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THE PERFORMANCE OF MĀORI FIRMS:
A STRATEGIC MANAGEMENT APPROACH

2020

AUTHOR

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EXECUTIVE SUMMARY

Māori are the indigenous people of Aotearoa/New Zealand (NZ) and account for 16.5% of the population (Statistics New Zealand, 2019). Colonisation in NZ and enforced land confiscation, severely weakened Māori people's ability to grow and trade in commodities. Even so, Chapman Tripp (2018) suggests that firms that make up the Māori economy are estimated to be worth above NZ$50 billion today. While much economic attention is given to large Māori tribal entities, there is a lack of empirical evidence exploring the strategic management approaches that Māori firms might engage in.

The present study uses empirical data on 146 Māori enterprises, including 106 private sector firms, to fill the gap in the understanding of self-identified Māori firms' performance. This study adopts the approach of Spanos and Lioukas (2001) by using strategic management frameworks to understand firm performance and specifically that of Māori firms.

Given this is the first empirical study focused solely on Māori firms, the research is purposefully wide. The study assesses how Māori firm factors, including structure, assets, strategy and culture, alongside industry forces, might impact on four performance indicators: (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales (private sector only). Combined, this provides a robust strategic management examination of Māori firm performance.

The present study tests a wide range of hypotheses aimed at measuring the direct, mediating and moderating effects of: (a) firm assets, (b) firm strategy, (c) dynamic capabilities (including entrepreneurial orientation), and (d) industry forces on the organisational performance of Māori firms.

Ultimately, a complex model of relationships was found. While firm assets were consistently important for Māori firm performance, the other factors all have significant direct effects to other mediators, ultimately showing that better performance is achieved through a combination of firm assets, firm strategy, entrepreneurship and dynamic capabilities, which then build product innovation and top talent retention, with these then influence organisational performance. The analysis also supports all of the strategic management frameworks used.

Overall, the multiple direct and indirect effects identified indicate that a top performing Māori firms are likely to have strong capacity across all factors, which, in combination, are leveraged to achieve superior performance. Importantly, Māori firms with strong firm factors will achieve strong firm performance regardless of industry forces. This means that there are firm factors which can buffer against a hostile industry climate. Further, while one industry force 'competitive rivalry' had direct positive effects on all performance indicators, the remaining industry forces all interacted with the firm factors to shape performance. Hence how Māori firms are positioned and then react and cope with industry pressures plays an important role in their overall performance.

1 Introduction

Ki te kāhore he whakakitenga ka ngaro te iwi
Without foresight or vision the people will be lost
Kingi Tāwhiao Pōtatau Te Wherowhero

The above *whakataukī* (proverb) provides a useful metaphor for this study on Māori business. Māori are the indigenous people of Aotearoa/New Zealand (NZ) and account for 16.5% of the population (Statistics New Zealand, 2019a). With the arrival of European settlers, Māori showed themselves to be highly entrepreneurial. They embraced the tools of the settlers and technology around agriculture, shipping, and publishing (Sinclair, 1959; Firth, 1972). However, the land wars of the 1860s radically changed the path of the Māori economy.

Colonisation in NZ and enforced land confiscation, severely weakened Māori people's ability to grow and trade in commodities. An enumeration of asset losses has been, and are being, estimated through the Treaty settlement processes, but the size and nature of economic activity formerly derived from those assets remain unquantified. Chapman Tripp (2018) suggests that firms that make up the Māori economy are estimated to be worth above NZ$50 billion today.

While much economic attention is given to large Māori tribal entities like Tainui and Ngai Tahu,[1] fundamental barriers preventing a fuller understanding of the NZ economy remain around the operation of Māori firms. There is a lack of empirical evidence exploring the strategic management approaches that Māori firms might engage in. Little is known about their contemporary activity in private business and associated links between Māori firms and performance. The present study uses empirical data on 146 Māori enterprises, including 106 private sector firms, to fill the gap in the understanding of self-identified Māori firms' performance. This study adopts the approach of Spanos and Lioukas (2001) by using strategic management frameworks to understand the performance of Māori firms and understand Māori firm performance.

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As such, the present study tests a wide range of hypotheses aimed at measuring the direct, mediating and moderating effects of: (a) firm assets, (b) firm strategy, (c) dynamic capabilities (including entrepreneurial orientation), and (d) industry forces on the organisational performance of Māori firms.

[1] See, for example, Deloitte (2020).

The present paper is structured as follows: Section 2 outlines the relevant theoretical approaches to measuring firm factors. Section 3 outlines the hypotheses tested in the paper, while Section 4 outlines the data. Sections 5 and 6 then present the methodology and the results, respectively. The limitations of the present study are discussed in section 7, before section 8 concludes.

2 Theory

The present work offers the first empirical study of Māori firms using distinct strategic management factors. This responds to calls for testing whether predictors of firm performance are universal (Allen, Ericksen, & Collins, 2013; Yalabik et al., 2008). This study also explores firm performance indicators well established in the literature (Combs et al., 2006; Subramony, 2009; Zhai & Tian, 2019) including (a) product innovation, (b) employee retention (specifically of top talent), (c) organisational performance, and (d) breakthrough sales.[2]

Finding that many of these established factors are relevant, or less relevant, to Māori firm performance would indicate that there are many unique cultural elements at play. Alternatively, finding these firm factors are key towards understanding firm performance would reflect that Māori firms are likely to adopt and engage in western processes and functions because they operate and are embedded in a western economy.

What follows are the theoretical grounds for each study variable, as well as definitions for each impact measured.

2.1 Theoretical Approaches

2.1.1 Resource Based View

We use the resource-based view (RBV) of the firm (Barney, 1991) to understand how firm factors (assets) can influence firm performance. This is captured in firm assets, which reflect the intellectual capital of the firm (the people, relationships, management, and cultural factors) as well as human resource (HR) systems within the firm. Under RBV theory, firms have varying types and levels of resources available to them (tangible and intangible) and these resources are imperfectly mobile (Barney, 1991). Firms utilise resources to generate value creating strategies and outperform their competitors when these resources are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Barney & Clark, 2007). For example, a firm might create an organisational culture (Barney, 1986) that encourages the best performance from its employees (human resources) to increase productivity and gain a competitive advantage (Foss & Ishikawa, 2007).

[2] Breakthrough sales are tested across private sector firms only.

2.1.2 Firm Strategy

Porter's framework of competitive strategy (Porter, 1980, 1985) is used to capture the strategic direction of the firm and ultimately its influence on firm performance. The firm is viewed as a bundle of strategic activities aimed at asserting an attractive position in the market (Spanos & Lioukas, 2001). Porter's framework offers two main strategies: (1) differentiation and (2) low cost. Differentiation can be achieved when firms create points of difference via innovation, marketing (Porter, 2008) or quality (Campbell-Hunt, 2001) and gives firms a price premium over competitors. Differentiation might create customer loyalty and less sensitivity to price changes in a unique version of a product, and so gives firms leverage over their competitors (Porter, 1980).

