

# It's the Environment, Stupid: Motivations, Preferences and Sustainable Investment Perspectives of Indigenous Asset Owners

October 20, 2023

## **Abstract**

Previous studies purport that assets owned by indigenous groups are managed within a framework of cultural values which emphasises sustainability and seeks to create social and environmental impact within indigenous communities while balancing cultural and commercial imperatives. We draw on new data and theory to empirically examine this assertion within the unique institutional investor setting of the asset holding entities of Māori, the indigenous people of New Zealand. In alignment with the concept of indigenous sustainable finance we find that there is synonymity between indigenous Māori culture and sustainable investing concepts broadly defined. Using corporate culture as a theory of the firm (Gorton and Zentefis,2020a), we further show that indigenous corporate culture drives a preference for environmental considerations in investment decisions among indigenous asset owners.

**JEL Classification:** D23, G23, G30, K22, M14, M41, O16

**Key words:** cultural finance, sustainable corporate finance, corporate culture, values, norms, intrinsic motivation, indigenous, Māori, indigenous investments

# 1 Introduction

The cultural finance and corporate culture literature has grown into a significant body of work. Much of the research in this area has focused on the impact of national and corporate culture on firm performance and other dimensions of the firm, as highlighted in the comprehensive review by Grennan and Li (2022). However, a recent study by Griffin et al. (2021) has shifted attention towards the impact of culture on the sustainability dimension, particularly the environmental and social performance of firms. This study used the Hofstede (2011) database of national culture and the World Values Survey to show that an individualistic national culture is positively associated with environmental and social performance at the firm level.

Building on this literature, we investigate whether and how indigenous corporate culture influences motivations and preferences for environmental, social and governance (ESG) considerations and socially responsible investments. Specifically, we examine indigenous corporate culture, as expressed through indigenous identity and cultural values, within the context of Māori Asset Holding Institutions (MAHI), the commercial and investment entities of Māori, the indigenous people of New Zealand.

Our study is motivated by literature which suggests that MAHI, which collectively manage assets of \$NZ21 billion (BERL,2021), are operated within a framework of cultural values which emphasize sustainability and social responsibility (Awatere,2017; Kamalnath,2021). Five years of hand collected data, presented in Figure 1, from the financial reports of the ten largest MAHI which shows that an annual average of 24% of total expenditure is on environmental and social spending also provides impetus for our study. Figure 2, which charts the 5-year average for each of the ten MAHI, indicates a range of 2% to 50% in environmental and social spending.

\*\*\*Insert Figure 1 about here\*\*\*

\*\*\*Insert Figure 2 about here\*\*\*

Synonymity between indigenous cultural values, social responsibility, and sustainable investment approaches have been highlighted in the literature (Poyser and Dauggard, 2023); we first provide empirical evidence for this and provide further evidence which describes the sustainable investment perspective of Māori as indigenous asset owners. We then present a survey and discreet choice experiment of executives and board members within MAHI which explores the role of indigenous Māori identity and Māori cultural values in determining ESG preferences and sustainable investment decision making.

Our results show that identifying as Māori is associated with a greater preference for environmental issues in investment decision-making. This indicates the significance of Māori identity in shaping preferences for environmental considerations within MAHI. However, the strength of Māori identity does not significantly influence environmental preferences, suggesting that simply identifying as Māori is sufficient to drive this preference.

Furthermore, the study finds no significant relationship between the importance placed on Māori cultural values in investment decision-making and ESG preferences. This suggests that Māori identity plays a relatively more prominent role than cultural values in shaping preferences for sustainable investing among MAHI executives and board members. Results of a discrete choice experiment show, however, that MAHI executives and board members would be willing to sacrifice financial returns for investment opportunities which reflect Māori cultural values.

These findings contribute to understanding the influence of Māori identity and cultural values on ESG preferences within MAHI. They highlight the importance of Māori identity in driving preferences for environmental considerations in investment decision-making and provide insights for developing investment strategies that align with Māori values and principles.

We interpret these results within the context of the cultural finance and corporate culture literature (Beckmann et al., 2008; Aggarwal et al., 2016; Guiso et al.,2006; Guiso et al.,2015a; Graham et al.,2022; Grennan and Li,2022; Nguyen et al.,2023; Fang et al.,2023) which shows that culture has an impact on investment decision making. We extend this body of work by showing that in addition to the impact of national culture on sustainability issues highlighted in previous studies (Griffin et al.,2021), group culture,

in this instance indigenous group culture adopted as corporate culture, also plays a role in the context of indigenous asset owners.

Our study also makes an empirical contribution to the literature which investigates the role of investors' personal values and sustainable investment preferences (Anderson and Robinson, 2019; Anderson and Robinson, 2022; Bauer et al., 2021; Broadback et al., 2019) by showcasing the group cultural values and sustainable investment preferences of a unique institutional investor that, to the best of our knowledge, has not been previously represented in the finance literature.

The paper proceeds as follows. In Section 2, we provide a brief background to Māori Asset Holding Institutions. The supporting literature, theory and hypothesis development are presented in Section 3. We present the data and methodology in Section 4, results in Section 5, address limitations of the survey methodology in section 6 and conclude in Section 7.

## 2 Background

Māori Asset Holding Institutions are institutional investors which manage assets collectively owned by Māori, the indigenous people of New Zealand. These entities are a product of a unique legal process whereby a Māori tribal group, referred to hereafter as iwi (tribe) or hapu (subtribe), reclaims ownership of assets from the state which it then manages for the benefit of the entire group (Cribb,2020). These legal entities are established during the Treaty of Waitangi (Te Tiriti o Waitangi) settlement process and take the form of Māori land trusts, private trusts and incorporations. Most MAHI follow the private trust model whereby a settlement trust is established with a trust board and commercial and social subsidiaries which may then be registered separately as incorporations or charities as indicated in Figure 3. Cribb (2020) argues that this corporate governance structure has significant implications for the sustainable management of MAHI assets. MAHI represent a unique ownership type in which each owner has equal and oftentimes multiple ownership across MAHI due to multiple tribal affiliations.

\*\*\*Insert Figure 3 about here\*\*\*

The Treaty of Waitangi Settlement process was designed following the establishment of the Waitangi Tribunal as a permanent standing commission to investigate historical claims by Māori that the Government had breached the Treaty of Waitangi which was signed between the Māori chiefs and the colonial government in 1840. Breaches of the treaty resulted in significant land loss for Māori through the New Zealand Land Wars and economic and social displacement as the colonial government captured more land from Māori for settlement establishment and production activities (Belgrave,2017). Māori culture and language also declined along with the socio-economic wellbeing of the tribes. Māori descendants through activism and protests in the 1970s forced the government to respond to the needs of Māori by compensating for the historical wrongs (Cribb,2020). With the first compensation/settlement package awarded to the Waikato-Tainui iwi in 1995, at least 100 iwi and hapu have since received settlement and several are still in the process of making and settling claims with the Waitangi Tribunal. A settlement package normally includes an apology from the government, the return of lands historically belonging to the iwi or hapu, return of sites of cultural significance, cash, forestry and fisheries quota which represent historical, cultural

and commercial/financial redress. Post Settlement Governance Entities, as they are legally called, are set up to receive, hold and manage the assets for the future benefit of all tribal members. In setting up a settlement entity there is wide consultation across the iwi or hapu to determine the name, structure, values and goals of the entity. Decisions around how the assets should be managed are also taken collectively. Coffin (2013) points out that management of the assets go beyond commercial objectives and that a MAHI must cater to the economic, environmental, social, political and cultural aspirations of tribal members. The ownership structure of MAHI whereby each tribal member has equal claim to assets is one which is considered to be best facilitated by the private trust model, despite the fact that it is a western corporate governance structure (Sanderson et al.,2007). Furthermore, the management and governance bodies of MAHI are drawn from the ownership base, although non-Māori directors and consultants may be co-opted. These characteristics make MAHI unique institutional investors.

### 3 Related Literature and Hypotheses

A growing body of literature has shown that culture is an important variable in studying financial decision making as it impacts attitudes, perceptions, preferences and behaviours through the interaction of beliefs, values and identity (Aggarwal et al.,2016). Cultural identity and cultural values are elements of culture (Schwartz et al.,2008) which is loosely defined as ‘customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation’ (Guiso et al.,2006). Drawing on the field of identity economics, Grimes et al. (2015) and Houkamau and Sibley (2019), through survey studies of the broad Māori population, provided evidence for a relationship between Māori cultural identity, Māori values and the economic attitudes of Māori. Our survey is related but differs as it canvasses decision makers within MAHI; further to this we focus on investment decision making among the sample surveyed. The main question we investigate is whether indigenous Māori culture, as expressed through Māori identity and Māori cultural values, is related to sustainable investment preferences and corporate decision making within MAHI.

Our basis for empirical investigation of this relationship is corporate culture as a theory of the firm which argues that culture, is the dominant force through which resources within a firm are allocated and is the primary medium through which decisions are made about the firm’s structure and operation (Gorton and Zentefis,2020a; Gorton and Zentefis,2020b; Gorton et al.,2022). We apply the theory to explain how indigenous corporations, such as MAHI, have come to emphasize a stakeholder paradigm and sustainability as an organizing principle through the mechanism of indigenous corporate culture which we argue is shaped by indigenous group culture.

There is an increasing recognition that culture impacts economic and investment decisions (Aggarwal et al.,2016; Beckmann et al., 2008). In a seminal paper, Guiso et al. (2006) reviewed evidence for the impact of culture on economic outcomes through the channels of values and beliefs. Our study aligns with this body of work by exploring the impact of indigenous cultural values on investment decisions. Several studies have demonstrated that indigenous organizations are values driven and ground their corporate practices and decision making in indigenous cultural values which emphasize sustainability and social responsibility; see Poyser and Daugaard (2023) for a review.

The values driven corporate culture of indigenous organizations has been conceptualized as emerging through the principles of resilience and community commitment, indigenous leadership and institutional rhetoric in indigenous institutional theory (Coates et al.,2022). Indigenous institutional theory suggests that resilience and community commitment, indigenous leadership and institutional rhetoric explain the cultural motivations and behaviour of Indigenous agents within institutions. Resilience and community commitment refers to the social responsibility and sustainability called for by indigenous cultural values and is demonstrated in the fact that the work of indigenous institutions is anchored in care for families, communities and the enrichment of cultural and tribal groups (Coates et al.,2022).

### **3.1 Indigenous Corporate Culture and Sustainability**

As is the case with other indigenous institutions, MAHI deviate from the traditional purpose of the firm as their role in society centers on the revival of indigenous Māori culture (Rout and Tau,2018; Webster, 1998; Ngai Tahu Research Centre,2018). Indigenous corporations have been able to accumulate significant wealth and power by leveraging the unique cultural status of indigenous peoples to secure reparations for historical injustices. These firms, therefore, do not develop corporate culture as a value enhancing proposition, which, from survey evidence documented by Graham et al. (2022), is widely believed to be the purpose of corporate culture among North American executives, but rather indigenous corporations are devices through which indigenous cultures are kept alive and perpetuated (O'Regan,2019; Sanderson et al.,2007). Indigenous corporations are therefore in service of indigenous culture which stands outside the corporation and exists independently of it; we therefore simplify our conception of indigenous corporate culture as the adoption of indigenous group culture within indigenous organizations. We are of the view that traditional corporate finance theories and western conceptions of the firm cannot explain firms of this nature, with articulated purposes which deviate from a shareholder focus. Indigenous institutional theory and corporate culture as a theory of the firm (Gorton and Zentefis, 2020a) may therefore be better at explaining the social responsibility and stakeholder focus of indigenous firms. Indigenous institutional theory highlights a corporate culture within indigenous institutions which promotes community wellbeing and environmental protection and therefore provides



theoretical support for indigenous sustainable finance, a concept which suggests synonymity between indigenous worldviews and sustainable investing (Poyser and Dauggard,2023). Mika et al. (2020) discuss this synonymity specifically as it relates to a Māori perspective. Policy makers and the wider investment community in New Zealand have in recent times espoused a synonymic relationship between an indigenous Māori worldview and sustainable investing (Hurrell,2022). The link between the two is, however, anecdotal, and has not been specifically tested. Therefore, we examine whether MAHI executives and board members ascribe synonymity to sustainable investing concepts and an indigenous Māori worldview.

*Hypothesis 1: Executives and board members within MAHI view sustainable investing concepts as synonymous with an indigenous Māori worldview.*

### **3.2 Māori Identity Relate to the Sustainable Investment Preferences of MAHI**

Through a decades long collaboration Nobel Prize-winner George Akerlof and economist Rachel Kranton have provided compelling evidence of the salience of identity in economic decision making. The basic premise of identity economics is that social and cultural identity expands the standard utility function to incorporate identity utility as well as financial incentives (Akerlof and Kranton,2000). In the context of organizations, identity impacts a range of outcomes where monetary incentives do not provide sufficient motivation (Akerlof and Kranton,2005); it is not difficult to see how this extends to ESG issues. Even with the rise in shareholder demand for ESG and ESG-linked pay, preferences and prioritization of corporate social responsibility can be explained by the personal characteristics and social identity of corporate executives (Gillian et al.,2020); specifically, studies have shown that identifying as a father predicted greater ESG preferences for CEOs with daughters when compared to those without (Homroy et al.,2023; Homroy,2023; Cronqvist and Yu,2017). Furthermore, seminal work by Graham et al. (2013) indicates that CEO's psychological traits and personal characteristics are related to corporate financial policies. From an asset management perspective, Beckmann et al. (2008) found that cultural characteristics of asset managers provided explanatory power for investment behavior. A non-trivial characteristic of executives in MAHI is their cultural identity as Māori.

The literature on indigenous Māori identity and Māori social psychology suggests greater preferences for environmental and social issues among Māori when compared to non-Māori. Surveys of the broad Māori population have found that strong Māori identity and identification with Māori cultural values result in greater expression of Māori beliefs and values in economic decisions (Houkamau and Sibley,2019); beliefs and values which emphasize environmental protection and social responsibility (Awatere et al.,2017; Morgan,2004). Analysis of responses from Māori who participated in the World Values Survey between 1995 and 2011, found that Māori are more likely to believe that businesses should be operated collectively and that the environment should be prioritized above profits (Grimes et al.,2015). Grimes et al.(2015) also reported that Māori women have a greater propensity for environmental protection than Māori men. Houkamau and Sibley (2019) also found that strong Māori identity and Māori values predicted attitudes towards protection of tribal assets as opposed to increased risk taking for profit.

