Guzman & Stanton, 2009; MBIE, 2015). Comparisons between nationally compiled reports in 2003 and 2015 show that proportionately little has changed, with Māori remaining below the New Zealand average in terms of ICT access, ICT education and ICT employment (MBIE, 2015; NZIER & Te Puni Kōkiri, 2003). This paper will therefore examine the specific area of employment and will explore the role Māori play in ICT workplaces, specifically those in the IT workforce, where IT workers have been identified as a "...critically important group of employees within organizations." (Guzman, Stam, &

Stanton, 2008, p. 33). For the purposes of this study IT workers are defined as:

"People who are trained formally or informally and engage primarily in the conception, acquisition/selection, design, development, adaptation, implementation, deployment, training/education, support, documentation, or management of information and communication technology systems, components or applications for others" (Guzman et al., 2008, p. 34). Of significance in this definition for this study are the words "...for others". IT workers are not end-users. They create, maintain, or manage IT systems. Additionally, this also includes those that teach the skills needed to people wishing to enter the IT workforce.

While this definition is relatively broad, this was deliberately chosen to encompass the large number of different IT jobs available ("How to write an IT specialist job description," n.d.; "Information Technology," 2018). Another notable aspect of this definition is the lack of specific job titles used. This is because it is difficult to consolidate those within this group via job title because of the many different job titles currently used within the IT occupation. This is because of the need for job titles to reflect the duties of job positions, and to be reflective of the skills possessed by the employee. Examples of titles used by a subset of IT workers (IT administrators) are a prime example and can include: technical support, computer specialist, computer consultant, help-desk technician, technical customer service representative, network administrator, systems administrator, network engineer, systems engineer, or even 'network guy' (a position I held in the past).

While it has been acknowledged that Māori participation is low, a research gap currently exists explaining why this is so. Therefore the aim of this paper is to explore key factors to consider when investigating the current culture of the IT

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workforce, and what it is that attract Māori into specific workplaces or occupations. This has been done by reviewing literature on IT culture at the national, organisational and occupational levels, and values that Māori find desirable in the workplace.

2. LITERATURE REVIEW

2.1 Māori and ICT/IT

Statistical information detailing utilisation, engagement and access to ICT by Māori suggest that Māori are under-represented in ICT tertiary education, employment in ICT careers, and have lower than average access to ICT infrastructure and technology (MBIE, 2015). Even before the publication of this report there was an acknowledged of this gap. In 2014 (a year before the publication of the MBIE report) a joint venture between the New Zealand Ministry of Business, Innovation and Employment, and Te Puni Koriri established the Ka Hao Fund (Māori Digital Technology Development Fund). This allocation of \$30 million (over six years) is to "...create high value jobs and opportunities that advance Māori in digital technologies." (Te Puni Kokiri, 2018). The impetus behind the establishment of this fund was to provide opportunities for Māori to transition into digital technologies. Although this fund aims to provide opportunities and solutions to correct underachievement by Māori, research studying the occupational culture of IT/IS personnel (Guzman & Stanton, 2009; Kaarst-Brown & Guzman, 2005) suggest the problem could be more complex and therefore harder to remedy in the long-term than that possible through this current funding initiative. While other initiatives may be in place, the success of the Ka Hao Fund rests on Māori being able to make significant inroads into an international problem which has remained largely unchanged over the past 50 years.

Reflection and place in this study

While a number of innovative projects have already received funding ((Te Puni Kokiri, 2017), I feel that the current approach places undue responsibility on Māori to remedy a long-term international industry problem. To say that Māori are underachieving and need to do better is to ignore both research and social commentaries pushing for industry change. It has been well documented that ICT and IT occupations lack diversity, not only from an indigenous perspective but also in terms of gender, socio-economic status and age (Barzilai-Nahon, 2006; Hamilton et al., 2016; Kaarst-Brown & Guzman, 2005; Livingstone & Helsper, 2007; Smith et al., 2010). The commentary that places responsibility for bridging the gap between Māori and IT\ICT with Māori alone is reflective of neither the longevity nor complexity of this problem.

I believe that research needs to be conducted with Māori currently in IT occupations to clearly establish what the industry is currently doing (or not) to bridge the gap. I also believe that the findings of this research should be analysed against existing research from industries where Māori are highly represented to establish how they differ and the steps needed to make IT occupations more attractive for Māori. This is therefore the purpose of my overall research project.

The aim of this paper is to establish the key factors to consider when investigating the current culture of the IT workforce, and what it is that attract Māori into specific workplaces or occupations.