Ultimately, there are three differentiation strategies (Campbell-Hunt, 2001): (1) innovation differentiation (e.g., most up-to-date and attractive products, Miller, 1988), (2) market differentiation (creating a unique image for a product through advertising, prestige pricing, and market segmentation, Miller, 1988), and (3) quality differentiation (reflecting service quality and product quality, Campbell-Hunt, 2001). These different strategies can be used simultaneously (Hill, 1988) and empirical work supports this approach.[3]

2.1.3 Entrepreneurial Orientation

A firm's entrepreneurial orientation, or entrepreneurial culture, can be viewed as reflecting the sum of its innovation, risk taking, and pro-activeness (Miller, 1983), with Lumpkin and Dess (1996) noting all three components are important towards understanding a firm's orientation towards entrepreneurship. Rosenbusch, Rauch, and Bausch (2013) argue that entrepreneurial orientation is critical for performance, because firms can use it to amplify their pre-existing advantages – such as particular resources. Lumpkin and Dess (1996) define these factors as: (1) innovation, which refers to "a firm's tendency to engage in and support new ideas, novelty, experimentation, and creative process" (p. 142); (2) risk-taking, "such as incurring heavy debt or making large resource commitments, in the interest of obtaining high returns" (p. 144); and (3) pro-activeness as "taking initiative by anticipating and pursuing new opportunities and by participating in emerging markets" (p. 146).

[3] See Spanos & Lioukas (2001).

2.1.4 Dynamic Capabilities

Ordinary capabilities are about doing things right while dynamic capabilities are about doing the right things and success in such decision-making allows firms to survive in competitive markets (Teece & Leih, 2016). The three adjustments and activities associated with dynamic capabilities are (1) sensing, which refers to the identification and assessment of an opportunity; (2) seizing, which refers to the mobilisation of resources to address the identified opportunity and to capture value from doing so; and (3) transforming, which refers to continuous renewal (Teece, 2012). Dynamic capabilities, like entrepreneurial orientation, allow a firm to increase productivity across multiple ordinary activities.

2.1.5 Industry Forces

Much of the literature argues that firms interact with their industry and the best performers do it better (McGahan & Porter, 1997; Spanos & Lioukas, 2001; Teece, 2012).The present study, therefore, also explores how Māori firms react to industry forces, typically known as Porter's five forces. These include how competitive the industry is and specific pressures companies face within an industry, such as barriers to entry (Porter, 1985).

2.1.6 Theoretical Compatibilities

These above frameworks have sufficient overlap and provide a strong mechanism for understanding the performance of Māori firms. The quality of firm resources under RBV, the strategies that firms engage in, the way firms seek opportunity and exploit them, and the dynamic capabilities firms develop, all represent factors that can be viewed together.

In the literature, there is some contention around which factors are most important for explaining firm performance, and in which contexts they work together. Lin and Wu (2014) suggest that dynamic capabilities explain firm competitiveness better than RBV in fast-changing and dynamic environments. A difference between dynamic capabilities and ordinary capabilities is the application of good strategy. Combined with good strategy, dynamic capabilities can enable the firm to position itself towards the right types of consumers, production of the best suited products to such consumers, and focusing on the best opportunities for the future (Rumelt, 2011; Teece, 2012). Both the firm's entrepreneurial orientation and dynamic capabilities allow management to optimally utilise assets and resources showing that both frameworks are theoretically attuned to Porter's firm strategy framework.

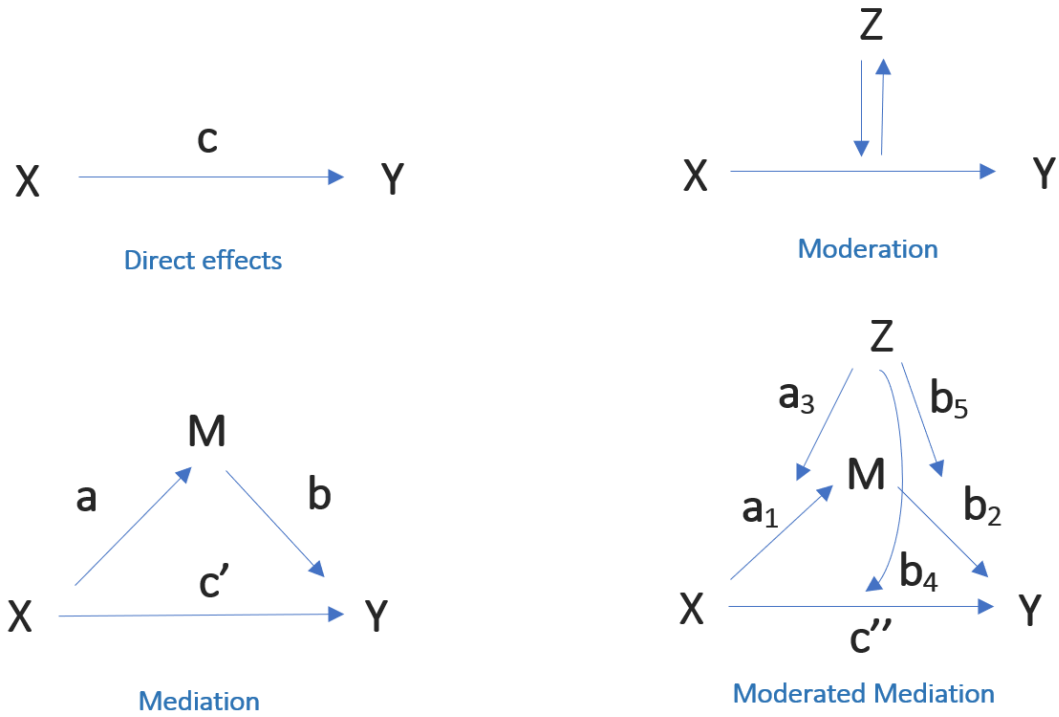
2.2 Types of Impacts

There are four types of impacts that Māori firm factors can have on performance indicators that are tested for in this study. A graphical representation of each is shown in Figure 1. First is a direct effect, which is the effect (c) of some variable (X) on another variable (Y).

Second is mediation, which reflects the effect (c') of X on Y through some other mediating variable (M). As illustrated, X may directly affect Y (c') and/or indirectly affect Y (through a on M causing b). The study explores this by testing for whether the effect of X on Y is better understood as operating through M. Third is moderation, which captures how the effect of X on Y differs by a moderating variable (Z) – the effect may be strengthened or weakened which is what the study also tests for. Fourth is moderated mediation, which is an interaction of the previous impacts.

The focus is on the indirect effect of X on Y, which is transmitted through the mediating variable (M) and can differ depending on the moderation of variable Z – for example, Z affects a_1 (the effect of X on M) through a_3, which causes b_2, an effect on Y through M (Hayes, 2013; Aguinis et al., 2017).

Figure 1. Direct effects, mediation, moderation and moderated mediation



Note: This figure is compiled from Figure 1 of Aguinis et al. (2017), p. 667.

3 Hypotheses

Hypotheses 1 - 4 (plus 6 and 8), test the direct effects of various firm factors on the performance indicators mentioned above. Hypotheses 5 and 7 test whether some factors are mediated by others and thus affect firm performance through a chain of effects. Hypothesis 9 tests for a moderation effect of industry forces on performance. Finally, hypothesis 10 tests for the combined mediating and moderating effects that industry forces may play.

Hypothesis 1

Firm assets are positively related to (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 2

Firm strategy is positively related to (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 3

Entrepreneurial orientation is positively related to (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 4

Dynamic capabilities are positively related to (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 5

The positive influence of firm assets will go through a chain effect of firm strategy, entrepreneurial orientation, and dynamic capabilities towards (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 6

Product innovation and top talent retention will be positively related to (a) organisational performance and (b) breakthrough sales.

Hypothesis 7

Product innovation and top talent retention will mediate the other firm factors towards (a) organisational performance and (b) breakthrough sales.

Hypothesis 8

Industry forces will be related to (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 9

Industry forces will interact with firm factors (assets, strategy, orientation and capabilities) towards (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales.