Furthermore, recent studies which makes use of the Environmental Identity (EID) Scale (Clayton, 2003) has demonstrated that Māori identity is positively related to environmental identity and pro-environmental attitudes (Tassell-Matamua et al., 2021;Apiti et al.,2022). Environmental identity (EID) is defined as a sense of connection to the natural environment which affects an individual's perception and action towards the world; it encompasses the belief that the environment is important to one's sense of self (Clayton, 2003). Stronger EID predicts pro-environmental attitudes and behavior (Sierra-Barón et al.,2023). The study by Tassell-Matamua et al. (2021) utilized the Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE3) (Houkamau et al. 2019) as their measure of Māori identity. The MMM-ICE3 is a 54-item multi-scale instrument which measures Māori identity across seven dimensions: group membership evaluation (GM), perceived appearance (PA), socio-political consciousness (SC), authenticity (A), cultural efficacy and active identity engagement (EE), interdependent self-concept (IS), and spirituality (SP).Items are summed to create a total score and sub-scale scores for each dimension, with higher scores indicating a stronger Māori identity. Tassell-Matamua et al. (2021) found that the total MMM-ICE3 score and sub-scale scores for the EE and SP dimensions were significant predictors of EID.

If Māori identity predicts greater propensity for attitudes, beliefs and values which promote environmental protection and social responsibility, then identity economics suggests that this propensity should influence the investment decision making process of MAHI executives towards sustainable investments.

*Hypothesis 2: Māori identity is positively related to ESG preferences in the investment decision making process of MAHI executives and board members*

### **3.3 Māori Cultural Values Relate to the Sustainable Investment Preferences of MAHI**

Broadback et al. (2019) utilized altruistic and egotistic personal values to assess the relative importance placed on risk, return and social responsibility. They found that altruism was positively related to the relative importance of social responsibility in the investment decisions of retail investors. Related work has utilized cultural values at the country level to show that these drive corporate social performance (Cai et al.,2016; Griffin et al.,2021). Our work is similar but utilizes Māori cultural values as opposed to personal or national cultural values.

Indigenous institutional theory highlights the centrality of indigenous cultural values as organizing forces in indigenous institutions which shape indigenous corporate culture and behaviour towards community care and environmental protection (Coates et al.,2022). Several studies have demonstrated that Māori enterprises operate within a framework of Māori cultural values which emphasize care for the environment, social responsibility and good governance (Awatere et al., 2017; Morgan,2004; Harmsworth, 2005; Kjeldsen and Roberts,2018); it is these values which distinguish them from other firms (Harr et al., 2021). We therefore expect that Māori values will influence decision makers within MAHI towards greater preference for sustainable investments as these tend to align with Māori cultural values.

*Hypothesis 3: The importance placed on Māori cultural values is positively related to ESG preferences in the investment decision making process of MAHI executives and board members*

*Hypothesis 4: The relative importance of Māori cultural values will be*

*greater than the relative importance of financial returns in the investment decision making process of MAHI executives and board members*

Several cultural datasets and scales exist and have been used as measures of national and corporate culture, we, however, do not believe that these are suited to an indigenous context as they were designed within and for western contexts. We, therefore, operationalize indigenous corporate culture as Māori cultural identity and Māori cultural values and adopt measures of both elements of indigenous Māori culture from the indigenous studies literature; in doing so we follow the best practice of analyzing elements of culture when studying corporate culture (Gorton et al.,2022) . In this instance, the elements we study are cultural identity and cultural values. Our measure of Māori cultural identity is adopted from the Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE3) (Houkamau et al. 2019). We follow Best and Love (2010) in developing measures for a set of core indigenous Māori cultural values; the core values, which were first described by Henare (1998) and Mead (2003) are defined in Table 1.

\*\*\*Insert Table 1 about here\*\*\*

Our paper bridges the fields of cultural finance and sustainable corporate finance, by showing that indigenous corporate culture plays a role in determining sustainable investment preferences of indigenous asset owners. In Williamson’s framework for levels of social analysis we position our work as level 1 culture influencing and interacting with level 3 governance and affecting level 4 decisions; see Williamson (2000) for explanation and Aggarwal et al. (2016) for application within the context of cultural finance.

## 4 Data and Methodology

### 4.1 Survey Participants

We survey a sample population of the over 100 MAHI which exists in New Zealand. Our survey, which was conducted in early 2023, targeted responses from individuals at three levels of MAHI: board members at the level of the tribal governance body/trust board, directors and trustees at the level of the commercial governance body and managers at the level of the social and commercial subsidiaries. Through this stratified sampling approach, our sample reflects the corporate governance structure of MAHI. While there are non-Māori directors and managers working in MAHI, these corporations are collectively owned entities of a single indigenous group representing a minority population and as such, we take the sample to be representative of the collective owners of the assets vested in these asset holdings institutions through the treaty settlement process. Invitation to the online survey was emailed to a sample of 342 directors and managers at the level of the commercial governance body and the social and commercial subsidiaries and also to a sample of 334 trustees at the level of the trust board. The combined 676 individuals to which the invitation was sent represent a total of 100 discreet and independently operated MAHI. The list of individuals and MAHI which served as the sample population were compiled through a snowballing process of suggestions from key informants and internet search of the websites of MAHI; we therefore acknowledge that our sample suffers from a sample selection bias and address this issue in later sections. We received responses from 114 individuals who are collectively associated with 50 of the 100 MAHI to which the survey was sent. Our response rate for individuals surveyed is therefore 17 percent which compares favorably with the response rate of 7 percent obtained by Houkamau and Sibley (2019) in their survey of the Māori population while our response rate for MAHI is 50 percent which is almost two times the rate obtained by Harr et al. (2021) who also surveyed Māori enterprises.

### 4.2 Survey Instrument and Design

We frame the design of the survey through extensive informal interviews, carried out using a Kaupapa Māori research approach (see Pihama et al., 2002), with a collection of 10 Māori scholars, investment managers and trustees of

MAHI. Figure 4 illustrates an outline of the survey instrument.

\*\*\*Insert Figure 4 about here\*\*\*

Section 1 of the survey asks respondents about whether or not they identify as Māori and asks them to complete the group membership evaluation dimension of the MMM-ICE3 if they do. In section 2 we collect individual and firm-level demographic information and use these data points along with the population size of the associated iwi and the number of years since treaty settlement as control variables. In Section 3 we measure Māori values in investment decision making.

In section 4 of the survey, we derive our dependent variables by measuring sustainable investment preferences. We do this in two ways: Firstly, we follow McLean et al.(2022) in asking respondents to make proportional allocations out of 100 points to ESG themes and sub-themes. The allocations represent relative weights that respondents assign to the ESG themes and sub-themes in the investment decision making process. Secondly, we explore the preference for Māori values in the investment decision-making process through a discrete choice experiment. Five criteria of hypothetical investment opportunities were selected; the financial return of the investment opportunity and its alignment with four Māori cultural values which relate to: social responsibility (*whanaungatanga/ability to benefit whānau*); environmental protection (*kaitiakitanga*); sustainability (*mauri*); and indigenous rights of Māori and their ability to have autonomy and to exercise control over the management of their own affairs (*mana*).

We use a partial-profile approach for the discrete choice experiment and utilized the PAPRIKA (Potentially All Pairwise Rankings of all Possible Alternatives) method developed by Hansen and Ombler (2008). PAPRIKA reduces the number of pairs respondents have to rank by identifying all implicitly ranked pairs through the corollary suggested by the pairs which respondents explicitly rank and discarding these while maintaining the undominated pairs (Hansen and Ombler,2008). The PAPRIKA method addresses the significant cognitive load required if respondents were required to rank 72 (2x2x2x3x3) investment opportunities which represent all possible combinations of the 5 investment criteria and 2,2,2,3,3 levels on each criterion to choose from as indicated in Table 2. An average of 11 trade-offs between pairs of the investment opportunity criteria is randomly presented to participants

in a web-based software designed on the PAPRIKA method. Participants were directed to the software after completing the previous sections of the survey questionnaire. We obtain mean weights (partial utilities) for each criterion and use these as a measure of preference for sustainable and socially responsible investments as proxied by Māori values as opposed to investments focused on earning a financial return.

\*\*\*Insert Table 2 about here\*\*\*

### 4.3 Model Specification

To test hypothesis H1 we perform a principal factor analysis based on the following model:

$$X_{ij} = \sum(\lambda_{jk} \times F_{ik}) + \varepsilon_{ij} \quad (1)$$

Where  $X_{ij}$  represents Likert scale responses of the i-th respondent to the j-th survey item;  $\lambda_{jk}$  represents the latent factor score of the i-th respondent on the k-th factor and  $F_{ik}$  represents the factor loading of the j-th survey item on the k-th factor.

To test our hypothesis H2 we estimate the following fractional probit models which relates our variables for Māori identity to the ESG theme allocations made by respondents:

$$\omega_{ESGj} = \beta_0 + \beta_1 D^{Māori}j + \beta_2 Xj + \epsilon_j \quad (2)$$

$$\omega_{ESGj} = \beta_0 + \beta_1 MMM - ICE3scorej + \beta_2 Xj + \epsilon_j \quad (3)$$

Where  $\omega_{ESG}$  is respondent j's proportional allocation of 100 points between Environmental, Social and Governance themes;  $D^{Māori}j$  is a dummy variable which takes the value of 1 if respondent j identifies as Māori and 0 otherwise;  $MMM - ICE3scorej$  represents the score respondent j obtains on the group membership evaluation dimension sub-scale of the MMM-ICE3 and  $Xj$  is a vector of respondent and MAHI characteristics.

To test our research hypothesis H3, we estimate the following fractional probit model which relates our variable for Māori cultural values to the ESG theme allocations made by respondents:

$$\omega_{ESGj} = \beta_0 + \beta_1 MCVscorej + \beta_2 Xj + \epsilon_j \quad (4)$$

Where  $\omega_{ESG}$  is respondent  $j$ 's proportional allocation of 100 points between Environmental, Social and Governance themes;  $MCVscorej$  represents the score respondent  $j$  obtains on the on the combined measures for the importance of Māori values in the investment decision making process and  $Xj$  is a vector of respondent and MAHI characteristics.

#### 4.4 Reliability of Māori Identity and Cultural Values Measures

In addition to using whether or not respondents identify as Māori as a basic measure of Māori identity, we also measure variation in Māori cultural identity among respondents by adopting the group membership evaluation dimension scale of the Multi-Dimensional Model of Māori Identity and Cultural Engagement (MMM-ICE3) (Houkamau et al. 2019). We select the group membership evaluation dimension in consultation with Houkamau et al. (2019) and test its internal consistency through pre-tests for Cronbach's alphas. We briefly describe the items (to avoid misperception) before participants are asked to rate 5 items on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree". We average the items to obtain a MMM-ICE3 group membership evaluation score for each respondent, the mean and standard deviation of which we report in Table 3 along with Cronbach's alphas. The Cronbach's alpha of 0.822 for the group membership evaluation scale of the MMM-ICE3 is greater than 0.7 and therefore indicates internal consistency of the items leading us to conclude that the measure is reliable. Whether or not a respondent identifies as Māori and the MMM-ICE3 group membership evaluation score serve our measures of the identity component of indigenous corporate culture of MAHI.

\*\*\*Insert Table 3 about here\*\*\*

Our measures of six core Māori cultural values asked respondents to indicate the level of importance that their MAHI attach to each of the six core values in the investment decision making process on a 7-point Likert scale ranging from "no importance" to "extremely high importance." Each of the six core values were averaged to produce a core values score for each participant. Our measure of the importance of Māori values in the invest-



ment decision making process asked respondents the more general question of how important the general concept of Māori values is in the investment decision making process of their MAHI on a 7-point Likert scale ranging from “no importance” to “extremely high importance.” The combined item from both measures gives us a reliable measure of the importance placed on Māori values in the investment decision making process as we obtain Cronbach’s alpha of 0.873 for the combined scales, which we report in Table 4 along with means and standard deviations.

\*\*\*Insert Table 4 about here\*\*\*

Respondents were also asked to indicate the level of alignment between their personal values and the values of the MAHI with which they are associated on a 5-point scale ranging from “Does not align” to “Aligns very strongly”. We use this measure to confirm our conceptualization of indigenous Māori group culture as being equivalent to the corporate culture of these indigenous corporations. Our measure is a modified item from the Personal and Organizational Values Congruence (POVC) scale (Lammers et al.,1998) which we combine with the core values score to produce a Māori cultural values score. The POVC item was modified to suit the indigenous Māori context. The sufficiently high Cronbach’s alpha of the scales indicated in Table 5 provides us with assurance of their internal consistency.

\*\*\*Insert Table 5 about here\*\*\*

We therefore obtained reliable measures of two components of the indigenous corporate culture of MAHI; the identity component as represented by the MMM-ICE3 group membership evaluation score and the values component as represented by the Māori cultural values score. These will serve as our main independent variables. Summary statistics are provided in Table 6.

\*\*\*Insert Table 6 about here\*\*\*

## 5 Results and Discussion

### 5.1 Demographic Summary Statistics

Table 7 shows the descriptive statistics of the characteristics of our sample. The sample is dominated by male participants who make up 61% of the sample with females making up 39%. This may be a result of the sample selection bias we sign-posted earlier. Not surprisingly, the sample is also dominated by respondents who identify as Māori (89%). To get a sense of the ownership structure across the sample we asked respondents to indicate whether or not they had roles within multiple MAHI and 50% of the sample indicated that this was this case while the remaining 50% indicated they only had a single role. We expect the roles with multiple MAHI to be a result of the multiple kinship and tribal ties that is common among Māori and this result provides some evidence of how kinship ties impact the complex ownership structure of MAHI discussed in section 2. The sample was dominated by respondents who had a governance role (48%) and those who were employed (41%) within a MAHI, while those with consultant roles accounted for 11% of the sample. We also asked survey respondents whether they were associated with the governance, commercial or social/tribal development subsidiary of the MAHI. 50% of respondents performed their role at the level of the commercial subsidiary, 40% were associated with the trust board or governance body and the remaining 12% were from the social subsidiary. Trustees (48%) and directors (21%) make up the majority of roles at the level of the trust board while manager (24%) and board director (24%) roles which make up the majority are evenly split at the commercial and social/tribal subsidiary. We also observe that the sample is skewed towards persons who are involved in making investment decisions (63%).