I will first discuss current research on culture from a tikanga Māori perspective. I follow this with an examination of tikanga as it applies to Māori Workplace Values and concludes with a review of literature examining values in the IT occupation.

2.2 Culture

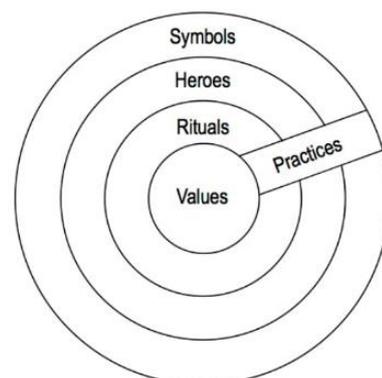
"The concept of culture is slippery" (Shaw & London, 2001, p. 95). Because it is a multi-disciplinary construct which has evolved over time, it is difficult to define (Schein, 2016). Kroeber and Kluckhohn (1952) produced a critical review of the definitions, concepts, and theories in an attempt to clarify and condense what was a diverse and fractured view of culture in the 1950s (Kroeber & Kluckhohn, 1952). Pettigrew (1979) brought together a number of different concepts that he believed were present in the creation of organisations and their individual cultures. These included his initial constructs of symbols, language, ideology, belief, ritual and myth (Pettigrew, 1979). Although Pettigrew (1979) has been credited with introducing culture into organisational theory (Detert, Schroeder, & Mauriel, 2000), Hall's research into concepts such as polychronic versus monochronic time, proxemics, and high versus low context cultures have been foundational in subsequent cross-cultural studies (Bluedorn, 1998; E. T. Hall, 1959, 1966, 1976; Schein, 2016). It should be noted that after some of the initial research on culture by well-known sociologists Marx and Weber (Elster, 1986; Weber, 1947) much of the seminal research examining national, organisational and occupational culture has been conducted from within organisational settings (Hofstede, 1980; Schein, 1988).

2.3 Hofstede, National Culture and Tikanga Māori

While Hofstede's research has been used extensively as a theoretical basis when conducting research at the intersection of IT and culture, one aspect of his research - the six Cultural Dimensions he identified and used to differentiate and categorise different cultures e.g. individualistic vs. collectivist (Hofstede, 2011) - is problematic from a tikanga Māori perspective. Hofstede's work strives to position the researcher as an observer and actively avoids any judgements about right or wrong behaviours from an ethical perspective (cultural relativism – see next section). Cultures and their individual attributes are neither better or worse than others, merely different. Tikanga Māori, however, is about doing the right thing in the right way for the right reasons from a Māori perspective and can differ from location to location depending on the people involved. While it is arguable that research at the intersection of IT and culture must include the work of Hofstede, the lack of cohesion at the fundamental level between this aspect of his research and principles of tikanga Māori mean that his categorisations to differentiate different cultures will not be incorporated as a foundational cornerstone of this study.

2.2.1 Culture as a many layered construct

Unlike Hofstede's research on national culture, there is a degree of correlation between some tikanga principles and the way that Hofstede integrates cultural relativism within his model of culture. In the analysis of culture, Hofstede modelled



culture as a many layered construct with values as the central concept (figure 1).

Figure 1: Hofstede’s ‘onion diagram’: manifestations of culture at different levels (Hofstede, 1991, p. 9)

Hofstede’s representation of culture as a many layered construct was done to indicate superficial versus deep manifestations of culture. At the most superficial are Symbols which include words, pictures, gestures or objects which are of significance to those who share the culture. The next layer is that of Heroes. Heroes in this concept are synonymous with role models and indicate individuals (alive, dead, real or fictitious) that possess valued characteristics of that cultural group. Rituals are activities which can be considered unnecessary to achieving goals, but are nonetheless observed and considered socially essential to those within that cultural group.

At the core of this diagram is values. Values were described as broad tendencies which determine an individual’s preferences under different circumstances. Examples of values include: Good vs. Evil; Dirty vs. Clean; Dangerous vs. Safe; Forbidden vs. Permitted; Decent vs. Indecent; Moral vs. Immoral; (Hofstede, Hofstede, & Minkov, 2010). Practices represent the limitations of those outside the cultural group when viewing the symbols, heroes and rituals of the group. While the symbols, heroes and rituals can be seen by the outside observer, the meaning can be lost or misunderstood because they are interpreting what they see through the lens of their own values. Practices in this model are therefore indicative of Hofstede’s desire to integrate Cultural Relativism into his work (Hofstede, 1991).