Hypothesis 10

The indirect effects of firm assets towards (a) product innovation, (b) top talent retention, (c) organisational performance, and (d) breakthrough sales, via the mediators, will be moderated by industry forces, such that the indirect relationship is stronger when industry forces are more favourable (moderated mediation).

4 Data

NZ firm data on (a) organisational performance and (b) Māori ownership was sourced from Qualtrics survey panels on NZ private sector firms using senior managers across a range of industries and regions. Data were collected in 2019 and 2020, pre-Covid-19. Respondents were asked to identify whether their workplace was a Māori organisation, which follows the Statistics NZ approach around self-identification (Statistics New Zealand, 2016). In total, data from 146 self-identified Māori firms were collected including 106 in the private sector.

Qualtrics focuses on representative data across NZ (size and location) although it is difficult to consider the representativeness of respondents as no other Māori firm data exists for comparison (using a similar methodology).[4] Recent meta-analysis by Walter et al., (2019) analysed panel data versus conventionally sourced data and reported no significant differences between sources.

Respondent firms were on average 26.1 years old (SD=23.6 years) and represent over 20 industries. Overall, respondent firms were well spread across firm size, as shown in Table 1.

Table 1. Firm Characteristics

Variable	Proportion
Firm size	
Micro (10 employees or less)	32.5%
Small (11-50 employees)	25.9%
Medium (51-250 employees)	21.8%
Large (251+ employees)	19.5%
Largest firm industries (top 50%)	
Retail	16.2%
Professional services	8.3%
Manufacturing	6.9%
Healthcare	6.6%
Education/training	6.1%
Construction	5.9%

Note: The proportion of firm sizes sums to 100%, less 0.3% due to rounding.

[4] The survey included a screening question around sector (private only) and manager position, with low-level managers (e.g., supervisors) being automatically removed. Qualtrics responses are confidential and their system safeguards against multiple responses and removes respondents who answer too slow or fast.

4.1 Study Variables

The study variables are defined below. Details on the construction of each study variable used in the present study can be found in the Supplementary Materials.

4.1.1 Firm Factors

Firm Assets

First, firm assets were explored, embracing a broad definition. Firm assets typically captures the structures within organisations around the quality of the people employed and their skills (human capital), their ability to interact positively (relational capital), and the skill and ability of the organisation's management (organisational capital) (Yang & Lin, 2009). Cultural capital was also included since literature suggests that Māori enjoy different styles at work (Haar, Roche & Brougham, 2019b) and that these cultural differences might make Māori firms distinct (Amoamo et al., 2018; Mika & O'Sullivan, 2014; Haar & Delaney, 2009), although empirical evidence has not previously been available.

Adding to these four intellectual capital dimensions were High Performance Work Systems (HPWS). While the HPWS has an extensive literature of its own, it was found to be highly related to the other overall intellectual capital construct. Thus, combining this creates a firm asset construct that now captures the human resource management (HRM) processes of the firm. Overall, the firm assets in the present study reflect a broad interpretation of the organizational knowledge resources (Singh & Rao, 2016) and overall brainpower activity (Galbraith, 1969) of the firms.

Firm Strategy

Next, firm strategy was included, whereby four different strategies were utilised together. While Spanos and Lioukas (2001) explored three strategies (innovative differentiation strategy, marketing differentiation strategy, and low cost strategy), the present also added quality differentiation strategy, because this was identified as a key strategy in the meta-analysis by Campbell-Hunt (2001). Hence, firm strategy can shape organizational performance through the way firms engage in innovation, use marketing, derive cost savings, or produce high quality goods and services (Campbell-Hunt, 2001). Such an approach to firm performance appears to apply to this sample of largely private sector Māori firms.

Entrepreneurial Orientation & Dynamic Capabilities

Finally, the third core factors of the present study were (a) entrepreneurial orientation and (b) dynamic capabilities. These were both included because they capture more complex processes within firms – rather than the intellectual capital, around core structures and people etc. A firms'

entrepreneurial orientation, or entrepreneurial culture, can be viewed as reflecting the sum of its innovation, risk taking, and pro-activeness (Miller, 1983), with Lumpkin and Dess (1996) noting all three components are important towards understanding a firm's orientation towards entrepreneurship. Regarding dynamic capabilities, Teece (2012) provides broad conceptualisations and the literature typically utilises a number of different approaches to 'tap' into a firm's dynamic capabilities (Teece, Pisano, & Shuen, 1997; Teece, 2007, 2012). These relate to firms sensing opportunities, seizing these opportunities through resource mobilization, and continuous renewal (Teece, 2012). Hence, entrepreneurial orientation and dynamic capabilities represent distinct approaches to firm processes, although some aspects (e.g., proactiveness and sensing opportunities) have potential overlap.

The dynamic capabilities construct used in the present study followed Spanos and Lioukas (2001), whereby associated factors were combined to capture a single construct. This included Research & Development (R&D) networks, which was used to capture the extent to which firms engage with R&D partners, around sensing and seizing opportunities through external resource mobilization (Teece, 2012). This was used because while R&D is important to organisational performance (Fabling & Statistics New Zealand, 2007), NZ firms typically have a low R&D spend (MBIE, 2016). Further, absorptive capacity and relationship learning were included because they both capture the processes of dynamic capabilities (Garcia-Morales, Ruiz-Moreno, & Llorens-Montes, 2007), around knowledge acquisition, assimilation, and information exchanges. Combined, these factors align with Teece (2007, 2012) around the complexities of dynamic capabilities including R&D partnerships providing firms with access to complementary assets (Teece, 1986).

Industry Forces

Beyond these core firm factors, industry forces were included, typically known as Porter's five forces. They are:

1. *Threat of New Entrants* or *Barriers to Entry*, which refer to barriers that make entry into an industry hard or easy which in turn will affect prices, costs, and the rate of investment necessary to compete (Pringle & Huisman, 2011).
2. *Bargaining Power of Buyers* reflects that powerful customers have the ability to force prices down and demand better service or quality, thereby forcing firms to compete and often driving up the cost of production (Porter, 2008).
3. *Bargaining Power of Suppliers* reflects the central role of suppliers, with Porter (2008) arguing that suppliers that have more bargaining power will charge higher prices, shifting costs to industry participants.
4. *Threat of Substitutes*, reflects alternative products which serve the same function and area available to customers instead of the products being sold by a firm (Porter, 2008).

5. *Competitive Rivalry* reflects the state of competition between firms, with Fouskas and Drossos (2010) state that highly competitive business environments are more competitive, where competitor movements "are more visible and threatening, firms are expected to respond aggressively in order to maintain their market share" (p. 481).

4.1.2 Firm Performance Indicators

Four firm performance indicators are used in order to asses Māori firm performance:

1. *Product Innovation.* Li, Su, and Liu (2010) suggest this includes building the variety of products and/or services a firm offers, improving their quality, growing market coverage of said products and/or services, and generating new products through enhancements in manufacturing technology.
2. *Top Talent Retention.* The retention of employees is a key indicator of firm performance because of the significant costs associated with turnover (Lee & Bruvold, 2003) from reselection and retraining, and indirect costs including opportunity costs and a decrease in morale amongst remaining workers. The focus here is on top talent retention.
3. *Organisational Performance*. Here, a non-financial multi-faceted indicator (Schuler & Jackson, 2005) of perceptions (Rondeau & Wagar, 2001) is used. Yang and Lin (2009) assessed performance via managerial effectiveness, worker satisfaction, and customer loyalty.
4. *Breakthrough Sales*. The percentage of total sales generated from new products (OECD, 2007; Hall & Mairesse, 2007). This firm performance indicator focuses only on sales and is limited to the private sector firms only.