\*\*\*Insert Table 7 about here\*\*\*

### 5.2 ESG Themes Summary Statistics

Table 8 shows the summary statistics for the allocations that respondents made to the broad ESG themes based on their level of importance in the investment process. On average respondents assigned greater weight to the broad Environment theme (Mean=36%) when compared to the Social (Mean=34%) and Governance (Mean=30%) themes. The survey of New

Zealand fund managers done by McLean et al. (2022) also found that the highest level of importance was placed on the Environment theme. The average allocation to this theme is 2% lower in our sample.

To deepen understanding of the sustainable investment perspectives of respondents we conduct sub-sample comparisons of the weights assigned to the ESG theme and sub-themes.

In keeping with our expectations respondents who identified as Māori (Mean=41%) placed greater importance on the Environment theme when compared to non-Māori respondents (Mean=34%) with a significant mean difference at the 5% level. The allocations to the Social and Governance theme were also significantly different at the 5% level and greater for Māori when compared to non-Māori respondents. This fits with the literature which indicates that Māori identity influence attitudes towards greater environmental protection (Grimes et al.,2015).

Respondents associated with the commercial and social subsidiaries allocated more to the Environment and Social themes while respondents associated with the trust board made greater allocations to the Governance theme indicating that governance issues are more important for these respondents. Respondents who identified as having a governance role (Mean=37%) allocated more on average to the Environment theme than those who have non-governance roles (Mean=33%); a similar pattern was observed for the Social theme. The mean difference between these two groups was significant at the 5% level for the Environment theme but insignificant for the Social theme.

For the Governance theme, respondents with governance roles (Mean=29%) allocated less when compared to respondents with non-governance roles (Mean=24%). The mean differences for these allocations were insignificant. In terms of gender and asset size breakdown, the differences between female respondents and male respondents and the differences between MAHI with assets less than and greater than \$30 million were also found to be insignificant.

\*\*\*Insert Table 8 about here\*\*\*

### 5.3 ESG Sub-Themes Summary Statistics

Table 9 shows the summary statistics for the allocations that respondents made to the Environment, Social and Governance sub-themes based on their relative importance in the investment decision making process. On average the most important Environment sub-theme is climate change (Mean=26%) followed by water (Mean=23%). McLean et al. (2022) also found that climate change was the most important Environment sub-theme.

For the Social sub-themes, the issues which were assigned the greater level of importance were indigenous rights (Mean=27%), health and safety (Mean=20%) and community engagement (Mean=17%). These results also deviated from those obtained by McLean et al. (2022) and reflect the fact that the survey was conducted in an indigenous context.

Among the three Governance sub-themes corporate behavior (Mean=35%) and shareholder rights (Mean=29%) were assigned the greatest level of importance, echoing the results of Mclean et al. (2022) for the governance sub-themes.

\*\*\*Insert Table 9 about here\*\*\*

Table 9a reorders the subthemes based on their relative weightings in table 9. The weight of each sub-theme in Table 9 was multiplied by the weight of the associated broad theme in Table 8. Table 9a shows that on average respondents accord the highest level of importance to corporate behavior (Mean=14%), climate change (Mean=13%), indigenous rights (Mean=12%) and water (Mean=12%). As the sample is dominated by respondents who play a governance role within MAHI, we suspect that corporate behavior, which is closely related to corporate culture, is a high priority because of the regular engagement these respondents have with governance issues.

\*\*\*Insert Table 9a about here\*\*\*

### 5.4 Discrete Choice Experiment Summary Statistics

Table 10 shows the preference values (mean weights) and standard deviation for the 5 investment opportunity criteria which respondents made tradeoffs between in the discrete choice experiment. Based on the relative weightings

MAHI decision makers in our sample place the greatest level of importance on investment opportunities which are aligned with the Māori cultural value *mauri* as this criterion has a normalized weight of 26.4%, followed by the Māori cultural value *kaitiakitanga* which has a normalized weight of 20.8%. The ability of an investment opportunity to earn a financial return exhibited a slightly higher normalized weight (19.2%) than the Māori cultural value of *whanaungatanga*/ability to benefit *whānau* which has a normalized weight of 18.5%. These result gives us some indication that Māori asset owners would be willing to sacrifice financial returns for investment opportunities which reflect their cultural values.

\*\*\*insert Table 10\*\*\*

## Factor Analysis and Fractional Regression Results

### 5.5 Synonymity between sustainable investing concepts and an Indigenous Māori worldview

Investment professionals in New Zealand have observed that socially responsible and sustainable investing concepts and approaches are resonant with Māori culture which emphasizes sustainability (Hurrell,2022). With sustainable investing becoming more mainstream, non-indigenous asset managers have also been looking to MAHI as model sustainable investors. There is, however, a lack of clarity around what Māori executives believe about sustainable investing concepts and whether they believe they are synonymous with an indigenous Māori worldview of investing. To test hypothesis 1, which asserts that the concepts are synonymous, we used the survey to ask MAHI executives about the synonymity between concepts of sustainable investing and an indigenous Māori worldview. Respondents were provided with the definitions for socially responsible investing, impact investing, ESG investing and ethical investing and asked to indicate their level of agreement on its synonymity with an indigenous Māori worldview using a 7-point Likert scale ranging from “strongly disagree” to “strongly agree”. We report the means and standard deviations for the full sample and sub-samples in Table 11. Overall, there was a high level of agreement as most respondents indicated that they somewhat agree or agree that the concepts are synonymous with an indigenous Māori worldview; ESG investing (M=6.018) exhibited the high-

est level of agreement followed by impact investing (M=5.964). Respondents from the trust broad indicated higher levels of agreement that all the concepts are synonymous with an indigenous Māori worldview than those from the commercial and social subsidiaries. Female respondents also indicated higher levels of agreement for all the concepts than male respondents. Respondents who identified as Māori expressed a higher level of agreement that the concept impact investing is synonymous with an indigenous Māori worldview while those who did not identify as Māori expressed a higher level of agreement that the concept ESG investing is synonymous with an indigenous Māori worldview.

\*\*\*Insert Table 11 about here\*\*\*

To further test the first hypothesis, we performed a principal factor analysis on the responses to the synonymy of each concept. The results, shown in Table 12 indicate that the concepts ESG investing and socially responsible investing have the higher factor loading (weights) for the underlying factor which describes respondents' tendency to agree on the synonymy between each sustainable investing concept and an indigenous Māori worldview. The uniqueness factor for both concepts is well below the 0.5 standard indicating that the majority of the variance in responses to both concepts is explained by the underlying factor. The principal factor analysis suggests that both ESG investing and socially responsible investing have a strong positive relationship with the underlying factor and therefore a greater level of synonymy with an indigenous Māori worldview. On the other hand, the higher uniqueness values of 0.5272 for impact investing and 0.5675 for ethical investing indicate that there is a larger amount of unique variation in these concepts that is not explained by the underlying synonymy factor. Impact investing and ethical investing seem to be more uniquely defined concepts and as such have weaker positive association with the underlying factor and therefore a lower level of synonymy with an indigenous Māori worldview.

\*\*\*Insert Table 12 about here\*\*\*

## 5.6 Māori identity and ESG preferences

Our second hypothesis purports that Māori identity is related to sustainable investment preferences; based on the literature we expect this relationship

to be stronger for the Environment and Social themes.

If the probability of having a greater preference for environmental and social issues is higher for respondents who identify as Māori, we should observe a positive coefficient for the dummy for Māori identity for the Environment and Social themes. Additionally, If the probability of having a greater preference for environmental and social issues is higher for respondents who have a stronger Māori identity as measured by their MMM-ICE3 score, then we should also observe a positive coefficient for the MMM-ICE3 score variable for the Environment and Social themes.

Table 13 reports the results of our investigation of the relationship between Māori identity and ESG preferences and presents the average marginal effects from our baseline regressions.

\*\*\*Insert Table 13 about here\*\*\*

In column 4 of Table 13, we find that the effect of identifying as Māori is significant at the 1% level for allocations made to the Environment theme. The marginal effect of identifying as Māori indicates the discrete change in the predicted probability of the Environment theme when respondents identify as Māori, compared to when they do not identify as Māori. In this case, when respondents identify as Māori (compared to not identifying as Māori), the predicted probability of the outcome variable (Environment) increases by approximately 0.0787. This supports our first hypothesis and highlights the salience of Māori identity in driving preferences for environmental issues in investment decision making among Māori asset owners.

In column 2, we observe that the small amount of variation in the MMM-ICE3 measure of Māori identity, reported in Table 6, was not significant in explaining the likelihood for environmental preferences leading us to conclude that while simply identifying as Māori increases the probability for considering environmental issues in investment decisions, how strongly respondents identify as Māori does not seem to influence this preference. Our insignificant results for the MMM-ICE3 measure could also be related to the sub-scale that was utilized. The group membership evaluation dimension sub-scale, which we utilized, did not exhibit predictive power for EID and pro-environmental attitudes and behavior in the studies conducted by Tassell-Matamua et al. (2021) and Apiti et al. (2022). These studies found instead that the spiritual-

ity dimension of Māori identity was the most significant predictor among the five-dimension sub-scales of the MMM-ICE3. In unreported results we found that the marginal effect of the MMM-ICE3 measure was significant for the Social sub-theme indigenous rights suggesting that the measure may be more closely linked to the indigenous rights sub-theme compared to the Environment theme or other ESG themes and sub-themes. The measure may capture aspects of cultural identity and indigenous values that are particularly relevant to the consideration of indigenous rights in investment decisions.

Regarding the control variables, we found that when respondents have a governance role (compared to not having a governance role), the predicted probability of the outcome variable (Environment) increases by approximately 0.0632. This marginal effect is statistically significant at the 10% level.

We also found that when respondents are affiliated with multiple MAHI (compared to not being affiliated with multiple MAHI), the predicted probability of the outcome variable (Environment) increases by approximately 0.0418. This result suggests that multiple MAHI affiliations can contribute to a stronger preference for considering environmental issues in investment decisions and can be explained by the potential influence of multiple tribal affiliations on the mindset and decision-making process of respondents. When individuals are associated with multiple MAHI, they are likely to have a broader exposure to and engagement with Māori cultural values and principles, including those related to environmental sustainability and stewardship. This increased exposure and engagement may enhance their awareness and understanding of the importance of environmental issues, leading to a greater preference for investment opportunities aligned with the Environment theme.

In panel B of Table 13 which reports the marginal effects for the Social theme, we observe no significant results for our main independent variables indicating that relative to the environment and governance themes, Māori identity has limited influence on respondent's preference for social issues in investment decision making and that this preference may be driven by other factors. Regarding the control variables, we found that when respondents have a trustee title (compared to having other titles), the predicted probability of the allocation made to the Social theme increases by approximately 0.0548. This marginal effect is statistically significant at the 5% level.



Panel C of Table 13 reports the marginal effects for the governance theme and shows that preference for the governance theme was 0.059 points less for respondents identifying as Māori. This result echo the summary results for the ESG theme allocations in Table 5 which shows that respondents allocated more points to the environment and social themes when compared to the governance theme. Identifying as Māori, therefore seems to increase the probability that environmental issues, as opposed to governance issues will be considered in the investment decision making process of MAHI decision makers.

## 5.7 Māori cultural values and ESG preferences

Regarding our third hypothesis, namely that the importance placed on Māori cultural values in the investment decision making process is positively related to ESG preferences, we expect that if the probability of having a greater preference for Environmental and Social issues is higher for respondents who place a greater level of importance on Māori cultural values in investment decision making as measured by their MCV score, then we should observe a positive coefficient for the MCV score variable for the Environment and Social themes.

The results reported in column 3 of Table 13 shows a negative coefficient for the MCV score. These results were, however, statistically insignificant, indicating that the small amount of variation in the MCV score, reported in Table 6, is not significant in explaining the likelihood of respondents preferring Environment, Social or Governance issues in their investment decisions. We therefore surmise that the ESG preferences of MAHI executives and board members, is not influenced by the level of importance respondents place on Māori cultural values in the investment decision making process and appears to be explained to a greater degree by Māori identity. We therefore do not find support for hypothesis 3.

As highlighted in the summary results for the discrete choice experiment reported in Table 10, we find support for hypothesis 4 as the hypothetical investment opportunities aligned with two particular Māori cultural values obtained greater relative weights than the hypothetical investment opportunity aligned with above market financial return. This finding indicates that Māori asset owners may be willing to sacrifice returns for investment

opportunities which reflect Māori cultural values.

The discrete choice experiment results highlight the significance of cultural values in influencing investment decisions among Māori asset owners. It suggests that the preservation and promotion of Māori cultural values hold substantial importance, even in the context of financial decision-making.

The preference for investment opportunities aligned with Māori cultural values, such as *mauri* and *kaitiakitanga*, suggests that Māori asset owners prioritize long-term sustainability and the well-being of their communities and the environment. This aligns with the principles of intergenerational equity and stewardship embedded in Māori cultural values. The findings also implies that Māori asset owners are willing to make trade-offs between financial returns and the preservation of cultural values. This highlights the complex and multi-dimensional nature of investment decision-making, where financial considerations are not the sole determining factors. It underscores the importance of recognizing and respecting the diverse motivations and objectives of investors.

The results further indicate the potential for values-driven investment strategies that prioritize cultural values and social impact alongside financial returns. This finding has implications for sustainable finance and impact investing, suggesting that incorporating cultural values into investment frameworks can align with the preferences of specific communities or cultural groups.