Cultural Relativism has its roots in anthropology and is used by Hofstede to argue that people should not make value-based judgments of other cultures to which they do not belong. This is because people may misunderstand or misinterpret a symbol, ritual or hero as they view it through their own cultural lens. Hofstede’s use of Cultural Relativism, however, focuses on only a small part of Cultural Relativism as a concept and can be expressed with greater accuracy as Normative Cognitive Cultural Relativism. Although this may appear to introduce unnecessary complexity, a detailed description is important because problems can arise when concepts – such as theories – are not transferred in their entirety between disciplines (Meek, 1988).

There are three different categories of Cultural Relativism: Descriptive, Normative and Epistemological (Spiro, 1986). Each of these streams developed independently and focused on different facets of cultural relativism. Normative Cultural Relativism is the belief that no universal standards exist that apply evenly to all cultures; different cultures need to be appraised or evaluated independently. Normative Cultural Relativism can be broken down further into two subcategories: Cognitive and Moral. Cognitive applies to issues of true or false (e.g. Is the world flat?), whereas Moral applies to judgements of value or preference and is evaluated on a continuum of good versus bad, or right versus wrong (e.g. Abstract art is ugly) (Spiro, 1986). It is important to understand the difference between Cognitive and Moral Normative Cultural Relativism because Hofstede’s Dimensions of Culture are based on these differences. What is important to this study is that Hofstede created his dimensions based on the cognitive view because he argued that accurate moral judgements of other people’s cultures was not possible.

Reflection and place in this study

Hofstede placed Values at the center and states explicitly that those outside the represented culture looking in (Practices) may

not understand why things are being done because they do not share the same values. In addition to not understanding, Hofstede went further and stated that those outside of the culture being studied could not accurately determine if any action conducted was right or wrong. While this relates closely with tikanga Māori principles, there are also some fundamental differences.

There is a resemblance in the way that those capable of interpreting and portraying the collected knowledge with the “where” and “who” conducted the research correlate. From a tikanga Māori perspective this is driven by Manaakitanga or respect for those involved – especially those from which the knowledge is gathered. From a research perspective, this is research about Māori, done by Māori, for the benefit of Māori.

The written accounts of Hofstede’s observations however belie their origin. Although the identification of this phenomenon may have originated from Hofstede’s desire for fair treatment of those being studied, his published output was that the results would not be accurate and therefore of little use to the consumers of the information. This focus on consumers of information differs significantly from the underlying purpose of tikanga Māori based research. Tikanga dictates that the participants of any study are respected and benefit from the work done, while Hofstede’s stated goals focus on the needs of the end consumer.

Although the tikanga principle of Manaakitanga is and will remain central to this research, Hofstede’s visualisation of culture is informative and the inclusion of cultural relativism interesting. Therefore I will use aspects of Hofstede’s model of culture as a tool to improve understanding if required: keeping in mind that tikanga Māori will form both the primary lens for interpretation and ethical underpinning of my research.

2.4 Schein and Organisational Culture

Schein’s conceptualisation of culture (figure 2) shares much with that of Hofstede.

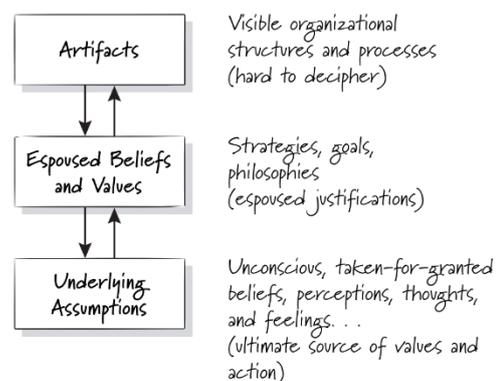


Figure 2: Schein’s Levels of Culture (Schein, 2004, p. 26)

And much like Hofstede, research on culture (organisational as opposed to National) would not be complete without an acknowledgement and review of Schein’s work. Schein’s conceptualisation of culture and differentiation between Values and Assumptions has amassed over 35,000 citations on Google Scholar (in this paper this figure is used as an indication of popularity rather than an actual count), and increased my understanding of the Value component of both Schein and Hofstede’s research. As this research encompasses aspects of both national and organisational culture, a combination of these models may be used to improve (as opposed to prove or validate) my understanding and be reflective of the place

tikanga practices have in the IT occupation for Māori. This will be determined later in the analysis phase of this research but certainly shows promise at this early stage.