4.2 Descriptive Statistics

Descriptive statistics for the study variables are shown in Table 2. The size and significance levels of a correlation analysis are shown in the Appendix, Table A1.

As Table 2 shows, there is a strong level of firm assets in this sample, while the other factors are not as high. This sample of Māori firms appears to have a strong core of knowledge, people, and processes, set appropriate strategic approaches for their firms, take calculated risks, and have useful capabilities around knowledge and innovation exploitation.

Exploring the individual factors, shows that within the firm assets, all individual intellectual capital dimensions are high, although cultural capital (M= 3.87, SD= 0.72) is the highest, and likely reflects a strong core approach for Māori firms. The weakest factor is the HPWS (M= 3.65, SD= 0.59), which might reflect the complexities of the multiple HRM practices within it. Indeed, across the five sub-dimensions, compensation is the weakest (M= 3.48, SD= 0.83).

Comparing the individual firm strategies shows that the quality differentiation strategy dominates (M= 3.75, SD= 0.73), indicating that this sample of Māori firms appears to engage in a dominant strategy around quality. Amongst the dimensions making up entrepreneurial orientation, these are all very similar, with innovativeness (M= 3.56, SD= 0.73) and proactiveness (M= 3.56, SD= 0.72). For the dynamic capabilities construct, absorptive capacity is the dominant factor (M= 3.76, SD= 0.63), with Chen et al. (2009) defining absorptive capacity as "a set of organizational routines by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capacity" (p. 153). It appears that this is clearly a key approach in this sample of Māori firms.

Exploring the firm outcomes, the scores for product innovation and organisational performance – both well above the mid-point – are stronger than empirical results in some studies for organisational performance (e.g., Yang & Lin, 2009) including NZ studies (e.g., Gibb & Haar, 2010; Roxas, Battisti, & Deakins, 2014), and studies specifically on product innovation (Lau & Ngo, 2004; Li et al., 2010). However, these performance indicator levels are similar to other studies on organisational performance (e.g., Li et al., 2010; Chow, 2012) including product innovation (e.g., Liao, Yi, & Jiang, 2019; Wei, Yi, & Guo, 2014; Lin, Chen, & Huang, 2014; Tan & Nasurdin, 2011). The high levels of employee retention align with other NZ data, although this represents total workforce retention and not top talent specifically (e.g., Guthrie, 2001; Haar & White, 2013). Overall, this reflects solid retention scores for top talent but not at extreme levels, providing additional confidence. Finally, the score for breakthrough sales aligns well with similar studies (specifically, Lee, Joo, & Kim, 2018). Overall, these scores indicate a robust level of performance and perhaps less spread towards product innovation and organisational performance, but a wider, more typical spread, towards retention and breakthrough sales.

Table 2. Descriptive Statistics of Study Variables

Variable	Mean	Standard Deviation
Control Variables		
1. Firm Size	2.89	1.31
Firm Factors		
2. Firm Assets	3.72	.54
3. Firm Strategy	3.56	.57
4. Dynamic Capabilities	3.60	.52
5. Entrepreneurial Orientation	3.54	.63
Industry Forces		
6. Competitive Rivalry	3.47	.63
7. Barriers to Entry	3.24	.87
8. Threat of Substitutes	3.23	1.02
9. Power over Suppliers	2.68	.98
10. Power of Buyers	51.6	24.7
Firm Performance		
11. Product Innovation	3.72	.62
12. Top Talent Retention	3.55	.93
13. Organisational Performance	3.72	.64
14. Breakthrough Sales‡	39.7	28.4

Notes: N=146, ‡=only private sector firms (n=106).

5 Method

5.1 Measures

The present study follows the approaches of strategy researchers, where a latent construct combining all items was used.[5] This intention is to test factors globally and not explore individual micro-characteristics of the firm. For example, within the HPWS it is the complete bundle of HR practices that is important rather than a single factor examining employee recruitment and selection.[6] To counter potential statistical issues,[7] Marsh et al., (2013) suggest that conducting a confirmatory factor analysis (CFA) on the construct before parcelling. Items within each dimension of a factor which fit the data best can be combined to create a global factor which is not problematic. This approach is used for HPWS, organisational assets and firm strategy.

We confirmed our constructs using CFA with AMOS (version 25), using the established guidelines.[8] Given the vast number of constructs, a streamlined approach was taken where single factor constructs were also parcelled. Constructs are detailed in the Supplementary Materials.

Overall, the hypothesised measurement model was the best fit for the data: χ^2(df)= 304.1(194), CFI=.92, RMSEA=.06, and SRMR=.06. Two alternative CFA models were also tested, and these were all significantly poorer fit (all p< .01) to the data. These alternative models confirmed that industry forces are best used individually and not as a combined factor, unlike the other constructs (e.g., firm assets, from strategy etc.). This analysis also confirms that product innovation is distinct from organisational performance.

5.2 Overall Measurement Model

Analyses were conducted using PROCESS 3.4 program (Hayes, 2018) in SPSS (version 25), which uses Ordinary Least Squares regression. The PROCESS model 6 was used to test hypotheses 1- 8 and PROCESS model 15 was used to test hypotheses 9 and 10. Hypothesis 10 was also tested using model 15 and PROCESS can only calculate one interaction variable at a time (out of the five industry forces), and hence in all models the other four industry variables are included as control variables to ensure calculations are not mis-specified. In the moderation analysis, bargaining power of buyers (which

[5] See, for example Spanos and Lioukas, (2001) and Wood and de Menezes (2011).
[6] This approach has meta-analytic support from Combs et al. (2006).
[7] See Little, Cunningham, Shahar, & Widaman, 2002; Meade & Kroustalis, 2006.
[8] CFI ≥.90, RMSEA ≤.08, and (3) SRMR ≤.10, see Hu and Bentler (1998) and Williams, Vandenberg and Edwards (2009).

ranges from 0-100) was z-scored to enable easier interpretation of moderation effects. Recommendations by Hayes (2013) were followed regarding conducting bootstrapping (5,000 times) and providing confidence intervals. It has been noted that PROCESS results are near identical to SEM (Hayes, Montoya, & Rockwood, 2017).

Additional analyses explored the moderating effects of the industry forces. Each model was run five times, once for each industry force. These analyses were test the theoretical arguments that industry forces may enhance performance when firms have a stronger pool of resources. This analysis also tests whether the industry forces act as boundary conditions on the key factors examined. These models are presented for each of three organisational performance indicators and have firm assets as the antecedent, firm strategy as the first mediator, entrepreneurial orientation as the second mediator, and dynamic capabilities as third and final mediator. The model for organisational performance includes the additional mediators of product innovation and top talent retention.

Following this approach, we repeat the above analysis using only the private sector dataset to retrieve results related to Breakthrough Sales.

6 Results

This section presents first, the direct effects measured by the present study, followed by the mediation and moderation effects. Two additional approaches are also discussed: the comparative approach and the frontier firms approach which concludes the section. An in-depth discussion of these results in the larger context of existing literature can be found in the Supplementary Materials.

6.1 Direct Effects

Table 3 shows the direct effects of: (a) firm assets, (b) firm strategy, (c) dynamic capabilities (including entrepreneurial orientation), and (d) industry forces on the organisational performance indicators.

The results support Hypothesis 1: firm assets have a direct effect on all firm performance indicators. However, the size of the effect on breakthrough sales is substantially smaller than on other factors, and only statistically significant at the 10 percent level. The results also support Hypotheses 2: firm strategy has direct effects on all firm performance indicators. The findings somewhat support Hypotheses 3 and strongly support Hypothesis 4. Additionally, only competitive rivalry is significantly related to the five industry forces which is enough to lend some support to Hypothesis 8. Amongst the five industry forces none are significantly related to top talent retention.