## 6 Validation of Survey Responses

Despite the usefulness of a survey in obtaining direct insights from a population of asset owners that has previously not been studied in the finance domain, the methodology is not without its weaknesses. The major issues relate to the fact that the sample may be biased towards respondents who strongly identify as Māori, respondents may provide self-serving responses and observed relationships may be as a results of other unobserved factors. We address each of these below.

### 6.1 Selection bias of respondents

As our respondents may be those from the general Māori population who identify more strongly as Māori, we compare our sample with Houkamau and Sibley (2019) whose sample of 7019 individuals from the general Māori population obtained a mean of 5.28 with a standard deviation of 1.35 and a Cronbach’s alpha of 0.81 for the group membership evaluation dimension of the MMM-ICE3 which we used as our variation measure of Māori identity. Previously reported results in Table 6 indicate that our sample has obtained a slightly higher mean with less variation as well as a slightly higher Cronbach’s alpha on the group membership evaluation dimension of the MMM-ICE. The mean difference between the two groups is 0.82 and as such we cautiously interpret this to mean that the propensity for our sample to identity strongly as Māori would also be observed if we were to obtain a similar sample from the general Māori population. Furthermore, as we surveyed governance and high-level decision makers from within tribal entities, this higher result on our measure of Māori identity could be expected.

To further address the issue of participation bias, we also compare the following sub-sample: Māori vs non-Māori. Our basis for the comparison is based on the logic that if selection basis is present in two subsamples that are differentially selected, they should exhibit different results for questions which should be influenced by selection. As indicated in Table 14, comparing responses to the question, “what is the level of importance you attach to Māori values in the investment decision making process?”, we observe no statistical difference on the mean response to the question from respondents identifying as Māori and those who do not. This suggests that there is no apparent

difference in the level of importance attached to Māori values in the investment decision-making process between respondents who identify as Māori and those who do not. This indicates that the level of importance attributed to Māori values in investment decisions appears to be consistent regardless of whether individuals identify as Māori or not. These findings provide reassurance that selection bias based on ethnicity does not appear to influence the perceived importance of Māori values in the investment decision-making process.

\*\*\*insert Table 14 about here\*\*\*

## 6.2 Self-serving responses of respondents

We assess the internal validity of responses using responses from decision makers associated with the same MAHI. In each case, we obtain correlation results which indicate the consistency of responses. On similar questions asked with positive and negative connotations, we also find internal consistency. Additionally, we used the Qualtrics software to modify the order of questions for which order did not matter and also made use of mixed scales.

We assessed external validity of responses by comparing a sample of the investment portfolio allocations provided by respondents to those provided in the annual reports published by the MAHI to which they are associated and found, as indicated in Table 15, that on average the asset size and sector allocation responses provided by respondents corresponded with those published in the annual reports.

\*\*\*insert Table 15 about here\*\*\*

### 6.3 Robustness of key variables

To address the concern of potential alternative drivers and confounding factors, we perform placebo tests to explore relationships that may be present if our baseline results are flawed but should not be present if the results are robust. Taking the ESG point allocations made by respondents we perform similar multivariate regressions, replacing the identity and cultural values variables with variables which should not have specific impact on the ESG preference of MAHI decision makers. Specifically, we relate the location of the MAHI and the frequency in the use of consultants to the ESG allocations. The results reported in Table 16 show insignificant correlations suggesting that our survey results are reporting a true phenomenon of indigenous corporate culture, as expressed through Māori identity and Māori cultural values, driving ESG preferences within MAHI.

\*\*\*insert Table 16 about here\*\*\*

To ensure the robustness of our findings and address concerns regarding the possibility of related-dependent variables and potential inefficiencies in our baseline empirical model, we employed a seemingly unrelated regression (SUR) approach. The results obtained from the SUR analysis, presented in Table 17, are consistent with the findings from our baseline models. The consistent results obtained from the SUR approach adds further confidence to the reliability and validity of our findings.

\*\*\*insert Table 17 about here\*\*\*

## 7 Conclusion

Through our survey of Māori Asset Holding Institutions (MAHI), we provide insights into the sustainable investment preferences, perspectives and motives of Māori, indigenous asset owners based in New Zealand. We uncover a high level of agreement among MAHI executives and board members that sustainable investing concepts are synonymous with an indigenous Māori worldview. This suggests that sustainable investing aligns well with Māori cultural values, particularly those related to sustainability.

A principal factor analysis further supported the notion of synonymity, indicating that ESG investing, and socially responsible investing have a strong positive relationship with an underlying factor that represents the alignment with an indigenous Māori worldview. On the other hand, impact investing and ethical investing were found to have weaker positive associations with this underlying factor, suggesting that they may be more uniquely defined concepts.

Furthermore, the study explored the relationship between Māori identity and sustainable investment preferences. The results indicated that identifying as Māori significantly increased the preference for environmental issues in investment decisions. However, the strength of Māori identity, as measured by the MMM-ICE3 score, did not have a significant influence on this preference. The study also found that individuals with governance roles and those affiliated with multiple Māori asset-holding firms showed a stronger preference for environmental issues, suggesting the influence of broader exposure to Māori cultural values and principles.

Regarding social and governance issues in investment decision making, Māori identity did not have a significant impact, indicating that other factors may drive preferences in these areas. These findings further suggest that Māori identity primarily influences the consideration of environmental issues in investment decision making within Māori asset-holding entities.

Finally, the study examined the relationship between the importance placed on Māori cultural values in the investment decision making process and ESG preferences. However, the results did not provide evidence to support a positive relationship between the importance of Māori cultural values and sustainable investment preferences. Results of a discrete choice experi-

ment show, however, that MAHI decision makers would be willing to sacrifice financial returns for investment opportunities which reflect Māori cultural values.

By shedding light on the preferences of an indigenous institutional investor, we contribute to the discussion surrounding the role of culture in sustainable investment decisions. Our contribution is novel in that we shed light on the impact of indigenous group culture at the firm level for a unique institutional investor that has not previously been studied within the finance literature. Our work lays the ground for greater research on indigenous investors, who have become significant asset owners, thereby providing models for sustainable investing for non-indigenous investors and firms.

## 8 References

Aggarwal, R., Faccio, M., Guedhami, O., Kwok, C. C. Y., 2016. Culture and finance: An introduction. *Journal of Corporate Finance*, 100(41), 466-474.

Akerloft, G., Kranton, R., 2000. Economics and identity. *The Quarterly Journal of Economics*, 115(3), 715-753.

Akerloft, G., Kranton, R., 2005. Identity and the economics of organizations. *Journal of Economic Perspectives*, 19(1), 9-32.

Apiti, A., Tassell-Matamua, N., Lindsay, N., Dell, K., Pomare, P., Erueti, B., Masters-Awatere, B., Te Rangi, M., 2022. Indigenous Māori of Aotearoa (New Zealand): Environmental Identity, Rather Than Māori Identity Per Se, Has Greatest Influence on Environmental Distress. *Ecopsychology*, 00053.

Awatere, S., Mika, J., Hudson, M., Pauling, C., Lambert, S., Reid, J., 2017. Whakatipu rawa ma ngā uri whakatipu: optimising the “Māori” in Māori economic development. *AlterNative*, 13(2), 80-88.

Bauer, R., Ruof, T., Smeets, P., 2021. Get real! Individuals prefer more sustainable investments. *The Review of Financial Studies*, 34(8), 3976-4043.

Beckmann, D., Menkhoff, L., Suto, M., 2008. Does Culture Influence Asset Managers' Views and Behavior? *Journal of Economic Behavior and Organization*, 67(3-4), 624-643.

Belgrave, M., 2017. *Dancing with the King: The Rise and Fall of the King Country, 1864–1885*. Auckland: Auckland University Press.

BERL, 2021. *Māori Economy Report 2018*. Wellington: Business and Economic Research Limited.

Best, P. and Love, M., 2010. Māori values for Māori business: Cultural capital in indigenous organizations. Working Paper Series, Victoria Management School, Wellington, 9–11 June.

Broadback, D., Guenster, N., Mezger, D., 2019. Altruism and egoism in investment decisions. *Review of Financial Economics*, 37(1), 118-148.

Cai, Y., Pan, C., Statman, M., 2016. Why do countries matter so much



in corporate social performance? *Journal of Corporate Finance*, 41, 591-609.

Clayton S. (2003). "Environmental identity: A conceptual and an operational definition," in *Identity and the natural environment: The psychological significance of nature*, eds Clayton S., Opatow S. (Cambridge, MA: The MIT Press; )

Coffin,A.,2013. Post treaty settlement development perspectives:Tangata whenua development perspectives for the western Bay of Plenty in a post-settlement environment. *SmartGrowth*, Bay of Plenty.

Cribb,M.J.,2020. Design and operation of post-settlement governance entities. Massey University. Unpublished thesis.

Cronqvist, H., Yu, F., 2017. Shaped by their daughters: Executives, female socialization and corporate social responsibility. *Journal of Financial Economics*, 126, 543-62.

Fang, Y., Fiordelisi, F., Hasan, I., Woon, S.L.,Wong, G., 2023. Corporate culture and firm value: Evidence from crisis. *Journal of Banking and Finance*, 146, 106710.

Gillian,S.L.,Hartzell,J.C.,Koch,A.,Starks,L.T.,2020. Firms' environmental, social and governance (ESG) choices, performance and managerial motivation. Texas Tech University Working Paper. Texas Tech, Texas.

Gorton, G.B., Zentefis, A.K.,2020a. Corporate Culture as a Theory of the Firm. NBER Working Paper No. 27353.

Gorton, G.B.,Zentefis, A.K.,2020b.Social Progress and Corporate Culture. NBER Working Paper No. 25484.

Gorton, G.B., Grennan, J.,Zentefis, A.K.,2022.Corporate Culture. *Annual Review of Financial Economics*, 14, 535-561.

Graham, J. R., Grennan, J., Harvey, C.R., Rajgopal,S., 2022. Corporate culture: Evidence from the field. *Journal of Financial Economics*, 146,552-594.

Graham, J. R., Harvey, C. R., Puri, M., 2013. Managerial attitudes and corporate actions. *Journal of Financial Economics*, 109,103-121.

Greaves, L., Houkamau, C., Sibley, C., 2015. Māori identity signatures: A latent profile analysis of the types of Māori identity. *Cultural Diversity and Ethnic Minority Psychology*, 21(4), 541–549.

Grennan, J., Li, K., 2022. *Corporate Culture: A Review and Directions for Future Research*.

Griffin, D., O. Guedhami, K. Li, and G. Lu, 2021. National culture and the value implications of corporate environmental and social performance. *Journal of Corporate Finance*, 71, 102-123.

Grimes, A., MacCulloch, R., McKay, F., 2015. *Indigenous Belief in a Just World: New Zealand Māori and other Ethnicities Compared*. Motu Working Paper 15-14. Motu Economic and Public Policy Research, Wellington.

Guiso, L., Sapienza, P., Zingales, L., 2006. Does culture affect economic outcomes? *Journal of Economic Perspectives*, 20(2), 23–48.

Guiso, L., Sapienza, P., Zingales, L., 2015a. The value of corporate culture. *Journal of Financial Economics*, 117, 60-76.

Haar, J., W.J. Martin, K. Ruckstuhl, D. Ruwhiu, U. Daellenbach, and A. Ghafoor., 2021. A study of Aotearoa New Zealand enterprises: How different are indigenous enterprises? *Journal of Management and Organization* 27 (4), 736–750.

Hansen, P., Ombler, F., 2008. A new method for scoring additive multi-attribute value models using pairwise ranking of alternatives. *Journal of Multi-Criteria Decision Analysis* 15(3-4), 87-107.

Harmsworth, G., 2005. *Report on the incorporation of traditional values/tikanga into contemporary Māori business organisation and process*. Land-care Research Report: LC/0405/058.

Henare, M., 1998, *Te tangata, te taonga, te hau: Māori concepts of property*. In: Paper presented to the conference on property and the constitution, Wellington for the Laws and Institutions in a Bicultural Society Research Project, Hamilton, New Zealand, 18 July.

Hofstede, G., 2011. *Dimensionalizing Cultures: The Hofstede Model in Context*. *Online Readings in Psychology and Culture*, 2, 8.

Homroy, S., 2023. GHG emissions and firm performance: The role of CEO gender socialization. *Journal of Banking and Finance*, 148, 106721.

Homroy, S., Mavruk, T., Nguyen, V.D.,2023. ESG-linked compensation, CEO skills and shareholder welfare. *The Review of Corporate Finance Studies*, cfad012.

Houkamau,C., Sibley,C., Henare M.,2019. Te Rangahau o te TuakiriMāori me Ngā Waiaro ā-Pūtea -Background, theoretical orientation and first-wave response rates. *MAI Journal*, 8(2),142–159.

Houkamau,C.,Sibley,C., 2019.The role of culture and identity for economic values: a quantitative study of Māori attitudes. *Journal of the Royal Society of New Zealand*, 49:sup1, 118-136.

Hurrell, G., 2022. Investing with Māori is a long-term choice for sustainable finance, panel says. *BusinessDesk*.

Kamalath,A.,2021. Indigenous corporations: lessons from Māori business forms. *Alternative Law Journal* 46(3),232-235.

Kjeldsen, C., Roberts, D.,2018. Indigenous enterprise and economic development: The case of Maori business in Aotearoa New Zealand. *Journal of Business Research*, 89, 1-8.

Lammers, J. C., Richey, R. G., Sevier, R. A. (1998). Personal and organizational values congruence: Conceptualization and measurement. *Journal of Vocational Behavior*, 53(1), 103-117.

McLean,L.,Diaz-Rainey,I.,Gehricke,S.,Zhang,R.,2022. In holdings we trust: Uncovering the ESG fund lemons. *Working Paper*.

Mead, H. M.,2003. *Tikanga Māori: Living by Māori Values*. Huia Publishers, Wellington.

Morgan, T.K.K.B.,2004. A Tangata Whenua Perspective on Sustainability using the Mauri Model. Paper presented at the International Conference on Sustainability Engineering and Science. Auckland.

Mika, J.P., R. Colbourne, and S. Almeida., 2020. Responsible management: An indigenous perspective. In *Research handbook of responsible man-*

agement, ed. O. Laasch, R. Suddaby, E. Freeman, and D. Jamali, 260–276. Edward Elgar.