2.5 Trice and Occupational Culture

The motivation for Harrison Trice to write his 1993 book about occupational subcultures in the workplace was his perception that occupational subcultures were a neglected dimension of organisational culture (Trice, 1993). Although Trice was most noted for his "...integration of occupational and organizational sociology with the study of alcohol and drugs." (Cornell University Library, n.d., p. 1), his contribution to organisational culture research was to condense and refocus research on occupational culture.

Occupational cultures arose from "...shared educational, personal, and work experiences of individuals who pursue the same occupation". Furthermore, those within a distinct occupation "...share similar ideologies and forms of expressing those ideologies in speech and behavior" (Guzman & Stanton, 2009, p. 160). In essence, occupational subcultures are a collection of artifacts, values and assumptions specific to an occupation within an organisation. Trice explored three themes within his work: Occupations are distinct subcultures within organisations; research on occupational culture was a shift in emphasis from the dominant organisational culture; and lastly, that occupational cultures are in a constant state of change.

Guzman et al., (2008) used Trice's adaptation of the group-grid to study the occupational culture of IS/IT personnel within organisations. What they found was those who self-identified as belonging to the IT workforce displayed collective characteristics indicative of a distinct occupational culture.

2.6 IT Occupational Culture

Occupational culture is the study of specific occupations or professions (e.g. lawyers or accountants) with individual cultures that appear to span different organisations.

The features that Guzman et al., (2008) found common with those in the IT occupation were the constant use of technical jargon, high value placed on those with technical knowledge, feelings of superiority, a general lack of formal rules and constant technical changes leading to high and extreme demands on IT personnel. While research about the IT occupation identified very few studies (e.g. (Guzman et al., 2008; Guzman & Stanton, 2009; Kaarst-Brown & Guzman, 2005), cross referencing this against other research into gender issues yielded similar results (Ahuja, 2002; Lopez-Bassols, 2002; McGee, 2018) with an emphasis on jargon, technical knowledge and constant change leading to high demands on time. It was also noted that these distinctive characteristics frequently led to cultural conflict between those in IT occupations and other organisational subcultures.

Reflection and place in this study

Problematically (from a research perspective), I could find no research later than 2009 focusing on IT occupations. One difficulty when searching for research on the IT occupation is the treatment of occupation and profession as a synonym as opposed to a homonym. What I mean by this is that although the two words are often used to define the same thing (Ahuja, 2002; Guzman & Stanton, 2009; Kaarst-Brown & Guzman, 2005; Wu, Straub, & Liang, 2015), they are "...words that *seem* the same but refer to *different* things..." (Boje, 2008, p. 26). Denning, in his article on the Computing Profession, speaks of moves in the US to transition the IT occupation to that of a Profession with associated bodies of knowledge and standards of membership (Denning, 2018). This has been mirrored in New Zealand through the work of the Institute of IT professionals (ITP). As of now there is still work to be done to

elevate those that work in IT occupations in Aotearoa, New Zealand to that of professional and so, for the purposes of this research, the term IT occupation will be used. This is in no way used as a demeaning term, just a reflection of a diverse industry that has yet to establish a baseline set of standards accepted by all members which includes levels of professional practice and defined ethical standards.

2.7 Tikanga and Māori Workplace Values

There are many different ways that tikanga Māori can be defined. The basis of tikanga is tika which means to be right or correct (Māori Dictionary, n.d.-a); but what is right varies dependent on both the situation and location (Mead, 2003). Different tribal regions or even different vocations (e.g. law or education) will have different views on what is 0.. Mead (2003) suggested that "Tikanga Māori might be described as Māori philosophy in practice and as the practical face of Māori knowledge." (Mead, 2003, p. 7) Within this study and at this time, tikanga Māori will be viewed as the practical application of Māori philosophy and encompasses concepts such as ethics and control in the creation of normative systems. As a Māori researcher, I am aware that my understanding of tikanga Māori will increase and change as I reconnect with my iwi and gain a greater understanding of what is tika. Until then, this will be used as a starting point in my journey.

Māori Workplace Values (MWV) is an emerging area of study and a collective term used to describe research examining the presence and effect of Māori values in organisational settings. New research is emerging that link MWV with, for example, higher levels of engagement by Māori employees (Haar & Brougham, 2011, 2013; Kuntz, Näswall, Beckingsale, & Macfarlane, 2014). In addition to making these organisations more attractive for Māori, it is also beneficial for those organisations as different opinions facilitated by diverse world views can help solve problems of engagement, retention and sustainability (Spiller et al., 2011).