In summary, when the direct effects (only) of the factors (a) firm assets, (b) firm strategy, (c) dynamic capabilities (including entrepreneurial orientation), and (d) industry forces, are tested towards the firm outcomes, they are all generally found to be robust in influencing product innovation and organisational performance, strongly supporting Hypotheses 1 to 4, and 8. Top talent retention is only modestly predicted by firm factors.

Table 3. Direct Efficiency Effects

Variable	Product Innovation	Top Talent Retention	Organisational Performance	Breakthrough Sales‡
Control				
Firm Size	.06 (.04)	-.02 (.06)	.09** (.04)	.21*** (.07)
Hypothesis	**1(a)**	**1(b)**	**1(c)**	**1(d)**
Firm Assets	.68*** (.08)	.68*** (.13)	.84*** (.07)	.34 (.17)
Total R^2	.36***	.15***	.52***	.14***
Hypothesis	**2(a)**	**2(b)**	**2(c)**	**2(d)**
Firm Strategy	.61*** (.08)	.38*** (.13)	.55*** (.08)	.44*** (.17)
Total R^2	.33***	.06**	.27***	.16***
Hypothesis	**3(a)**	**3(b)**	**3(c)**	**3(d)**
Entrepreneurial Orientation	.41*** (.08)	.00 (.14)	.14 (.09)	.56*** (.18)
Total R^2	.43***	.14***	.38***	.26***
Hypothesis	**4(a)**	**4(b)**	**4(c)**	**4(d)**
Dynamic Capabilities	.37*** (.10)	.67*** (.17)	.62*** (.10)	.19 (.20)
Total R^2	.43***	.14***	.38***	.26***
Hypothesis	**8(a)**	**8(b)**	**8(c)**	**8(d)**
Competitive Rivalry	.57*** (.08)	.25 (.14)	.52*** (.08)	.46*** (.16)
Barriers to Entry	-.02 (.05)	.06 (.10)	-.01 (.06)	-.04 (.10)
Threat of Substitutions	-.03 (.05)	.08 (.08)	.01 (.05)	.11 (.09)
Power over Suppliers	.00 (.00)	-.09 (.09)	.06 (.05)	-.13 (.09)
Power of Buyers	.00 (.00)	-.00 (.00)	.00 (.00)	.01*** (.00)
Total R^2	.35***	.06	.27***	.38***

Note: N=146, ‡=only private sector firms (n=106). *** and **, denote statistical significance at the one and five percent-levels, respectively.

6.2 Mediation Effects

Table 4 shows the results of the main factors in the present study: (a) firm assets, (b) firm strategy, and (c) dynamic capabilities (including entrepreneurial orientation) simultaneously to highlight mediation effects. Firm factors in combination have a wide influence across the firm performance indicators.

Additionally, the results show that firm assets influence firm strategy, then both influence entrepreneurial orientation, and then firm assets and entrepreneurial orientation influence dynamic capabilities. This is evidence of mediation. While firm assets and firm strategy are significantly related to entrepreneurial orientation, the effect of firm assets is reduced from β= .66(.08), p< .001 (LL= .50,

UL= .82) to β= .31(.08), p< .001 (LL= .16, UL= .47), when firm strategy is included in the model. Hence, the direct influence of firm assets on entrepreneurial orientations is partially mediated by firm strategy.

Table 4. Mediation Effects

Variable	Firm Strategy	Entrepreneurial Orientation	Dynamic Capabilities	Product Innovation	Top Talent Retention	Organisational Performance	Breakthrough Sales ‡=
Control							
Firm Size	-.00 (.03)	.02 (.03)	.01 (.02)	-.00 (.03)	-.08 (.06)	.02 (.03)	.14** (.07)
Hypothesis		**5a**			**5b**	**5c**	**5d and 6b**
Firm Assets	.58*** (.08)	.31*** (.08)	.46*** (.07)	.31*** (.10)	.47** (.19)	.65*** (.10)	-.49 (.27)
Firm Strategy	-	.52*** (.07)	.13 (.08)	.19** (.10)	.01 (.18)	.19** (.09)	-.01 (.23)
Entrepreneurial Orientation	-	-	.19*** (.07)	.25*** (.09)	-.10 (.17)	-.10 (.09)	.52** (.24)
Dynamic Capabilities	-	-	-	.16 (.11)	.42** (.20)	.22** (.10)	.65** (.33)
Total R^2	.30***	.55***	.55***	.48***	.18***	.54***	.29***
Hypothesis			**5d and 6b**			**7**	**5d and 6b**
Firm Size	.12*** (.04)	.05 (.03)	.01 (.02)	.01 (.03)	-.10 (.07)	.03 (.03)	.15** (.07)
Firm Assets	.64*** (.08)	.36*** (.10)	.46*** (.07)	.45*** (.14)	.62** (.26)	.50*** (.09)	-.60** (.29)
Firm Strategy	-	.06** (.10)	.01 . (.07)	.19 (.12)	.02 (.22)	.13 (.09)	-.03 (.23)
Entrepreneurial Orientation	-	-	.39*** (.06)	.00 (.12)	-.22 (.24)	-.16** (.08)	.55** (.25)
Dynamic Capabilities	.-	-	-	.19 (.17)	.38 (.33)	.12 (.10)	.59 (.34)
Product Innovation	-	-	-	-	-	.32*** (.08)	.08 (.20)
Top Talent Retention	-	-	-	-	-	.11*** (.04)	.11 (.10)
Total R^2	.45***	.58***	.77***	.49***	.20***	0.63***	.30***

Note: N=146, ‡=only private sector firms (n=106). Standard deviations in parentheses. *** and **, denote statistical significance at the one and five percent-levels, respectively. Hypotheses 5d and 6b+ are results from when product innovation and top talent retention are added.

Towards dynamic capabilities, firm assets are significant: β= .66(.06), p< .001 (LL= .54, UL= .78), but are slightly mediated by the inclusion of firm strategy, dropping to β= .52(.07), p< .001 (LL= .38, UL= .65). They further drop, when entrepreneurial orientation is included, to β= .46(.07), p< .001 (LL= .32, UL= .60). Firm strategy is directly related to dynamic capabilities at β= .25(.06), p< .001 (LL= .12, UL= .37) and similarly, when entrepreneurial orientation is included in the model, the direct effect of firm strategy drops to β= .13(.08), p= .076 (LL= -.01, UL= .37) and becomes non-significant.

In summary, firm assets are found to shape firm strategy, and both aid entrepreneurial orientations, and then all play some role towards dynamic capabilities.

Towards product innovation, firm assets and entrepreneurial orientation were significantly related while firm strategy and dynamic capabilities were not. However, these factors were all significantly correlated which highlights the dominant effects that firm assets and entrepreneurial orientation have over the other firm factors. In the private sector sample, only firm assets are a significant predictor towards product innovation. Firm assets continue to be a consistently influential predictor across all firm performance indicators.

Interestingly, the effects are different in the private sector firm sample, especially as that focus is on breakthrough sales and not organisational performance per se. The analyses show that firm assets are dominant towards product innovation and top talent retention, but entrepreneurial orientation is the dominant predictor towards breakthrough sales, providing a contrast between the datasets. Indeed, while firm assets are significant towards breakthrough sales, that effect is fully mediated by the inclusion of product innovation and top talent retention. Overall, across all outcomes, firm assets clearly play a strong foundational role, they have a significant influence towards strategy, entrepreneurship, and dynamic capabilities. Also playing a role through the other performance indicators, highlighting the layers of effects across firm factors from firm assets. Overall, there was strong support for mediating effects, although many of these are partial mediating effects, and no single firm factor was dominant.