New Zealand Productivity Commission.,2021. New Zealand firms: Reaching for the frontier. Final report. New Zealand Productivity Commission, Wellington.

Ngai Tahu Research Centre,2018. Varieties of Capitalism. Scoping Paper on Tribal Economies.

Nguyen, H., Pham, M.H., Pham, Q., 2023. Credit Risk Assessment: Does Corporate Culture Matter. University of Massey Working Paper.

O’Reagan,T.,2019. The shareholder who never dies: the economics of indigenous survival and the development of culturally relevant governance. In Nikolakis, W. ,Pierre, S., Nelson, H.W., Cornell, S., (Eds.). Reclaiming Indigenous Governance: Reflections and Insights from Australia, Canada, New Zealand, and the United States. Tucson: University of Arizona Press.

Poyser,A.,Daugaard,D.,2023. Indigenous sustainable finance as a research field: A systematic literature review on indigenising ESG, sustainability and indigenous community practice. Accounting and Finance 00,1-30.

Reid,J.,Rout,M.,2016. Maori tribal economy: rethinking the original economic institutions In T. Anderson (Ed.). Unlocking the Wealth of Indian Nations. Lexington, London.

Sanderson,K.,Arcus,M.,Stokes,F.,2007. Functions and costs of operating a post-settlement governance entity. Business and Economic Research Limited, Wellington.

Schwartz,S.J.,Zamboanga,B.L.,Weisskirch,R.S.,2008. Broadening the Study of the Self: Integrating the Study of Personal Identity and Cultural Identity. Social and Personality Psychology Compass, 2,635-651.

Sierra-Barón, W., Olivos-Jara, P., Gómez-Acosta, A., Navarro, O., 2023. Environmental Identity, Connectedness with Nature, and Well-Being as Predictors of Pro-Environmental Behavior, and Their Comparison between Inhabitants of Rural and Urban Areas. Sustainability, 15(5), 4525.

Tassell-Matamua, N., Lindsay, N., Bennett, A., Masters-Awatere, B,2021.

Māori Cultural Identity Linked to Greater Regard for Nature: Attitudes and (Less So) Behavior. *Ecopsychology*, 13(1), 9-18.

Tau, T.M.,Rout,M.,2018. The tribal economy. *Journal of New Zealand Studies* NS27,92-109.

Webster, S.,1998. Māori Hapu as a Whole Way of Struggle: 1840s-50s before the Land Wars. *Oceania*, 69(1), 4–35.

Williamson, O. E.,1985. *The economic institutions of capitalism: firms, markets, relational contracting*. Free Press.

Williamson, O.E., 2000.The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature*, 38 (3), 595-613.

## 9 Appendix

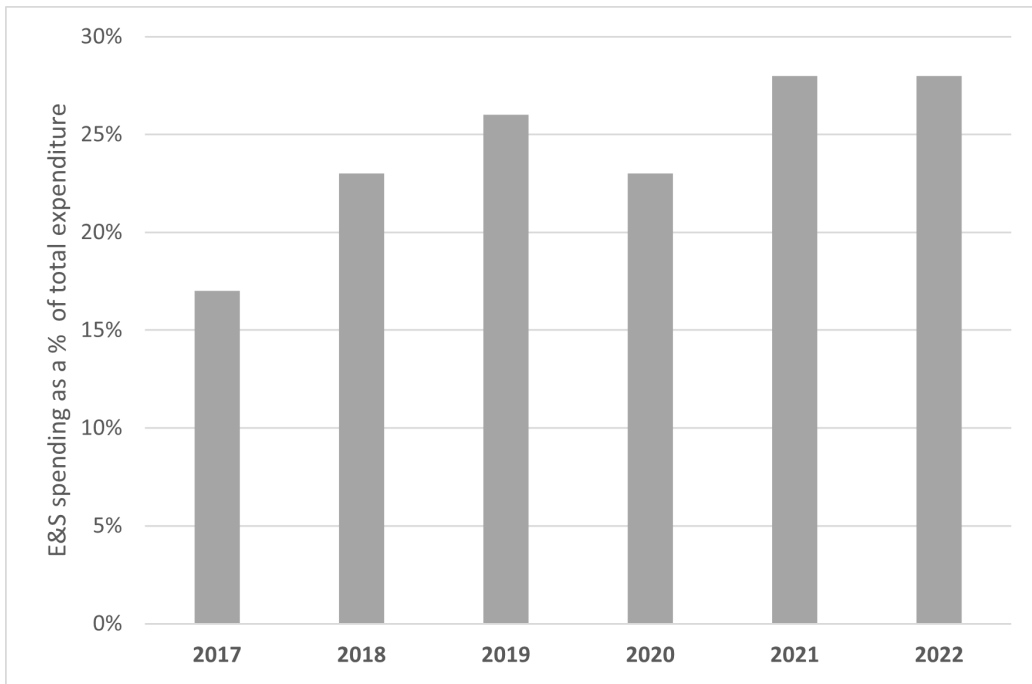


Figure 1: Annual average of environmental and social spending as a percentage of total expenditure for ten largest MAHI. Expenditure data was obtained from the annual reports of ten of the largest MAHI. Environmental and Social spending as a percentage of total expenditure was calculated for a 5-year period (2017-2022) for each MAHI and the average across the ten firms for each year plotted against time.

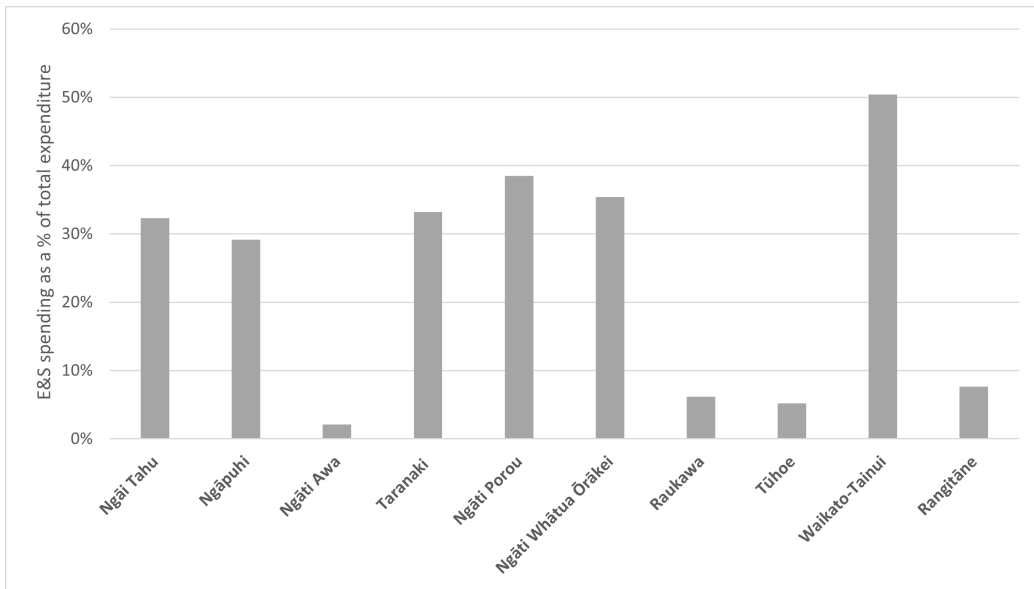


Figure 2: 5-year average of environment and social spending as a percentage of total expenditure for ten largest MAHI. Expenditure data was obtained from the annual reports of ten of the largest MAHI. Environmental and Social spending as a percentage of total expenditure was calculated for a 5-year period (2017-2022) for each MAHI and the 5-year average for each firm plotted.



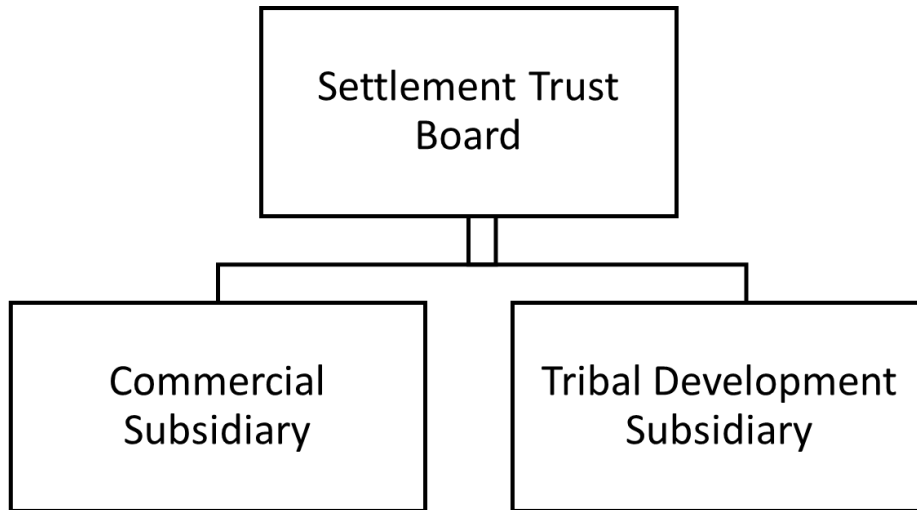


Figure 3: Corporate Governance Structure of Māori Asset Holding Institution

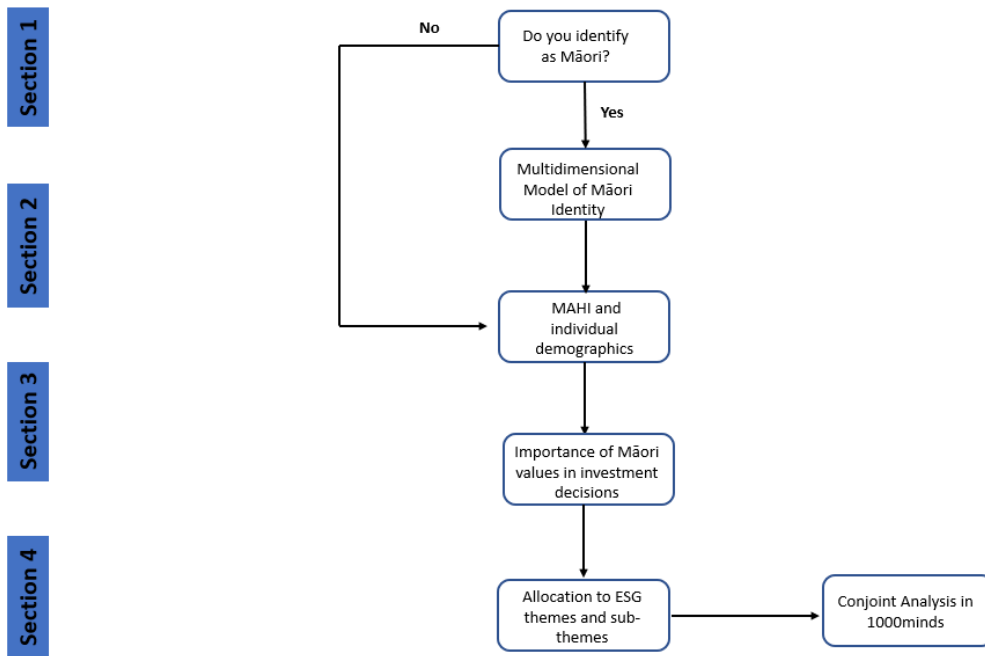


Figure 4: Flowchart of survey instrument design

**TABLE 1** Glossary of six core Māori cultural values

<b>Core Value #</b>	<b>Name of Core Value</b>	<b>Definition of Core Value</b>
Core Value 1	<b>Kaitiakitanga</b>	Root word is ‘tiaki’ meaning caring for, looking after, denotes custodial responsibilities, guardianship, stewardship, wise management, giving back what you take. ‘Kai’ denotes the agent by which the ‘tiaki’ is performed, ‘tanga’ the practice or action. The word implies that everything is interconnected and is therefore, inextricably linked to tino rangatiratanga and indigenous rights (authority, inherent sovereignty, autonomy). Related to environmental protection and sustainable management of resources.
Core Value 2	<b>Manaakitanga</b>	Manaakitanga derives from two words - ‘mana’ and ‘aki’. Mana is a condition that holds everything in the highest regard. Aki means to uphold or support. Extending Manaakitanga requires respect, humility, kindness and honesty.
Core Value 3	<b>Mauri</b>	Essential life principle specific to a particular entity or class of entities that enables each thing to exist. Related to maintaining life through sustainable practices and is used synonymously with the concept of sustainability.
Core Value 4	<b>Mana</b>	Prestige, authority, control, power, influence, status, spiritual power, charisma - mana is a supernatural force in a person, place or object.
Core Value 5	<b>Rangatiratanga</b>	Rangatiratanga is often associated with indigenous self-governance, sovereignty, leadership, autonomy to make

Core Value 6	<b>Whānaugatanga</b>	decisions, and self-determination. This includes leadership within the whānau and community, as well as leadership within business and politics. Creating and sustaining relationships between relatives and close friends; relationship building. This concept call for social responsibility and having concern for the wider community.
--------------	----------------------	---

*Table description:* This table lists and provides a glossary for six core Māori values. Definitions are from Mead (2003).

**TABLE 2** Investment opportunity attributes and levels utilized in discrete choice experiment

<b>Investment Opportunity Attributes</b>	<b>Levels</b>
Ability to benefit whānau	Low positive Impact on whānau High positive impact on whānau
Alignment with kaitiakitanga	Negative environmental impact Positive environmental impact
Alignment with mana	Limits ability to exercise mana motuhake Increases ability to exercise mana motuhake
Alignment with mauri	Meets no sustainability criteria Meets some sustainability criteria Meets all sustainability criteria
Return on investment	Below market rate of return Average market rate of return Above market rate of return

*Table description:* This table shows the 5 investment opportunity attributes with the first, second and third having 2 levels to choose from and the fourth and fifth having 3 levels, resulting in 72 (2x2x2x3x3) possible combinations.