The MWVs used in this study (Wairuatanga; Manaakitanga; Whakawhanaungatanga; Auahatanga; and Kaitiakitanga) were identified and used by Kuntz et al. (2014) based on their analysis and understanding of Te Ao Māori, and "...following recommendations by senior Māori academics and well-respected kaumatua..." (p. 106). After identifying which principles to include, these were then used to assess "...Māori employees' perceptions of the extent to which their workplaces...included tikanga Māori in their daily practices (Harris, Macfarlane, Macfarlane, & Jolly, 2016, p. 51). An explanation of the five values included in their study is as follows.

2.7.1 Wairuatanga

Wairuatanga, which it is generally defined as spiritual values and the right way of doing things from a tikanga Māori perspective, has been identified as a central value in tikanga Māori (Harris et al., 2016; Lilley, 2010). Wairua is the stem word for Wairuatanga, and literally translates as 'two waters'. These two waters symbolise the physical and spiritual worlds which are connected via mauri (life-force) (A. Hall, Morice, & Wilson, 2012). This interconnected view is based on the fundamental belief that everything has a life-force and that our spiritual identity can be upheld through connections with each other and our environment. By being aware that everything has a life-force and is interconnected, a stable platform can be built as a base to support the other four people-first values of Manaakitanga, Whakawhanaungatanga, Auahatanga and Kaitiakitanga.

2.7.2 Manaakitanga

Manaakitanga encompasses concepts such as hospitality, kindness, humility, respect and reciprocity. Central to

Manaakitanga is the effect that the application of these concepts have on mana. Mana is often used to refer to individuals, but it is primarily a collective reservoir that resides within the tribe. Mana refers to the spiritually derived ethic of power and authority and it is through the practice of utu (balance / reciprocity) that the mana of others can be raised; enabling one's own mana to be nourished (Lilley, 2010; Middleton, 2003; Patterson, 1991; Schwimmer, 1966). To ensure balance is preserved, the more mana one receives, the more one needs to create in others through the process generally known as whakamana [lit. 'to raise up honour and authority']. Within a business sense, an example of this is focusing on collective success to raise the performance of a business community. As success increases, so does the mana of each individual involved; leaving the wider business community stronger overall as a result.

2.7.3 Whakawhanaungatanga

Whakawhanaungatanga is a compound word made up of Whaka and Whanaungatanga. Whanaungatanga is a noun and translates to encompass English words such as "relationships, kinship, sense of family connection..." (Māori Dictionary, n.d.-b) Whaka in this context is a prefix which changes the overall meaning from a noun into a verb. This translates to the process of building relationships and establishing links to others, which in the Māori world is via whakapapa (genealogical family connections). The use of whakapapa is not to establish boundaries of exclusion but to determine common ground from which relationships can be built. There is an understanding that all Māori are children of Ranginui (Sky Father) and Papatuanuku (Earth Mother) and consequently are all interrelated whānau (family) with varying degrees of separation. This grounding in whakapapa ensures that everyone has a sense of place, and therefore everyone has a voice. Operationally this means that everyone affected by decisions has the opportunity to contribute to the decision making process and to assume collective responsibility.

2.7.4 Auahatanga

Concepts associated with auahatanga [auaha, lit. to shape, form, fashion or create; -tanga as a suffix denotes process] include creativity, entrepreneurship, problem solving, learning and confronting challenges. Central to auahatanga is innovation, and is depicted in an organisational setting as the organisations willingness to engage in and promote the development of new ideas.

2.7.5 Kaitiakitanga

Kaitiakitanga is typically defined as either guardianship or stewardship. This can be applied to either an individual or a group where they as guardians are responsible for the preservation and ongoing access of resources for future generations. Kaitiakitanga is viewed as a way of managing the environment from a tikanga Māori perspective and is akin to the notion of the active practice of sustainability.

Reflection and place in this study

Kaitiakitanga specifies our roles as guardians in the preservation of resources held in trust for future generations; wairuatanga informs us that all things are interconnected; manaakitanga informs us that as we serve others, our whanau grows in strength and whakawhanaungatanga demands that we not only build relationships, but use these relationships to provide a safe and inclusive environment for people to share thoughts and opinions, while Auahatanga encourages us to be more creative in the solutions we choose (Kuntz et al., 2014). While these are expressly 'Māori' values, it is self-evident that organisations that incorporate these values have the potential to create high performance work

environments that are innovative, collectivist, socially responsible and people focused (Kuntz et al., 2014).