6.3 Moderation Effects

In addition to direct effects, the present study also explored the moderating effects of industry forces. Tables 5 - 7 show the results.[9] The model for organisational performance included additional mediators of product innovation and top talent retention but finds no significant results. Therefore, this is excluded from the tables below.

The interaction effects show that competitive rivalry, threat of substitutes, and firm bargaining power over suppliers all do not significantly interact with firm assets, firm strategy, entrepreneurial orientation, or dynamic capabilities. However, as seen in Table 5, the next industry force – barriers to entry – is found to significantly interact with firm strategy (LL= -.55, UL= -.11) and there is a significant effect of index of moderated mediation with firm strategy as the mediator (LL= -.28, UL= -.02). Finally, bargaining power of buyers significantly interacts with entrepreneurial orientation (LL= -.45, UL= -.12) towards product innovation.

[9] For expediency, only the significant effects are shown.

Table 5. Moderating effects toward Product Innovation

Variable	Product Innovation
Hypotheses	**8a and 9a**
Firm Strategy x Barriers to Entry	-.33*** (.11)
Index of Moderated Mediation (through Firm Strategy)	-.13** (.07)
Entrepreneurial Orientation x Power of Buyers	-.29*** (.08)

Note: Standard deviations in parentheses. *** and **, denote statistical significance at the one and five percent-levels, respectively. Moderated mediation is tested through all mediators (Firm Strategy, Entrepreneurial Orientation, and Dynamic Capabilities). Only statistically significant results are shown.

Firms with low firm strategy report higher product innovation when barriers to entry are high. When there are low barriers to entry, firms with low firm strategy engage in far lower levels of product innovation. When compared to firms with a high firm strategy, these effects are reversed. The highest forms of product innovation occur in firms reporting low barriers to entry, while those firms with high barriers to entry and high firm strategy report significantly lower levels of product innovation.

Barriers to entry operates as a boundary condition and moderates the mediated relationship of firm assets → firm strategy → product innovation. At low levels of barriers to entry (-2SD), firms report a significant, indirect, positive effect from firm assets on product innovation vis-à-vis firm strategy (β= .15(.08), p= .027; LLCI= .01, ULCI= .31). Barriers to entry operate as a boundary condition only at low levels, as the indirect effects of firm assets are significant only at a low range of barriers to entry.

Firms with low entrepreneurial orientation report higher product innovation when the industry force they face around the bargaining power of buyers is high. Competitors with low entrepreneurial orientation and in conditions of low bargaining power of buyers engage in lower levels of product innovation. However, at high levels of entrepreneurial orientation, these effects are reversed. Here we find that firms with high entrepreneurial orientation report the highest product innovation when the bargaining power of buyers is low, while those firms operating in environments where the bargaining power of buyers is high report significantly lower product innovations. This effect supports the hypothesis.

Tables 6 and 7 show the moderation and moderated mediation findings towards top talent retention. Most industry forces do not significantly interact with firm factors, however, the threat of substitutes interacts with entrepreneurial orientation towards top talent retention (LL= .06, UL= .57). In addition, there is a significant index of moderated mediation with entrepreneurial orientation as the mediator and threat of substitutes as the moderator (LL= .00, UL= .28). Finally, the firm bargaining power over suppliers significantly interacts with firm assets towards top talent retention (LL= .21, UL= 1.10).

Table 6. Moderating effects toward Top Talent Retention

Variable	Top Talent Retention
Hypotheses	**8b and 9b**
Entrepreneurial Orientation x Threat of Substitutions	.31** (.16)
Index of Moderated Mediation (through Entrepreneurial Orientation)	.15** (.09)
Firm Assets x Power over Suppliers	.66** (.27)

Note: Standard deviations in parentheses. *** and **, denote statistical significance at the one and five percent-levels, respectively. Moderated mediation is tested through all mediators (Firm Strategy, Entrepreneurial Orientation, and Dynamic Capabilities). Only statistically significant results are shown.

Firms with low entrepreneurial orientation report higher top talent retention when the industry force they face around the threat of substitutes is low. Competitors with low entrepreneurial orientation and in conditions of high threat of substitutes are less able to retain their top talent. However, at high levels of entrepreneurial orientation, these effects are reversed. This effect is counter to the hypothesised effect.

The threat of substitutes acts as a boundary condition and moderates the mediated relationship of firm assets → entrepreneurial orientation → top talent retention. There is only a significant indirect effect at low levels of threat of substitutes (-2SD), with firms reporting significant indirect effect of firm assets on top talent retention vis-à-vis entrepreneurial orientation that are significant and negative (β= -.23(.14), p= .049; LLCI= -.47, ULCI= -.01). The negative relationship is counter to that expected.

Firms with low firm assets report high levels of top talent retention when the industry force they face around the firms bargaining power over suppliers is low. Firms with high bargaining power over suppliers report significantly lower levels of top talent retention. However, when compared to firms with high firm assets, these effects are reversed. Here we find the highest forms of top talent retention occur in firms reporting high bargaining power over suppliers, while those firms with low bargaining power over suppliers and with high firm assets, report significantly lower levels of top talent retention. This finding supports the hypothesis.

The next industry force, threat of substitutions, was found to significantly interact with firm strategy towards organisational performance (LL= .02, UL= .43). Firms' bargaining power over suppliers revealed a significant two-way interaction with top talent retention towards organisational performance (LL=.01, UL= .16) and also produced a significant index of moderated mediation (LL= .00, UL= .14). All other relationships were non-significant (all p> .05).

Table 7. Moderating effects toward Organisational Performance

Variable	Organisational Performance
Hypotheses	**8c and 9c**
Firm Strategy x Threat of Substitutions	.23** (.10)
Top Talent Retention x Power over Suppliers	.08** (.04)
Index of Moderated Mediation (through Top Talent Retention)	.07** (.04)

Note: Standard deviations in parentheses. *** and **, denote statistical significance at the one and five percent-levels, respectively. Moderated mediation is tested through all mediators (Firm Strategy, Entrepreneurial Orientation, and Dynamic Capabilities). Only statistically significant results are shown.

Firms with low firm strategy report similar levels of organisational performance, irrespective of whether the industry force they face around the firm's threat of substitutes is low or high. When compared to firms with high firm strategy, there are significant differences, with firms reporting the highest organisational performance when they have high firm assets and the threat of substitutes is high. Conversely, firms with high firm assets but where the threat of substitutes is low, report significantly lower organisational performance. This finding supports the hypothesis around the ability of firms with a strong strategy to leverage industry forces to their benefit.

Firms with low top talent retention report significantly similar levels of organisational performance when the industry force they face around bargaining power over suppliers is low. When compared to firms with a high top talent retention, the effects show that firms with low bargaining power over suppliers produce similar levels of organisational performance as those with low top talent retention, while firms with high top talent retention and high bargaining power over suppliers report significantly higher organisational performance. Ultimately, at high levels of top talent retention, organisational performance is enhanced when they have greater strength over the bargaining power over suppliers. This supports the hypothesis.

The bargaining power over suppliers operates as a boundary condition and moderates the mediated relationship of firm assets → top talent retention → organisational performance. Overall, the indirect effects of firm assets are significant only at moderate levels of bargaining power over suppliers, with the indirect effect being non-significant at up to -0.7SD, and then positive from then on. This indicates that the indirect effect of firm assets is subject to bargaining power over suppliers operating as a boundary condition, with firms with stronger levels of bargaining power over suppliers being able to leverage their firm assets for significant performance gains.