**TABLE 3** Reliability of group membership evaluation items of MMM-ICE3

<b>Items of Group Membership Evaluation Factor of MMM-ICE3</b>	<b>Mean</b>	<b>SD</b>
I reckon being Māori is awesome	6.456	0.803
I love that I am Māori	6.596	0.678
Being Māori is NOT important to my sense of what kind of person I am.	5.263	1.987
Being Māori is cool	6.228	1.180
Being Māori is NOT important to who I am as a person	5.965	1.711
<b>MMM-ICE3 Group Membership Evaluation Score</b>	<b>6.102</b>	<b>0.952</b>
<b>Cronbach's alpha 0.822</b>		

*Table description:* This table reports the mean and SD of the 5 items of the group membership evaluation factor of the MMM-ICE3. The Cronbach's alpha reported at the bottom of the table confirms the reliability of the group membership evaluation factor as a reliable measure of Māori group identity which is a component of Māori group culture and by extension Māori corporate culture.

**TABLE 4** Reliability of importance of Māori values in decision making scales

<b>Items from importance of general Māori values and six core Māori values scales</b>	<b>Mean</b>	<b>SD</b>
General Values	6.063	0.794
Kaitiakitanga	6.453	0.589
Whānaugatanga	6.172	0.788
Manaakitanga	5.797	1.011
Mauri	6.063	0.974
Mana	5.781	1.147
Rangatiratanga	6.375	0.678
<b>Core Values Score</b>	<b>6.100</b>	<b>0.615</b>
<b>Cronbach's alpha 0.873</b>		

*Table description:* This table reports the mean and SD of the item which asks respondents generally about the importance of the general concept of Māori values in the investment decision making process, the item which asks respondents about the importance of each of the individual core values and the combined score of the core values. The Cronbach's alpha reported at the bottom of the table confirms the reliability of these combined items as a measure of the importance of Māori values in the investment process.

**TABLE 5** Reliability of modified Personal and Organizational Values Congruence (POVC) item

<b>Combined Modified POVC Item and General and Core Values</b>	<b>Mean</b>	<b>SD</b>
Modified POVC Item	4.078	0.914
Combined General and Core Values Items	6.100	0.615
<b>Cronbach's alpha 0.839</b>		

*Table description:* This table reports the mean and standard deviation of the modified POV item, the combination of the six core Māori values and the scale for the general concept of Māori values and the Cronbach's alpha of these measure when used as a combined scale to measure the alignment of personal values and Māori values. The Cronbach's alpha reported at the bottom of the table confirms the reliability of these combined measures as a measure of the alignment between the personal values of the respondents and the values of the Māori asset holding firm with which they are associated.

**TABLE 6** Summary statistics of independent variables

<b>Variable</b>	<b>Mean</b>	<b>25<sup>th</sup> percentile</b>	<b>Median</b>	<b>75<sup>th</sup> percentile</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
MMM-ICE3 Group Membership Evaluation Score	6.10	5.40	5.40	7.00	0.95	2.80	7.00
Māori Cultural Values Score	6.08	5.75	6.00	6.47	0.57	4.63	7.00

*Table description:* This table reports summary statistics for the main variables of interest.

**TABLE 7** Characteristics of Respondents

<b>Individual Characteristics</b>	<b>Value</b>	<b>Number</b>	<b>Percentage</b>
<b>Gender</b>	Female	45	39%
	Male	69	61%
<b>Māori vs. Non-Māori</b>	Māori	101	89%
	Non-Māori	13	11%
<b>Roles in Multiple MAHI</b>	Yes	57	50%
	No	57	50%
<b>Type of Role within MAHI</b>	Governance Role	55	48%

	Employed	47	41%
	Consultant	12	11%
<b>Subsidiary in which role is performed</b>	Trust Board or Governance Body	40	35%
	Commercial Subsidiary	50	44%
	Social or Tribal Development Subsidiary	14	12%
<b>Role within trust board or governance body</b>	Chair	6	5%
	Deputy Chair	6	5%
	Executive Director	6	5%
	Trustee	47	41%
	Director	16	14%
	Pūkenga (Māori knowledge expert)	3	3%
	Other	25	22%
	Consultant	6	5%
<b>Role within commercial subsidiary and social/tribal subsidiary</b>	CEO/CIO/CFO/COO	30	25%
	Manager	5	4%
	Investment/Business Analyst/Accountant	2	2%
	Consultant/Advisor	11	10%
	Investment/Commercial Manager	2	2%
	Board Chair	22	19%
	Board Director	29	25%
	Policy and Strategy Manager	5	4%
	Communications Manager/Coordinator	5	4%
	Environment Manager	5	4%
<b>Involvement in Investment or spending/distribution decisions</b>	Involved in making investment decisions	72	63%
	Not involved in making investment decisions	42	37%

*Table description:* This table shows the characteristics of the 114 respondents.

**TABLE 8** Allocations to ESG Themes

ESG Themes	All		Subsidiary			Role			Asset Size			Gender		
	(1) Mean	(2) SD	(3) Trust Board	(4) Commercial and Social Subsidiary	(5) Diff	(6) Governance	(7) Non-Governance	(8) Diff	(9) < \$30 million	(10) > \$30 million	(11) Diff	(12) Male	(13) Female	(14) Diff
Environment [E]	36%	0.21	34%	36%	-2%	37%	33%	7%**	34%	35%	1%	35%	34%	1%
Social [S]	34%	0.19	32%	34%	-2%	34%	32%	2%	34%	33%	1%	34%	35%	1%
Governance [G]	30%	0.18	32%	31%	1%	29%	33%	-4%	32%	30%	2%	30%	33%	-2%

ESG Themes	Title			Identify as Māori			MMM-ICE3 Score			MCV Score		
	(15) Trustee	(16) Other	(17) Diff	(18) Yes	(19) No	(20) Diff	(21) >=6	(22) <6	(23) Diff	(24) >=6	(25) <6	(26) Diff
Environment [E]	33%	35%	-2%	41%	34%	6%**	36%	35%	1%	36%	35%	1%
Social [S]	34%	32%	2%**	33%	31%	2%**	35%	34%	1%	35%	34%	1%
Governance [G]	32%	31%	1%	31%	27%	4%**	32%	31%	1%	32%	31%	1%

*Table description:* This table reports the mean of the item which asks respondents to allocate 100 points between the broad environment, social and governance themes. Survey respondents were asked to allocate 100 points between various ESG themes and subthemes, based on the relative importance that their MAHI places on them within the investment process. Mean and SD are shown for the full sample while only means are shown for sub-samples. Column (1) reports the mean percentage of respondents that selected the response for a given row, while Column (2) reports the standard deviation. Columns (3) and (4) report the mean percentages for respondents who are associated with the trust board and the combined commercial and social subsidiaries respectively. Column (5) reports the difference between Column (3) and (4), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (6) and (7) report the mean percentages for respondents with governance and non-governance roles respectively. Column (8) reports the difference between Column (6) and (7), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (9) and (10) report the mean percentages for respondents from MAHI with asset size less than and greater \$30 million respectively. Column (11) reports the difference between Column (9) and (10), and the results of a non-parametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (12) and (13) report the mean percentages for female respondents and male respondents respectively. Column (14) reports the difference between Column (12) and (13), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (15) and (16) report the mean percentage of respondents with trustee titles and other titles respectively. Column (17) reports the difference between Column (15) and (16), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (18) and (19) report the mean percentages for respondents who identify as Māori (Yes) and respondents who do not (No) respectively. Column (20) reports the difference between Column (18) and (19), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (21) and (22) report the mean percentages for respondents who obtained a MMM-ICE3 score greater than or equal to the median score of 6 and for respondents who obtained a MMM-ICE3 score less than the median score of 6 respectively. Column (23) reports the difference between Column (21) and (22), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (24) and (25) report the mean percentages for respondents who obtained a MCV score greater than or equal to the median score of 6 and for respondents who obtained a MCV score less than the median score of 6 respectively. Column (26) reports the difference between Column (24) and (25), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Finally, \*\*\*, \*\*, and \* represent the significance at the 1%, 5%, and 10% levels respectively.

**TABLE 9** Allocations to ESG Sub-Themes

ESG Sub-Themes	All		Subsidiary			Role			Asset Size			Gender		
	(1) Mean	(2) SD	(3) Trust Board	(4) Commercial and Social Subsidiary	(5) Diff	(6) Governance	(7) Non- Governance	(8) Diff	(9) < \$30 million	(10) > \$30 million	(11) Diff	(12) Male	(13) Female	(14) Diff
[E] Climate Change	26%	0.23	24%	25%	-1%	27%	23%	5%**	25%	28%	-3%	23%	30%	-7%
[E] Pollution and Waste	17%	0.11	17%	18%	-1%	18%	18%	1%	19%	19%	0%	19%	14%	5%
[E] Biodiversity	15%	0.11	16%	14%	2%	14%	17%	-3%	14%	14%	0%	15%	14%	1%
[E] Environmental Opportunities	19%	0.16	18%	21%	-3%	18%	19%	-1%	20%	17%	3%	19%	20%	-1%
[E] Water (Infrastructure and Usage)	23%	0.20	25%	22%	3%	24%	24%	10%	22%	22%	0%	24%	21%	3%
[S] Diversity and Inclusion	13%	0.15	13%	10%	3%	14%	10%	10%	9%	12%	0%	11%	15%	-4%
[S] Health and Safety	20%	0.14	20%	21%	1%	21%	20%	13%	12%	24%	- 12%**	20%	19%	1%
[S] Community Engagement	17%	0.17	16%	18%	-2%	18%	14%	18%	22%	15%	7%	16%	18%	-2%
[S] Human Capital Management	14%	0.16	16%	14%	2%	12%	19%	13%	13%	15%	-2%	15%	13%	2%
[S] Human Rights	8%	0.08	7%	8%	-1%	7%	9%	9%	9%	7%	2%	8%	7%	1%
[S] Indigenous Rights	27%	0.21	29%	28%	1%	23%	29%	39%	35%	28%	7%	30%	27%	3%
[G] Management and Board Diversity	25%	0.23	24%	24%	0%	25%	20%	45%	31%	21%	10%**	26%	22%	4%
[G] Remuneration	12%	0.12	11%	12%	-1%	11%	14%	11%	7%	13%	-6%	11%	13%	-2%
[G] Corporate Behavior	35%	0.35	34%	36%	-2%	35%	35%	29%	34%	36%	-2%	33%	38%	-5%
[G] Shareholder Rights	29%	0.29	30%	28%	2%	29%	31%	15%	28%	29%	-1%	30%	27%	3%



**TABLE 9 Continued Allocations to ESG Sub-Themes**

ESG Sub-Themes	Title			Identity as Māori			MMM-ICE3 Score			MCV Score		
	(15) Trustee	(16) Other	(17) Diff	(18) Yes	(19) No	(20) Diff	(21) >=6	(22) <6	(23) Diff	(24) >=6	(25) <6	(26) Diff
[E] Climate Change	19%	20%	-1%	27%	24%	3%	27%	27%	0%	27%	25%	2%
[E] Pollution and Waste	17%	21%	-4%	19%	16%	3%**	17%	17%	0%	17%	17%	0%
[E] Biodiversity	16%	12%	4%	14%	17%	-3%	15%	14%	1%	15%	14%	1%
[E] Environmental Opportunities	24%	20%	4%	16%	22%	-6%	19%	20%	-1%	19%	21%	-2%
[E] Water (Infrastructure and Usage)	25%	28%	-3%	24%	22%	2%	22%	22%	0%	22%	23%	-1%
[S] Diversity and Inclusion	12%	7%	5%	14%	11%	3%	12%	13%	-1%	12%	14%	-2%
[S] Health and Safety	21%	21%	0%	21%	19%	2%	21%	21%	0%	21%	21%	0%
[S] Community Engagement	11%	13%	-2%	17%	15%	2%	17%	18%	-1%	17%	19%	-2%
[S] Human Capital Management	18%	22%	-4%	12%	16%	-4%	14%	14%	0%	14%	14%	0%
[S] Human Rights	9%	6%	3%	8%	7%	1%	8%	9%	-1%	8%	9%	-1%
[S] Indigenous Rights	30%	30%	0%	27%	32%	-5%**	28%	26%	2%	28%	24%	4%
[G] Management and Board Diversity	28%	22%	6%	27%	23%	2%	26%	28%	-2%	26%	27%	-1%
[G] Remuneration	9%	11%	-2%	11%	13%	-2%	11%	12%	-1%	11%	12%	-1%
[G] Corporate Behavior	19%	31%	-12%	32%	37%	-5%	35%	32%	3%	35%	31%	4%
[G] Shareholder Rights	44%	35%	9%	30%	27%	3%	28%	28%	0%	28%	30%	-2%

*Table description:* This table reports the mean of the item which asks respondents to allocate 100 points between 4 environment sub-themes, 5 social sub-themes and 4 governance sub-themes. Survey respondents were asked to allocate 100 points between the subthemes, based on the relative importance that their MAHI places on them within the investment process. Mean and SD are shown for the full sample while only means are shown for sub-samples. Column (1) reports the mean percentage of respondents that selected the response for a given row, while Column (2) reports the standard deviation. Columns (3) and (4) report the mean percentages for respondents who are associated with the trust board and the combined commercial and social subsidiaries respectively. Column (5) reports the difference between Column (3) and (4), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (6) and (7) report the mean percentages for respondents with governance and non-governance roles respectively. Column (8) reports the difference between Column (6) and (7), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (9) and (10) report the mean percentages for respondents from MAHI with asset size less than and greater \$30 million respectively. Column (11) reports the difference between Column (9) and (10), and the results of a non-parametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (12) and (13) report the mean percentages for female respondents and male respondents respectively. Column (14) reports the difference between Column (12) and (13), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (15) and (16) report the mean percentage of respondents with trustee titles and other titles respectively. Column (17) reports the difference between Column (15) and (16), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (18) and (19) report the mean percentages for respondents who identify as Māori (Yes) and respondents

who do not (No) respectively. Column (20) reports the difference between Column (18) and (19), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (21) and (22) report the mean percentages for respondents who obtained a MMM-ICE3 score greater than or equal to the median score of 6 and for respondents who obtained a MMM-ICE3 score less than the median score of 6 respectively. Column (23) reports the difference between Column (21) and (22), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (24) and (25) report the mean percentages for respondents who obtained a MCV score greater than or equal to the median score of 6 and for respondents who obtained a MCV score less than the median score of 6 respectively. Column (26) reports the difference between Column (24) and (25), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Finally, \*\*\*, \*\*, and \* represent the significance at the 1%, 5%, and 10% levels respectively.