One direction to investigate is how organisational structures support Māori values. This is an area that requires more research but could yield real benefits for organisations truly dedicated to the principles of innovation, collectivism, social responsibility, and diversity.

2.8 Māori, Culture and Careers

While MWVs have been shown to promote Māori worker engagement and support, the degree to which individual Māori identify with Māori values and culture varies (Harris et al., 2016; Kuntz et al., 2014; Reid, 2011). Reid (2011) identified three different groupings when she examined Māori and their relationship between culture and careers: the Keepers, the Seekers, and the Cloaked.

2.8.1 Keepers

Keepers draw their inspiration and sense of responsibility from the past. People in this grouping typically came from a rural traditional backgrounds and dwelt in the past "...where all things were in harmony and where purpose and meaning for their lives could always be found" (Reid, 2011, p. 192). Their work aspirations were to work with and for the benefit of Māori.

2.8.2 Seekers

Seekers traversed between Māori and non-Māori worlds. They seek to discover and rediscover meaning in their lives by exploring new possibilities. Those in this group use their cultural connections with the past to guide and inform their present.

2.8.3 Cloaked

The Cloaked either do not know about, or may choose not to identify with their Māori culture. While they may not deny their Māori origins, it is not something they generally make known. This was because there was a perception that their identity would be a hindrance; either because of preconceived notions of what being Māori meant, or uncertainty over how being Māori could be expressed. For those that shared these characteristics, instead of drawing on lessons from the past they were forced to start afresh and use their present perspective and knowledge as a theoretical basis when attempting to negotiate and make sense of any new future experiences.

Reflection and place in this study

Reid (2011) suggests that similar to other indigenous cultures, Māori are required to actively resist their own preconceptions and those of others when trying to build careers in areas other than working with or for Māori. On reflection this is something I have had to contend with in all aspects of my life including education (media reports highlighting Māori underachievement), socially (as a musician in a male, European dominated genre) and professionally (in IT - a male, European dominated profession). Unlike myself, this is not an issue for keepers as they already work with or for Māori and are largely insulated against outside preconceptions about their identity, worth or place. For those of us who share the seeker or cloaked characteristics, this is a present and ongoing struggle and how this is viewed and dealt with could potentially be an integral part of this study.

3. CONCLUSION

The literature informs us that individual, and group values and assumptions are determined by cultural influences at multiple levels. Those influences can include cultural pressures determined by an individual's position in groups such as gender, ethnicity, nationality, organisational, occupational and generational to name a few. These different influences can

manifest themselves in different ways culminating in different outcomes. A manifestation of these different influences can be seen in the stratification of Māori in the workforce, as Māori are required to actively resist their own preconceptions and those of others when trying to build careers in areas other than working with or for Māori.

Jobs in IT have been identified as an area where few Māori work. It is currently viewed as an area of underachievement for Māori but when placed in context with other literary findings, appears to be an overtly simplistic, one-sided deficit view of a complex issue. While government funding has been allocated to address this issue, the misalignment of values is a research area that has yet to attract scholarly interest. This research project will therefore examine the values and assumptions associated with IT occupations and desirable Māori workplace values to establish how IT occupations can be made more attractive for Māori.

4. WHERE TO NEXT?

I am now at the stage where I would like to talk to Māori IT personnel to find out how IT occupations can be made more attractive for Māori new to IT.

To achieve this goal the questions asked will revolve around three key themes:

1. Personal Culture (Cultural influences predominantly outside of the workplace).
2. Worker Culture (What do you bring to the workplace and how this is manifested?)
3. Organisational Culture (How the workplace supports your personal and worker culture)

At the conclusion of this study it is my aim to establish what Māori workers need in relation to culture for the IT occupation to become desirable and attainable.