Finally, for the moderation and moderated mediation findings towards breakthrough sales, the interaction effects show that none of the industry forces play any significant interaction effects and there is no support for industry forces playing any moderating effect towards breakthrough sales.

Industry forces were found to play various roles towards shaping firm performance through many firm factors. Competitive rivalry was consistently a non-significant moderator across all four performance indicators and might be best captured as a direct influence. Barriers to entry had one significant interaction effect towards product innovation as did the bargaining power of buyers – both towards product innovation. Both the threat of substitutes and firm bargaining power over suppliers were found to be significant towards both top talent retention and organisational performance.

Therefore, strong evidence exists that while the core factors explored here are important towards the firm performance indicators, industry forces play an important role, including direct, moderation and as boundary conditions. However, towards breakthrough sales (using the private sector data only) we find no evidence of moderation and moderated mediation from any of the five industry forces.

6.4 The Comparative Approach

The relevant literature endorses considering the effects of industry forces on all factors examined in the present study (firm assets, firm strategy, entrepreneurial orientation, and dynamic capabilities). Indeed, others have argued that it is likely that both approaches (Porter framework and RBV) offer insight, and thus researchers might look to adopt a balanced approach between them (Mahoney & Pandian, 1992).

Here it is found that firm success relates to both the core factors and processes of the firm and their ability to leverage these in challenging conditions (i.e. industry forces) to achieve the success over competitors. This was widely supported, although it is acknowledged, that some effects showed beneficial effects that were both aligned and counter to arguments under Porters framework. For example, high bargaining power over suppliers was found to be advantageous for Māori firm performance with high top talent retention, supporting Porter (2008). Conversely, Māori firms appeared able to extract typically challenging situations, such as high threat of substitutes in combination with high firm assets, which Porter (2008) argues should be detrimental not beneficial. Exactly how Māori firms are able to leverage such effects is unclear, although in this example, it might relate to the high firm strategies around quality differentiation.

Overall, the comparative models showed that firm assets were important and dominant, providing strong support for the RBV of the firm (Barney, 1991). However, firm strategy, entrepreneurial orientation, and dynamic capabilities were all found to influence each other along the chain of effects, but also directly influence most performance indicators. These effects support the broad literature around strategy and processes, and suggests that analysis towards organisational performance would be more challenging to determine without the large number of factors explored here. The comparative approach was also important because towards breakthrough sales, firm assets were this time non-

significant, and it was entrepreneurial orientations that was the sole significant factor. This highlights the importance of the processes within entrepreneurship and these findings align with the meta-analysis from Rosenbusch et al. (2013). Such processes around innovation, risk-taking, and pro-activeness, appear to enable Māori firms in this sample to achieve higher breakthrough sales, and with the other firm factors all significantly correlating with breakthrough sales, it appears entrepreneurial orientations is the key firm factor towards new sales.

Firm factors (assets, strategy, entrepreneurship, and dynamic capabilities) played various intwined roles with the industry forces, further highlighting that these factors and associated theories and frameworks might best be seen as operating cooperatively and not in competition, when used to explain firm performance. Indeed, given the wide breadth of significant relationships found across all these approaches (i.e., RVB – Barney, 1991; Porter's framework, – Porter, 2008; entrepreneurial orientation – Miller, 1983; and dynamic capabilities – Teece, 1997), it indicates that the performance of Māori firms can be understood using any of these theoretical approaches, although a combination appears to be most useful and insightful.

6.5 Frontier Firm Approach

Given the focus of the NZ Productivity Commission on Frontier Firms, these findings are subsequently interpreted in the context of a frontier firm criteria. What makes a frontier firm is arguable, and perhaps in the top 5-10% of firm performers (New Zealand Productivity Commission, 2020). To conduct an exploratory study, the present study selected the top 12 firms by firm performance (organisational performance scores), which represents 8.1% of the sample. The profile of this group and comparison tests compared to the rest of the sample, is shown in Table 8. This analysis allows us to confirm the firm factors of the high performers in this sample of Māori firms.

As we might expect, the Māori firms in the top 8 percent of performers had significantly higher scores across all firm factors: firm assets, firm strategy, entrepreneurial orientation, and dynamic capabilities. These were all significantly larger than the remaining sample (all $p < .001$). Importantly, the analysis showed that while this sample of frontier firms also reported significantly higher levels of competitive rivalry, across the remaining four industry forces, there were non-significant differences between these 'Māori frontier firms' and the rest of the sample. This highlights earlier points that the performance of the better Māori firms in this sample was because they were able to leverage their firm assets, firm strategy, and/or entrepreneurial orientation and dynamic capabilities to weather any industry force. Finally, and importantly, there was no difference across the samples by firm size. This suggest that these 'Māori frontier firms' outperform their competitors because of their makeup – and not because they are larger than other Māori firms.

Table 8. Frontier Firm Means and T-Tests

	Frontier Firms (n=12)	Rest of Sample (n=134)	Difference	Significance Test
Control Variables				
Firm Size	3.42 (1.31)	2.84 (1.31)	1. 458	.147
Firm Factors				
Firm Strategy	4.28 (0.56)	3.50 (0.55)	4.908	< .001
Entrepreneurial Orientations	4.21 (0.68)	3.48 (0.59)	4.094	< .001
Dynamic Capabilities	4.27 (0.61)	3.55 (0.48)	4.934	< .001
Firm Outcomes				
Product Innovation	4.46 (0.68)	3.66 (0.57)	4.554	< .001
Top Talent Retention	4.17 (1.11)	3.50 (0.89)	2.432	.016
Industry Forces				
Competitive Rivalry	4.00 (0.89)	3.43 (0.58)	3.114	.002
Barriers to Entry	3.67 (1.16)	3.20 (0.84)	1.781	.077
Threat of Substitutions	3. 75 (1.29)	3.19 (0.99)	1.841	.068
Power over Suppliers	2.17 (0.94)	2.72 (0.97)	-1.914	.058
Power of Buyers	0.53 (1.27)	-0.05 (0.96)	1. 937	.055

Note: Standard deviations in parentheses.

7 Limitations

A major limitation of being the first large empirical study of Māori firms across these strategic management factors, is that comparison data is not available to allay potential concerns around the representativeness of the data. The overall scores from the Māori firms and their firm performance indicators are very positive and while reflective of some international data, the scores are high. Consequently, given the self-reported nature of the data, this analysis should be considered in this context, as it may not reflect the overall NZ sample of firms. Indeed, future research in this area should help us understand whether this sample is representative of NZ firms in general.

As noted by Combs et al. (2006), many of firm studies use cross-sectional data and the present study is no different. Podsakoff, MacKenzie, Lee, and Podsakoff (2003) note this raises potential issues around common method variance (CMV) although Spector (2006) argues that issues around CMV are likely inflated, and that other longitudinal approaches may not be better than cross-sectional data analysis anyway (Spector, 2019). Beyond these issues, Haar et al. (2014) argued that conducting CFA and running alternative measurement models provides greater confidence around constructs used, and thus would potentially capture CMV issues. Overall, the sample of Māori firms aligns well with other strategy studies set in NZ (e.g. n=167, Gibbs & Haar, 2010; n=136, Guthrie, 2001).

In response to these potential CMV issues, two post-hoc tests were conducted: (1) Harman's One factor Test (unrotated factor analysis), which accounted for 28% of the total variance. This is well under the threshold (Podsakoff et al., 2003) and thus suggests CMV is not an issue. Next, (2) the Lindell and Whitney test was conducted, where a partial correlation is conducted, controlling for an unrelated construct, and whereby the strength of correlations should not change if CMV is not an issue. The control variable was the respondents own individual Machiavellianism (4-items from Christie & Geis, 1970, α= .92) and no change on the strength of correlations was found, indicating CMV is not evident. Finally, Evans (1985) conducted Monte Carlo analysis and detected that when significant moderating effects are present, CMV is unlikely. Given the present study produced a large number of moderation and moderated mediation effects, again, CMV is unlikely. Combined, these factors all provide confidence that issues around CMV is unlikely in the present study, although it is acknowledged that this study design does not allow for causality to be argued.

Another potential limitation is the choice of top talent retention as a single-item construct. However, studies examining retention typically only use a single-item (e.g., Guthrie, 2001) making the approach in the present study one typical of the literature. Overall, the sample included a robust number of Māori firms across a broad range of industries and provides useful generalisability of findings.

Finally, while the literature argues that Māori firms are different (e.g., Amoamo et al., 2018; Mika & O'Sullivan, 2014; Haar & Delaney, 2009), empirical evidence around how they differ is missing. The present study did explore cultural capital although clearly other approaches to Māori cultural practices in the workplace could be explored. It is possible that non-Māori NZ firms are attuned to Māori culture or Māori employees, and thus provide greater support for cultural values. For example, a report into *te reo Māori* (the Māori language) in NZ firms found that approximately 70% of firms used some form of *te reo Māori* in their workplace (Haar et al., 2019a). This provides a fertile area for more research which could include a comparative analysis of Māori and non-Māori firms in NZ.

8 Conclusion

Ultimately, a complex model of relationships was found. While firm assets were consistently important for Māori firm performance, the other factors all have significant direct effects to other mediators, ultimately showing that better performance is achieved through a combination of firm assets, firm strategy, entrepreneurship and dynamic capabilities, which then build product innovation and top talent retention, with these then influence organisational performance. The analysis also supports all the strategic management frameworks.

Overall, the multiple direct and indirect effects identified indicate that a top performing Māori firms are likely to have strong capacity across all factors, which, in combination, are leveraged to achieve superior performance. Importantly, Māori firms with strong firm factors will achieve strong firm performance regardless of industry forces. This means that there are firm factors which can buffer against a hostile industry climate. Further, while one industry force 'competitive rivalry' had direct positive effects on all performance indicators, the remaining industry forces all interacted with the firm factors to shape performance. Hence how Māori firms are positioned and then react and cope with industry pressures plays an important role in their overall performance.

Māori firms seeking to perform well and outperform their competitors will need to focus on a broad array of firm factors. First, having strong firm assets, with the right people, good managers, strong relationships, and excellent HRM and cultural practices, should equip a Māori firm to do well

Although no single dimension dominated, the present study found that entrepreneurial orientation was important. Within the dynamic capabilities however, absorptive capacity that was especially dominant. Thus, Māori firms might seek to develop their processes around being innovative and proactive as well as expanding their knowledge acquisition and assimilation.

One area highlighted in the analysis was the relative weakness of the HPWS, and in particular, the sub-dimension around compensation. While NZ has been characterised as an economy built on low pay and compensation (Fraser, 2018), there is clearly an area here for Māori firms to improve. 2018 Census data shows that NZ Europeans report a median income 42% higher than Māori (Stats NZ, 2020) reflecting perhaps, the importance of greater compensation for Māori workers. HR practices are most effective when used in combination, and perhaps Māori firms could audit all HR practices to better understand where they need to bolster HR practices that especially lag behind competitors. Further, HR Managers might explore the type of HR practices that exist and are potentially specific to their industry and workforce (e.g., training and development opportunities) to ensure staff are at least at an equal footing to competitors on their HPWS and overall human capital.

There are also implications around research especially as this study offers some of the first empirical insights into Māori firms. More research is needed on Māori firms to better understand how they operate, their firm level resources, and their attention towards cultural values and practices. This is supported by an additional analysis (not shown) which indicated that while cultural capital is significantly correlated towards all the firm performance indicators, the other 4 dimensions of firm assets correlate more strongly, and in regression analysis, dominate the predictive effects of cultural capital. Hence, this one cultural factor might not be more important that other core intellectual capital dimensions.

Future research using this approach might be conducted to see if these effects can be replicated in other indigenous populations, such as within Canada and Australia. Alternative firm outcomes could be explored, given that Māori and other indigenous firms might have different focuses around profit.

Researchers might also look to examine these relationships at the employee- or team-level, perhaps towards job and wellbeing outcomes, especially around cultural, entrepreneurial, and dynamic capabilities. For example, do Māori firms provide unique cultural and spiritual contexts at work that ultimately enhance the wellbeing of employees? Do these benefit non-Māori workers as well? Finally, comparing this data with non-Māori firms would be useful to contextualise these findings. Future research might also explore the various firm factors within only micro- or small-sized firms to determine whether there are specific firm size limitations at play.

Overall, the present study suggests that Māori firms operate in ways that do align very closely to theoretical and empirical evidence from the western world, which of course, is logical given these Māori firms operate in a western economy. The focus of the present study was on mainly private sector firms and not large Māori authorities; however, the present study does make important contributions. Many aspects in the firm literature call for testing of a universal approach – that is, do the theories and approaches work in other cultures and contexts (e.g., Allen et al., 2013)? The literature argues that Māori firms are likely to be broadly different due to a range of cultural factors, including a greater interest in family, the collective and networks (Haar & Delaney, 2009; Haar, Roche & Brougham, 2019). Thus, it was expected that Māori firms would likely be distinct from other NZ firms (Amoamo et al., 2018; Haar & Delaney, 2009), although empirical evidence has not previously been available. Overall, the findings here mirror a number of meta-analyses that predict firm performance and provides much needed insights into the performance of Māori firms.

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APPENDIX

Table A 1. Correlation matrix of study variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Control Variables														
1. Firm Size	--													
Firm Factors														
2. Firm Assets	.21***	--												
3. Firm Strategy	.11	.54***	--											
4. Dynamic Capabilities	.17**	.69***	.57***	--										
5. Entrepreneurial Orientation	.16	.58***	.70***	.61***	--									
Industry Forces														
6. Competitive Rivalry	.24***	.57***	.54***	.48***	.54***	--								
7. Barriers to Entry	-.00	.10	.07	.17**	.22***	.25***	--							
8. Threat of Substitutes	.04	-.01	.10	.24***	.08	.21**	.34***	--						
9. Power over Suppliers	-.10	-.15	-.23***	-.29***	-.24***	-.29***	-.22***	-.21***	--					
10. Power of Buyers	.02	.17**	.36***	.30***	.33***	.37***	.25***	.33***	-.38***	--				
Firm Performance														
11. Product Innovation	.14	.60***	.57***	.63***	.61***	.59***	.12	.10	-.19	.26***	--			
12. Top Talent Retention	-.02	.38***	.23***	.36***	.22***	.18**	.14	.14	-.14	.07	.28***	--		
13. Organsational Performance	.19**	.72***	.51***	.60**	.46***	.50***	.11	.10	-.06	.16	.64***	.44***	--	
14. Breakthrough Sales‡	.32***	.26***	.32***	.38***	.47***	.49***	.16	.28***	-.36***	.47***	.27***	.17	.26***	--

Notes: N=146, ‡=only private sector firms (n=106), *** and ** denote statistical significance at the one and five percent-levels, respectively.

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