**TABLE 9a Weighted ESG Sub-Themes**

ESG Sub-Themes	All		Subsidiary		(5) Diff	Role			Asset Size			Gender		
	(1) Mean	(2) SD	(3) Trust Board	(4) Commercial and Social Subsidiary		(6) Governance	(7) Non- Governance	(8) Diff	(9) < \$30 million	(10) > \$30 million	(11) Diff	(12) Male	(13) Female	(14) Diff
[G] Corporate Behavior	14%	0.23	16%	13%	3%	19%	17%	2%	19%	19%	0%	18%	16%	2%
[E] Climate Change	13%	0.18	13%	12%	1%	17%	18%	-1%**	17%	17%	0%	17%	18%	1%
[S] Indigenous Rights	12%	0.20	15%	11%	4%	18%	16%	2%	17%	17%	0%	17%	14%	3%
[E] Water (Infrastructure and Usage)	12%	0.17	13%	12%	1%	16%	18%	2%	16%	17%	-1%	17%	16%	1%
[G] Management and Board Diversity	11%	0.17	14%	10%	4%	17%	13%	4%	18%	15%	3%**	16%	13%	3%
[G] Shareholder Rights	11%	0.16	12%	11%	1%	15%	17%	-2%	18%	15%	3%	16%	16%	1%
[E] Environmental Opportunities	11%	0.16	12%	12%	0%	14%	17%	-3%	16%	16%	1%	16%	16%	1%
[E] Pollution and Waste	11%	0.15	12%	11%	1%	15%	17%	-2%	14%	17%	3%	16%	15%	1%
[E] Biodiversity	10%	0.15	12%	10%	2%	14%	17%	-3%	15%	16%	-1%	16%	15%	1%
[S] Health and Safety	10%	0.14	11%	10%	1%	15%	15%	0%	14%	15%	-1%**	15%	15%	0%
[S] Community Engagement	10%	0.15	10%	10%	0%	14%	14%	0%	16%	13%	3%	14%	15%	-1%
[S] Human Capital Management	9%	0.14	10%	9%	1%	13%	15%	-2%	14%	13%	1%	14%	14%	0%
[S] Diversity and Inclusion	9%	0.14	10%	8%	2%	13%	13%	0%	14%	13%	1%	13%	14%	-1%
[S] Human Rights	8%	0.13	9%	8%	-1%	12%	13%	-1%	14%	12%	2%	13%	13%	0%
[G] Remuneration	8%	0.13	10%	7%	3%	13%	12%	1%	12%	13%	1%	12%	12%	0%

**TABLE 9a Continued Weighted ESG Sub-Themes**

ESG Sub-Themes	Title			Identity as Māori			MMM-ICE3 Score			MCV Score		
	(15) Trustee	(16) Other	(17) Diff	(18) Yes	(19) No	(20) Diff	(21) >=6	(22) <6	(23) Diff	(24) >=6	(25) <6	(26) Diff
[G] Corporate Behavior	15%	9%	4%	18%	16%	2%	19%	16%	3%	19%	16%	3%
[E] Climate Change	15%	19%	-4%	18%	17%	1%	15%	15%	0%	15%	15%	0%
[S] Indigenous Rights	22%	10%	12%	17%	14%	3%**	15%	14%	1%	15%	14%	1%
[E] Water (Infrastructure and Usage)	16%	21%	-5%	17%	16%	1%	15%	16%	-1%	15%	16%	1%
[G] Management and Board Diversity	18%	7%	9%	16%	17%	-1%	16%	16%	0%	16%	16%	0%
[G] Shareholder Rights	16%	19%	-3%	16%	16%	0%	13%	14%	-1%	13%	14%	-1%
[E] Environmental Opportunities	16%	19%	-3%	16%	15%	1%	15%	15%	0%	15%	15%	0%
[E] Pollution and Waste	15%	20%	5%	15%	15%	0%**	14%	14%	0%	14%	14%	0%
[E] Biodiversity	15%	18%	-3%	15%	15%	0%	14%	14%	0%	14%	14%	0%
[S] Health and Safety	15%	18%	-3%	14%	15%	-1%	13%	13%	0%	13%	13%	0%
[S] Community Engagement	13%	17%	-5%	13%	15%	2%	16%	16%	0%	16%	16%	0%
[S] Human Capital Management	14%	18%	4%	13%	14%	-1%	17%	15%	2%	17%	15%	2%
[S] Diversity and Inclusion	13%	16%	3%	12%	13%	-1%	13%	12%	1%	13%	12%	1%
[S] Human Rights	13%	15%	-2%	12%	13%	-1%	17%	17%	0%	17%	17%	0%
[G] Remuneration	13%	6%	7%	12%	12%	0%	17%	15%	2%	17%	15%	2%

*Table description:* This table reports the weighted mean of the item which asks respondents to allocate 100 points between 4 environment sub-themes, 5 social sub-themes and 4 governance sub-themes. Survey respondents were asked to allocate 100 points between the subthemes, based on the relative importance that their MAHI places on them within the investment process. Weighted mean and SD are shown for the full sample while only weighted means are shown for sub-samples. Column (1) reports the mean percentage of respondents that selected the response for a given row, while Column (2) reports the standard deviation. Columns (3) and (4) report the mean percentages for respondents who are associated with the trust board and the combined commercial and social subsidiaries respectively. Column (5) reports the difference between Column (3) and (4), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (6) and (7) report the mean percentages for respondents with governance and non-governance roles respectively. Column (8) reports the difference between Column (6) and (7), alongside the results of a nonparametric Mann-Whitney U Test of the null

hypothesis that the two distributions are equal. Columns (9) and (10) report the mean percentages for respondents from MAHI with asset size less than and greater \$30 million respectively. Column (11) reports the difference between Column (9) and (10), and the results of a non-parametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (12) and (13) report the mean percentages for female respondents and male respondents respectively. Column (14) reports the difference between Column (12) and (13), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (15) and (16) report the mean percentage of respondents with trustee titles and other titles respectively. Column (17) reports the difference between Column (15) and (16), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (18) and (19) report the mean percentages for respondents who identify as Māori (Yes) and respondents who do not (No) respectively. Column (20) reports the difference between Column (18) and (19), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (21) and (22) report the mean percentages for respondents who obtained a MMM-ICE3 score greater than or equal to the median score of 6 and for respondents who obtained a MMM-ICE3 score less than the median score of 6 respectively. Column (23) reports the difference between Column (21) and (22), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Columns (24) and (25) report the mean percentages for respondents who obtained a MCV score greater than or equal to the median score of 6 and for respondents who obtained a MCV score less than the median score of 6 respectively. Column (26) reports the difference between Column (24) and (25), alongside the results of a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal. Finally, \*\*\*, \*\*, and \* represent the significance at the 1%, 5%, and 10% levels respectively.

**TABLE 10** Preference values on investment opportunity criteria and levels

Investment Opportunity Criteria	Levels	Mean	SD	Normalized Weights	Criterion Score
Ability to benefit whānau	Low positive Impact on whānau	0.0%	0.0%	18.5%	0
	High positive impact on whānau	<b>18.5%</b>	<b>5.9%</b>		100
Alignment with kaitiakitanga	Negative environmental impact	0.0%	0.0%	20.8%	0
	Positive environmental impact	<b>20.8%</b>	<b>6.5%</b>		100
Alignment with mana	Limits ability to exercise mana	0.0%	0.0%	15.2%	0
	Increases ability to exercise mana	<b>15.2%</b>	<b>6.1%</b>		100
Alignment with mauri	Meets no sustainability criteria	0.0%	0.0%	26.4%	0
	Meets some sustainability criteria	17.4%	6.5%		65.9
	Meets all sustainability criteria	<b>26.4%</b>	<b>8.4%</b>		100
Return on investment	Below market rate of return	0.0%	0.0%	19.2%	0
	Average market rate of return	11.3%	5.9%		58.9
	Above market rate of return	<b>19.2%</b>	<b>9.0%</b>		100

*Table description:* This table reports the mean preference values (mean weights) for each criterion and the performance on the criterion of each level utilized in the 1000minds conjoint analysis. The preference value or weight of each criterion is represented by the weight assigned to the highest level. The weights on the criteria sum to 1. The value for each level on a criterion represents the level's degree of performance on the criterion. As the mean preference value combines the effect of the relative weight on each criterion and the degree of performance of the level on the criterion these two effects are disaggregated via the normalized weights and single criterion scores.

**TABLE 11** Synonymity between sustainable investing concepts and an Indigenous/Māori investment worldview

Sustainable Investing Concept	All		Subsidiary		Role			Asset Size		Gender	
	Mean	SD	Trust Board	Commercial and Social Subsidiary	Governance	Employee	Consultant	< \$30 million	> \$30 million	Male	Female
Ethical Investing	5.455	1.359	5.619	5.250	5.563	5.368	5.300	5.643	5.350	5.200	5.900
ESG investing	6.018	0.963	6.238	5.813	5.875	6.316	5.827	6.143	5.950	5.829	6.350
Impact Investing	5.964	0.852	6.190	5.813	5.969	6.105	5.827	5.786	6.000	5.829	6.200
SRI Investing	5.855	0.883	5.857	5.813	5.781	5.895	6.825	5.786	5.850	5.600	6.300

Sustainable Investing Concept	Title			Identify as Māori		MMM-ICE3 Score		MCV Score	
	Trustee	Manager	Other	Yes	No	>=6	<6	>=6	<6
Ethical Investing	5.700	5.182	5.250	5.500	5.400	5.456	5.529	5.456	5.400
ESG investing	6.000	6.182	5.813	5.967	6.080	6.000	6.000	6.000	5.933
Impact Investing	6.000	6.000	5.813	6.033	5.880	5.930	5.922	5.930	5.867
SRI Investing	5.800	5.909	5.813	5.767	5.960	5.842	5.882	5.842	5.800

*Table description:* This table reports the mean of the item which asks respondents about the synonymity between sustainable investing concepts and an Indigenous/Māori investment worldview. Mean and SD are shown for the full sample while only means are shown for sub-samples. The sample was split by subsidiary, the role that respondents play, asset size of the MAHI, the gender of respondents, their job title/function, whether or not respondents identify as Māori, MMM-ICE3 scores below and above the average and MCV scores below and above the average.

**TABLE 12** Factor loadings of sustainable investing concepts and synonymity with indigenous Māori worldview

<b>Sustainable Investing Concept</b>	<b>Factor Loading on Synonymity Factor</b>	<b>Uniqueness</b>
ESG Investing	0.8724	0.2388
Socially Responsible Investing	0.8505	0.2766
Impact Investing	0.6876	0.5272
Ethical Investing	0.6576	0.5675

*Table description:* This table reports results of a principal component factor analysis done on responses which respondents provided in regard to their level of agreement on whether or not the listed concepts are synonymous with investment approaches which reflect an Indigenous Māori worldview.

**TABLE 13** Average Marginal Effects (ME) of Māori identity and cultural values on ESG preferences

	(1)	ME	(2)	ME	(3)	ME	(4)	ME
<b>Panel A: ME Environment</b>								
D <sup>Māori</sup>	0.203***	0.076717***					0.208***	0.0787073***
	(3.77)	(0.0207396)					(3.75)	(0.0213862)
MMM-ICE3 Score			-0.00513	-0.0018951			0.00248	0.0009142
			(-0.81)	(-0.0023475)			(0.38)	(0.0024005)
MCV Score					-0.00518	-0.0019129	0.00536	0.0019739
					(-0.19)	(-0.0102778)	(0.19)	(0.0103288)
D <sup>Gender</sup>	-0.00873	-0.003217	0.00569	0.0021019	0.00643	0.0023741	-0.00704	-0.0025945
	(-0.23)	(-0.0142922)	(0.14)	(0.0151601)	(0.15)	(0.0159927)	(-0.17)	(0.0149408)
D <sup>GovernanceRole</sup>	0.171**	0.062921 **	0.149**	0.0551892**	0.147**	0.0543089**	0.172**	0.0631848**



	(3.25)	(0.0192048)	(2.72)	(0.0201596)	(2.61)	(0.0206947)	(3.15)	(0.198796)
D <sup>Trustee</sup>	0.0171	-0.08765453	0.00473	0.0017477	0.00928	0.0034249	0.0190	0.0069868
	(0.22)	(-0.0295959)	(0.06)	(0.0286657)	(0.12)	(0.0290331)	(0.24)	(0.0285566)
D <sup>Multiple</sup>	0.116**	0.0427288**	0.103*	0.0382131*	0.0981*	0.0362813*	0.113*	0.0417691*
	(2.59)	(0.0165084)	(2.15)	(0.0177859)	(2.11)	(0.0171801)	(2.56)	(0.0163262)
D <sup>Decisions</sup>	0.113	0.0410221	0.122	0.044332	0.130	0.0473463	0.115	0.0417658
	(1.61)	(0.0250424)	(1.59)	(0.0273912)	(1.72)	(0.027064)	(1.59)	(0.0258759)
Constant	-0.592***		-0.531***		-0.527**		-0.637**	
	(-9.73)		(-7.34)		(-2.68)		(-3.09)	
Pseudo-R <sup>2</sup>	0.0056		0.0036		0.0035		0.0055	
Wald chi <sup>2</sup>	21.41		11.63		14.46		23.48	
Prob > chi <sup>2</sup>	0.0061		0.1683		0.0705		0.0091	

**Panel B: ME Social**

D <sup>Māori</sup>	-0.0470	-0.0168612					-0.0365	-0.0131156
--------------------	---------	------------	--	--	--	--	---------	------------