5. REFERENCES

- Ahuja, M. K. (2002). Women in the information technology profession: a literature review, synthesis and research agenda. *European Journal of Information Systems*, 11(1), 20–34.
- Barzilai-Nahon, K. (2006). Gaps and bits: Conceptualizing measurements for digital divide/s. *The Information Society*, 22(5), 269–278.
- Bluedorn, A. C. (1998). An Interview With Anthropologist Edward T. Hall. *Journal of Management Inquiry*, 7(2), 109–115.
- Blumenfeld, S., & Thickett, G. (2003). Surfing the knowledge wave: The impact of information and communication technology (ICT) on “decent work” in New Zealand. *New Zealand Journal of Industrial Relations*, 28(1), 1–12.
- Boje, D. M. (2008). *Storytelling Organizations*. Sage Publications Ltd.
- Cornell University Library. (n.d.). Harrison Trice Papers. Retrieved February 21, 2018, from <http://rmc.library.cornell.edu/EAD/htmldocs/KCL04313.html>
- Denning, P. J. (2018). The Computing Profession. *Communications of the ACM*, 61(3), 33–35.
- Detert, J. R., Schroeder, R. G., & Mauriel, J. J. (2000). A framework for linking culture and improvement initiatives in organizations. *Academy of Management Review*, 25(4), 850–863.
- Dyson, L. E., Hendiks, M., & Grant, S. (Eds.). (2007). *Information Technology and Indigenous People*. Online Information Review (Vol. 32). Information Science Publishing.
- Easton, B. (1977). The Economic Life-Cycle of the Modern New Zealand Family. *The Australian and New Zealand Journal of Sociology*, 13(1), 85–89.
- Elster, J. (1986). *An introduction to Karl Marx*. The press Syndicate of the University of Cambridge.
- Gephart, Jr, R. P. (2002). Introduction to the brave new workplace: Organizational behavior in the electronic age. *Journal of Organizational Behavior*, 23(SPEC. ISS.), 327–344.
- Guzman, I. R., Stam, K. R., & Stanton, J. M. (2008). The Occupational Culture of IS/IT Personnel within Organizations. *ACM SIGMIS Database*, 39(1), 33.
- Guzman, I. R., & Stanton, J. M. (2009). IT occupational culture: the cultural fit and commitment of new information technologists. *Information Technology & People*, 22(2), 157–187.
- Haar, J. M., & Brougham, D. (2011). Consequences of cultural satisfaction at work: A study of New Zealand Māori. *Asia Pacific Journal of Human Resources*, 49(4), 461–475.
- Haar, J. M., & Brougham, D. M. (2013). An Indigenous Model of Career Satisfaction: Exploring the Role of Workplace Cultural Wellbeing. *Social Indicators Research*, 110(3), 873–890.
- Hall, A., Morice, M., & Wilson, C. (2012). Waka Oranga: The Development of an Indigenous Professional Organisation within a Psychotherapeutic Discourse in Aotearoa New Zealand. *Psychotherapy and Politics International*, 10(1), 7–16.
- Hall, E. T. (1959). *The Silent Language*. Garden City, NY: Anchor Press / Doubleday.
- Hall, E. T. (1966). *The Hidden Dimension*. Garden City, NY: Anchor Press / Doubleday.
- Hall, E. T. (1976). *Beyond Culture*. Garden City, NY: Anchor Press / Doubleday.
- Hamilton, M., Luxton-Reilly, A., Augar, N., Chiprianov, V., Gutierrez, E. C., Duarte, E. V., ... Wong, E. (2016). Gender equity in computing: International faculty perceptions & current practices. In *Proceedings of the 2016 ITiCSE Working Group Reports, ITiCSE 2016* (pp. 81–102).
- Harris, F., Macfarlane, S., Macfarlane, A., & Jolly, M. (2016). Māori Values in the Workplace: Investing in Diversity. *MAI Journal*, 5(1), 48–62.
- Hofstede, G. (1980). *Cultures Consequences: Individual differences in work-related values*. Beverly Hills: Sage.
- Hofstede, G. (1991). *Cultures and Organizations: Software of the Mind*. McGraw-Hill Book Company.
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1), 1–26.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and Organizations: Software of the Mind* (Third Edit). McGraw-Hill Book Company.
- How to write an IT specialist job description. (n.d.). Retrieved March 2, 2018, from <https://www.indeed.com/hire/job-description/it-specialist>

- Information Technology. (2018). Retrieved March 2, 2018, from <https://www.newzealandnow.govt.nz/work-in-nz-jobs-industries/information-technology-jobs>
- John, N. J., Shelton, P. G., Lang, M. C., & Ingersoll, J. (2016). Training Psychiatry Residents in Professionalism in the Digital World. *Psychiatric Quarterly*, 1–8.
- Kaarst-Brown, M., & Guzman, I. (2005). Who is the “IT workforce”? Challenges facing policy makers, educators, management, and research. In *SIGMIS-CPR* (pp. 1–8). Atlanta, Georgia, USA.
- Kroeber, A. L., & Kluckhohn, C. (1952). Culture: A critical review of concepts and definitions. *Papers of the Peabody Museum*, 47(1), 223.
- Kuntz, J. R. C., Näswall, K., Beckingsale, A., & Macfarlane, A. H. (2014). Capitalising on diversity – Espousal of Māori values in the workplace. *The Journal of Corporate Citizenship*, 55(September), 102–123.
- Lilley, S. (2010). *The information seeking behaviours of Māori secondary school students*. Massey University.
- Livingstone, S., & Helsper, E. (2007). Gradations in digital inclusion: children, young people and the digital divide. *New Media & Society*, 9(4), 671–696.
- Lopez-Bassols, V. (2002). *ICT Skills and Employment*. Paris, France.
- Manz, C., Ross, J. S., & Grande, D. (2014). Marketing to physicians in a digital world. *The New England Journal of Medicine*, 371(20), 1857–1859.
- Māori Dictionary. (n.d.-a). tika. Retrieved May 10, 2017, from <https://Māoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=tika>
- Māori Dictionary. (n.d.-b). whanaungatanga.
- Marriott, L., & Sim, D. (2015). Indicators of inequality for Māori and Pacific People. *Journal of New Zealand Studies*, 20, 24–50.
- MBIE. (2015). *Māori me te Ao Hangarau 2015 (The Māori ICT Report 2015)*.
- McGee, K. (2018). The influence of gender, and race/ethnicity on advancement in information technology (IT). *Information and Organization*, 28(1), 1–36.
- Mead, H. M. (2003). *Tikanga Māori: Living by Māori Values*. Wellington: Huia Publishers.
- Meek, V. L. (1988). Organizational culture: Origins and weaknesses. *Organizational Studies*, 9(4), 453–473.
- Middleton, A. (2003). Māori and European landscapes at Te Puna, Bay of Islands, New Zealand, 1805-1850. *Archaeology in Oceania*, 38, 110–124.
- NZIER, & Te Puni Kōkiri. (2003). *Māori economic development. Te Ōhanga whanaketanga Māori*.
- Patterson, J. (1991). Utu and punishment. *Victoria University of Wellington Law Review*, 21, 239–250.
- Reid, L. (2011). Looking back to look forward: Māori cultural values and the impact on career. *International Journal for Educational and Vocational Guidance*, 11(3), 187–196.
- Schein, E. H. (1988). Organizational culture. *American Psychological Association*, 45(2), 109.
- Schein, E. H. (2004). *Organizational culture and leadership* (3rd ed.). San Francisco: Jossey-Bass.
- Schein, E. H. (2016). *Organisational culture and leadership* (5th ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Schwimmer, E. (1966). *The World of the Māori*. Wellington: A.H. & A.W. Reed.
- Shaw, K. M., & London, H. B. (2001). Culture and Ideology in Keeping Transfer Commitment: Three Community Colleges. *The Review of Higher Education*, 25(1), 91–114.
- Smith, P., Smith, N., Sherman, K., Goodwin, I., Crothers, C., Billot, J., & Bell, A. (2010). *The Internet in New Zealand 2009*. Retrieved from http://www.aut.ac.nz/_data/assets/pdf_file/0006/1228/29/WIPNZ-2009-Full-Report---Final_Fig-68-fixed.pdf
- Spiller, C., Erakovic, L., Henare, M., Pio, E., Erakovic, L., & Pio, E. (2011). Relational Well-Being and Wealth: Māori Businesses and an Ethic of Care. *Journal of Business Ethics*, 98(1), 153–169.
- Spiro, M. E. (1986). Cultural Relativism and the Future of Anthropology. *Cultural Anthropology*, 1(3), 259–286.
- Te Puni Kōkiri. (2017). Ka Hao fund recipients. Retrieved April 17, 2018, from <https://www.tpk.govt.nz/en/whakamahia/it-and-innovation/ka-hao-Māori-digital-technology-development-fund/ka-hao-fund-recipients>
- Te Puni Kōkiri. (2018). Ka Hao: Māori Digital Technology Development Fund. Retrieved from <https://www.tpk.govt.nz/en/whakamahia/it-and-innovation/ka-hao-Māori-digital-technology-development-fund>
- Trice, H. M. (1993). *Occupational subcultures in the workplace*. New York: Cornell University.
- Weber, M. (1947). *From Max Weber Essays in Sociology*. (K. Mannheim, Ed.).
- Wu, S. P., Straub, D. W., & Liang, T.-P. (2015). How Information Technology Governance Mechanisms and Strategic Alignment influence Organizational Performance: Insights from a matched survey of Business and IT Managers. *MISQ*, 39(2), 497–518.
- Yoo, Y. (2010). Computing in everyday life: A call for research on experimental computing. *MIS Quarterly*, 34(2), 213–231.