	(-1.11)	(0.0151011)					(-0.85)	(0.0153981)
			0.00825	0.002986			0.00686	0.0024817
MMM-ICE3 Score			(1.52)	(0.0019676)			(1.20)	(0.0020659)
MCV Score					-0.00448	-0.0016219	-0.00243	-0.0008793
					(-0.23)	(-0.0070785)	(-0.04)	(0.007474)
D <sup>Gender</sup>	-0.0413	-0.0149577	-0.0421	-0.0152632	-0.0461	-0.0167158	-0.0344	-0.0145563
	(-1.05)	(-0.0142547)	(-1.10)	(-0.0138695)	(-1.13)	(-0.0148044)	(-0.12)	(0.0145072)
D <sup>GovernanceRole</sup>	0.0697	0.0252082	0.0723	0.0261476	0.0741	0.0268116	0.0683	0.0246938
	(1.46)	(0.0171366)	(1.55)	(0.0167808)	(1.62)	(0.016429)	(1.46)	(0.0167835)
D <sup>Trustee</sup>	0.145	0.052541	0.154*	0.0556864*	0.148	0.0533839	0.151*	0.054785*
	(1.91)	(0.0272506)	(2.03)	(0.0272051)	(1.96)	(0.0270018)	(1.97)	(0.0275181)
D <sup>Multiple</sup>	-0.000127	-0.0000461	-0.00505	-0.0018277	0.00414	0.0014972	-0.00651	-0.0023535
	(-0.00)	(-0.0145062)	(-0.12)	(-0.0152617)	(0.10)	(0.0144072)	(-0.15)	(-0.0153011)

D <sup>Decisions</sup>	0.0558 (0.80)	0.0200365 (0.0249664)	0.0639 (0.89)	0.0229241 (0.0256286)	0.0532 (0.75)	0.0191057 (0.0252941)	0.0652 (0.89)	0.0233756 (0.025927)
Constant	-0.502*** (-9.09)		-0.552*** (-9.59)		-0.483*** (-4.00)		-0.525*** (-3.76)	
Pseudo-R <sup>2</sup>	0.0021		0.0022		0.0020		0.0022	
Wald chi <sup>2</sup>	9.73		8.15		6.62		10.09	
Prob > chi <sup>2</sup>	0.2843		0.4192		0.5783		0.4330	

**Panel C: ME Governance**

D <sup>Māori</sup>	-0.156* (-2.52)	-0.0534931* (-0.021879)					-0.173** (-2.68)	-0.0591892** (0.0212371)
MMM-ICE3 Score			0.00342 (0.40)	0.0023978 (0.0038281)			-0.00494 (-0.54)	-0.0017455 (0.0032046)
MCV Score					-0.0419 (-1.09)	-0.0147911 (-0.0135758)	-0.0415 (-1.15)	-0.0146466 (0.012673)

D <sup>Gender</sup>	-0.0291 (-0.49)	-0.010286 (-0.0209373)	-0.0415 (-0.71)	-0.0151639 (-0.0208739)	-0.0550 (-0.84)	-0.019435 (-0.0232484)	-0.0387 (-0.62)	-0.0136966 (0.0219662)
D <sup>GovernanceRole</sup>	-0.148* (-2.01)	-0.0523767* (0.0260249)	-0.132 (-1.83)	0.0326206 (0.0255055)	0.0959 (1.32)	0.0335295 (0.0252047)	-0.156* (-2.13)	-0.0550187* (0.0258549)
D <sup>Trustee</sup>	-0.0360 (-0.33)	-0.0127174 (0.0389928)	-0.0274 (-0.25)	0.088029 (0.0545557)	0.255 (1.78)	0.0923085 (0.0537572)	-0.0370 (-0.34)	-0.0130822 (0.0385068)
D <sup>Multiple</sup>	-0.0668 (-1.05)	-0.0235583 (-0.0222737)	-0.0565 (-0.86)	-0.0218075 (-0.0237329)	-0.0520 (-0.84)	-0.0183789 (-0.0219559)	-0.0608 (-0.94)	-0.0214375 (0.0226818)
D <sup>Decisions</sup>	0.0253 (0.26)	0.0089081 (0.0337023)	0.0195 (0.19)	0.01500586 (0.400325)	0.0429 (0.40)	0.0151547 (0.0389957)	0.0284 (0.28)	0.0099832 (0.035531)
Constant	-0.315*** (-3.72)		-0.358*** (-3.87)		-0.157 (-0.66)		-0.0438 (-0.17)	
Pseudo-R2	0.0058		0.0022		0.0024		0.0037	

Wald chi <sup>2</sup>	12.18	6.12	6.26	13.19
Prob > chi <sup>2</sup>	0.0033	0.6334	0.6184	0.2133
N	114	114	114	114

*Table description:* Average marginal effects results (for various specifications of Equations 1,2 and 3) with  $\omega_{ESG}$  as dependent variable.  $\omega_{ESG}$  is the proportion allocated to E, S and G themes by respondents.  $D^{Māori}$  is a dummy variable which takes the value of 1 if a respondent identifies as Māori and 0 otherwise, MMM-ICE3 Score is the score respondents obtain on the group evaluation dimension of the MMM-ICE3 instrument, MCV Score is the score respondents obtain on combined Likert scales which measure the level of importance placed on Māori values,  $D^{Gender}$  is a dummy variable which takes the value of 1 if a respondent is male and 0 otherwise,  $D^{GovernanceRole}$  and  $D^{Trustee}$  are dummy variable which indicates if a respondent has a governance or non-governance role and whether or not they have a trustee title or otherwise while  $D^{Multiple}$  is a dummy variable which takes the value of 1 if a respondent has a role with more than one MAHI and 0 otherwise. Subsidiary indicates whether a respondent is associated with the governance body, the social subsidiary, or the commercial subsidiary.  $D^{Decisions}$  is also a dummy variable which is 1 if respondents are involved in making investment decision and 0 otherwise. t statistics in parentheses \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

**TABLE 14** Selection bias test

Question for which selection matters	Māori vs Non-Māori		
	(1) Māori	(2) Non-Māori	(3) Diff
What is the level of importance you attach to Māori values in the investment decision making process?	6.2	6.5	-0.3

*Table description:* This table shows the mean response of Māori and Non-Māori respondents to the question, “What is the level of importance you attach to Māori values in the investment decision making process?”. The mean difference reported in column (3) was insignificant in a nonparametric Mann-Whitney U Test of the null hypothesis that the two distributions are equal.

**Table 15** External validity check

<b>MAHI</b>	<b>Investment Portfolio Allocation Provided in Survey</b>	<b>Investment Portfolio Allocation in 2022 Annual Report</b>
#1	Managed funds-5%, Fixed income and cash-3%, direct investments/private equity-52%, natural resources (farm, forests, fishing quota)- 40%	Equity-8%, Property, Tourism-54%, Seafood, Farming, Forestry-38%
#2	Managed funds-10%, Fixed income and cash-10%, direct investments/private equity-65%, natural resources (farm, forests, fishing quota)- 15%	Real Estate- 10%, Natural Resources- 20%, Infrastructure and private equity- 60%, global shares- 10%
#3	Direct investments/private equity – 100%	Real estate-100%
#4	Managed funds-20%, Fixed income and cash-0%, direct investments/private equity-	Managed Funds-19%, Cash and Cash Equivalent-4%, Direct investments-8%, Fisheries and

	10%, natural resources (farm, forests, fishing quota)- 70%	Forestry-59%, investments- 10%	other
--	--	-----------------------------------	-------

*Table description:* This table shows external validity checks on a select sample of the responses provided by respondents to the survey question about the investment portfolio allocation of their MAHI. The responses are consistent with the data provided in the annual reports of the MAHI to which the respondents belong.

**TABLE 16** Placebo test for alternative potential drivers

	(1)	(2)	(3)
<b>Panel A: Environment</b>			
Location	0.000935 (0.09)		-0.000398 (-0.04)
Frequency in use of Consultants		0.0166 (0.86)	0.0168 (0.83)
D <sup>Gender</sup>	0.00878 (0.21)	0.00995 (0.24)	0.00998 (0.24)
D <sup>GovernanceRole</sup>	-0.132* (-2.27)	-0.131* (-2.21)	-0.131* (-2.24)
D <sup>ConsultantRole</sup>	-0.198* (-2.36)	-0.200* (-2.47)	-0.199* (-2.40)
D <sup>Multiple</sup>	0.0980* (2.22)	0.0995* (2.11)	0.0998* (2.25)

D <sup>Decisions</sup>	0.122 (1.44)	0.138 (1.69)	0.137 (1.67)
Pseudo-R2	0.0037	0.0038	0.0038

---

**Panel B: Social**

---

Location	-0.00856 (-1.15)		-0.0115 (-1.54)
		0.0312 (1.56)	0.0374 (1.88)
Frequency in use of Consultants			
D <sup>Gender</sup>	-0.0387 (-0.97)	-0.0369 (-0.91)	-0.0360 (-0.90)
D <sup>GovernanceRole</sup>	-0.0432 (-0.89)	-0.0394 (-0.81)	-0.0415 (-0.85)
D <sup>ConsultantRole</sup>	-0.0659 (-0.85)	-0.0823 (-1.05)	-0.0685 (-0.92)
D <sup>Multiple</sup>	0.0173 (0.42)	0.0117 (0.29)	0.0218 (0.54)
D <sup>Decisions</sup>	0.0503 (0.63)	0.0900 (1.13)	0.0846 (1.05)
Pseudo-R2	0.0012	0.0014	0.0016

---

**Panel C: Governance**

---

Location	0.00391 (0.29)		0.00829 (0.59)
----------	-------------------	--	-------------------



		-0.0502	-0.0547
Frequency in use of Consultants		(-1.59)	(-1.68)
D <sup>Gender</sup>	-0.0456	-0.0489	-0.0493
	(-0.75)	(-0.79)	(-0.81)
D <sup>GovernanceRole</sup>	0.0930	0.0894	0.0910
	(1.26)	(1.21)	(1.23)
D <sup>ConsultantRole</sup>	0.229	0.242	0.232
	(1.67)	(1.79)	(1.76)
D <sup>Multiple</sup>	-0.0579	-0.0577	-0.0647
	(-0.93)	(-0.92)	(-1.04)
D <sup>Decisions</sup>	0.0354	-0.0186	-0.0152
	(0.34)	(-0.20)	(-0.16)
Pseudo-R2	0.0030	0.0038	0.0039
N	114	114	114

*Table description:* Placebo test results (for various specifications of Equations 1,2 and 3) with  $\omega_{ESG}$  as dependent variable.  $\omega_{ESG}$  is the proportion allocated to E, S and G themes by respondents.  $D^{Māori}$  and MCV Score have been replaced by location and frequency in the use of consultants as the main independent variables,  $D^{Gender}$  is a dummy variable which takes the value of 1 if a respondent is male and 0 otherwise,  $D^{GovernanceRole}$  and  $D^{ConsultantRole}$  are variable which indicates if a respondent is a consultant or trustee, a consultant or trustee while  $D^{Multiple}$  is a dummy variable which takes the value of 1 if a respondent has a role with more than one MAHI and 0 otherwise. Subsidiary indicates whether a respondent is associated with the governance body, the social subsidiary, or the commercial subsidiary.  $D^{Decisions}$  is also a dummy variable which is 1 if respondents are involved in making investment decision and 0 otherwise. t statistics in parentheses \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

**TABLE 17** Seemingly Unrelated Regression (SUR) analysis

---

---

<b>Panel A: Environment</b>	
D <sup>Māori</sup>	0.0786*** (3.36)
MMM-ICE3 Score	0.000929 (0.27)
MCV Score	0.00212 (0.21)
D <sup>Gender</sup>	-0.00279 (-0.19)
D <sup>GovernanceRole</sup>	0.0634*** (3.84)
D <sup>Trustee</sup>	0.00583 (0.26)
D <sup>Multiple</sup>	0.0418** (2.65)
D <sup>Decisions</sup>	0.0420 (1.77)
Constant	0.257***

---

	(3.54)
R-squared	0.2370
RMSE	.076231
F	3.20

---

**Panel B: Social**

---

D <sup>Māori</sup>	-0.0134 (-0.63)
MMM-ICE3 Score	0.00250 (0.78)
MCV Score	-0.000934 (-0.10)
D <sup>Gender</sup>	-0.0143 (-1.04)
D <sup>GovernanceRole</sup>	0.0242 (1.60)
D <sup>Trustee</sup>	0.0537** (2.64)
D <sup>Multiple</sup>	-0.00248 (-0.17)
D <sup>Decisions</sup>	0.0230

	(1.06)
Constant	0.300***
	(4.52)
R-squared	0.1233
RMSE	.0699109
F	1.45

**Panel C: Governance**

D <sup>Māori</sup>	-0.0596
	(-1.81)
MMM-ICE3 Score	-0.00165
	(-0.34)
MCV Score	-0.0145
	(-1.00)
D <sup>Gender</sup>	-0.0145
	(-0.69)
D <sup>GovernanceRole</sup>	-0.0546*
	(-2.35)
D <sup>Trustee</sup>	-0.0141
	(-0.45)
D <sup>Multiple</sup>	-0.0209
	(-0.94)

D <sup>Decisions</sup>	0.0110 (0.33)
Constant	0.468*** (4.60)
R-squared	0.0868
RMSE	.1071082
F	0.98
N	114

*Table description:* SUR analysis results (for various specifications of Equations 1,2 and 3) with  $\omega_{ESG}$  as dependent variable.  $\omega_{ESG}$  is the proportion allocated to E, S and G themes by respondents.  $D^{Māori}$  is a dummy variable which takes the value of 1 if a respondent identifies as Māori and 0 otherwise, MMM-ICE3 Score is the score respondents obtain on the group evaluation dimension of the MMM-ICE3 instrument, MCV Score is the score respondents obtain on combined Likert scales which measure the level of importance placed on Māori values,  $D^{Gender}$  is a dummy variable which takes the value of 1 if a respondent is male and 0 otherwise,  $D^{GovernanceRole}$  and  $D^{Trustee}$  are dummy variable which indicates if a respondent has a governance or non-governance role and whether or not they have a trustee title or otherwise while  $D^{Multiple}$  is a dummy variable which takes the value of 1 if a respondent has a role with more than one MAHI and 0 otherwise. Subsidiary indicates whether a respondent is associated with the governance body, the social subsidiary, or the commercial subsidiary.  $D^{Decisions}$  is also a dummy variable which is 1 if respondents are involved in making investment decision and 0 otherwise. t statistics in parentheses \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .