



Westpac New Zealand
Diversity Dividend Report

December 2017

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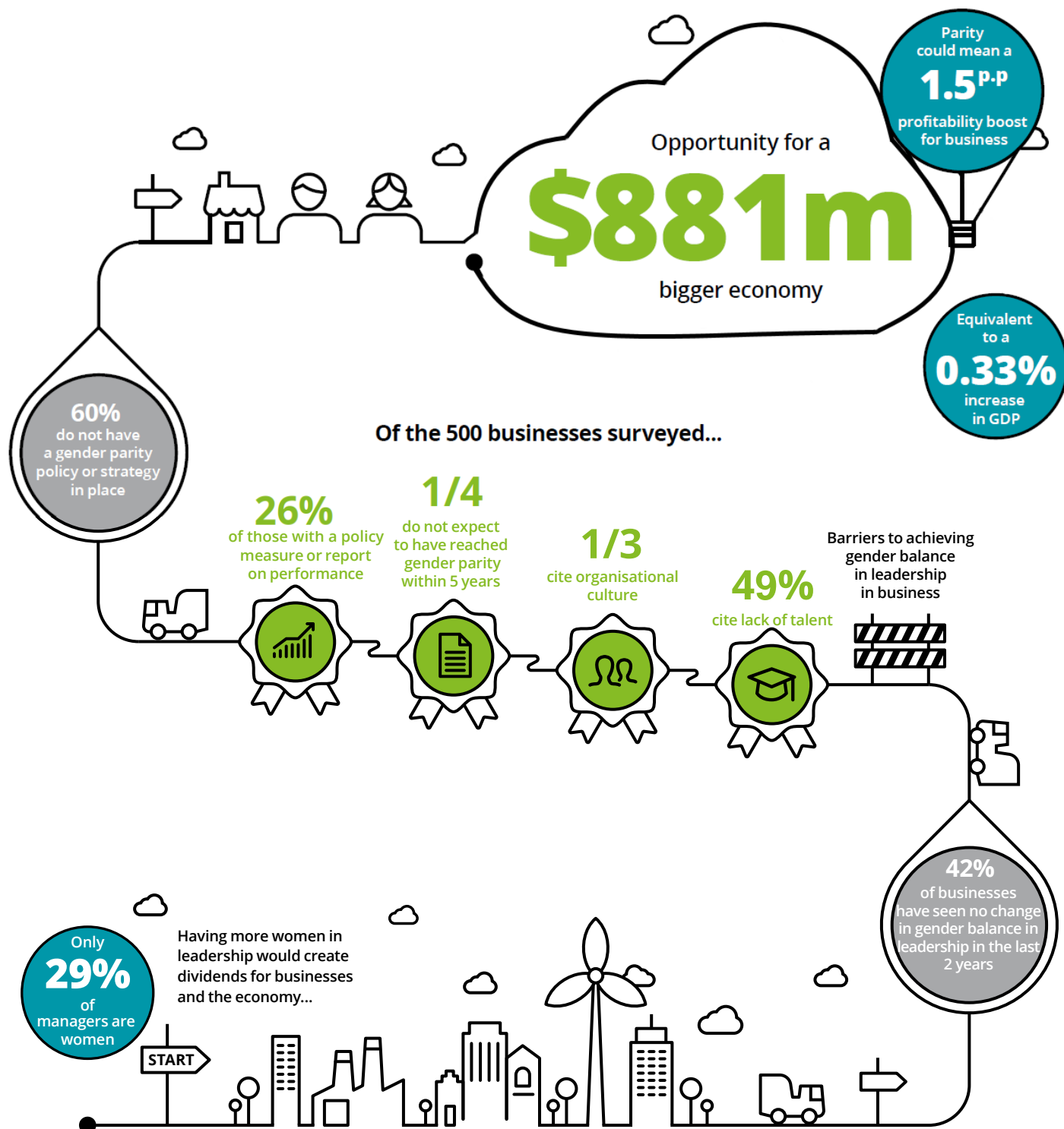
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New Zealand's \$881 million diversity opportunity

Westpac Diversity Dividend Report



Executive summary

Leadership is critical to the success of business. Diversity is an important component of effective leadership. Companies with women on their boards perform better than those that do not: they are more innovative, have greater employee loyalty, and more satisfied customers.¹

Despite these benefits, the composition of New Zealand businesses still does not mirror the broader population. Women form the majority² of New Zealand's working age population (Statistics New Zealand (NZ), 2017a), and earn 60% of New Zealand's degrees (Ministry for Women, 2016a). While accounting for a substantial share of the workforce in general (47%), they are under-represented at management levels.

This *Diversity Dividend* report broadens the research and conversation about the importance of women in leadership in four key ways:

1. It focuses on all managers rather than just executives and boards.
2. It estimates the size of the lift in economic and business dividends from gender diversity, through new economic modelling.
3. It conducts a new national survey of 500 business leaders, providing new analysis of key data.
4. It also considers the importance of inclusion in harnessing the benefits of diversity.

Our survey results indicate that women make up 29% of management positions, but occupy 46% of non-management positions. Further, at the top, less than one in five board members of New Zealand listed companies are women, which is less than in Australia (New Zealand Exchange (NZX), 2017).

Modelling for this report finds that having more women in leadership could create more role models, and increase the availability of flexible working arrangements.³ This could create economic dividends for New Zealand, by supporting greater labour force participation.

We estimate that if New Zealand firms were to achieve gender parity in leadership, the resulting participation benefits would lead to the economy being around \$881 million larger, equivalent to 0.33% of gross domestic product (GDP).

Having equal gender representation in leadership could be worth \$881 million to the economy.

¹ See, respectively, Gratton et al (2007), Kaplan et al (2011) and Deloitte (2013).

² There are 3.5% more women than men in the 15 to 65 years age cohort.

³ See Appendix A for detailed discussion of data sources and parameters.

There is also a **direct financial benefit from reaching gender parity in leadership**. Deloitte Access Economics (2017) found that each 1% increase in female managers increases return on assets by 0.07%. For New Zealand businesses, reaching parity in leadership could mean a 1.5 percentage point increase in return on assets. The benefits to business are not just financial. As stated at the start of the report, companies with more women in leadership are more innovative, have greater employee loyalty and more satisfied customers.

Given the economic benefits of gender diversity in leadership, what is holding New Zealand businesses back? Of the businesses we surveyed, **one in four do not expect to have reached gender parity in leadership within five years**. Further:

- 60% of businesses do not have a gender parity policy or strategy in place
- Of those businesses who have a policy, only 26% report on outcomes
- Only 7% of businesses have dedicated budget to develop, maintain and execute their diversity and inclusion focus
- Only 8% have allocated staff time to the development, maintenance and execution of a diversity and inclusion focus

More needs to be done to accelerate the move toward gender parity in leadership. Our survey results suggest that the key barriers to achieve gender parity include:

- A lack of female talent in the pipeline, either within the organisation or the workforce more broadly, is the number one barrier identified by 49% of businesses in our survey as preventing gender parity in leadership.
- A third of businesses cite a common barrier to gender diversity is business culture.
- Unconscious bias also plays a significant role.

Businesses also rank the availability of affordable childcare arrangements as the most important factor in building diversity. This was followed by addressing the gap between male and female superannuation balances, increasing women's participation in the workforce, and reducing the gender pay gap.

Diversity is just the first step. Ensuring employees feel included is equally important for businesses. And it's important to remember that gender is only one element of diversity. Working to improve diversity and inclusion in workplaces along all dimensions – whether it be gender, age or ethnicity – will unlock even more value for New Zealand.

Businesses could record an average 1.5 percentage point increase in profitability through reaching gender parity in leadership.

New survey findings from this report

State of play

- Businesses report women make up 29% of management positions, but occupy 46% of non-management positions.
- 42% of the businesses reported that they observed no change in women in management roles within the last two years.
- One in two businesses revealed that the most important driver in seeking gender parity is that it would align with the organisation's broader vision.
- 37% of businesses reported that it is important for men to be involved in gender diversity initiatives.

Benefits from diversity and inclusion

- Businesses expect the impact of increasing women in leadership to be positive: 58% of those surveyed expect a boost to productivity and 65% expect a boost in staff engagement.
- 41% of respondents believe that senior business leaders within their organisation consider gender diversity to be very or extremely important to business outcomes.
- And just 11% of respondents think that increasing women in leadership will reduce promotion opportunities for men.

Progress towards gender parity

- Of the businesses surveyed, one in four businesses do not expect to have reached gender parity in leadership within five years.
- Businesses in the education and training, the health care and social assistance industries were most likely to report having already reached gender parity in leadership.

Barriers

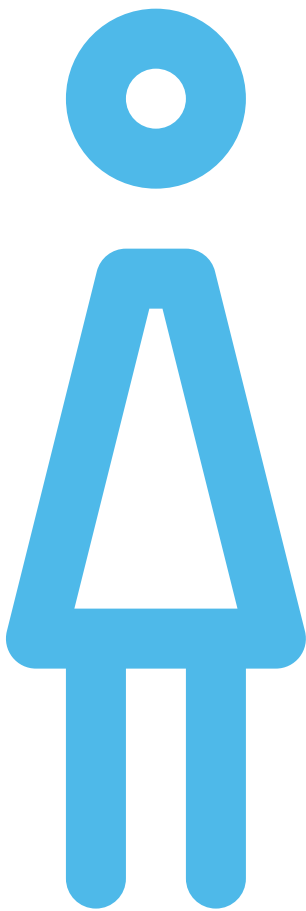
- About half of survey respondents cited a lack of availability of female talent – in their organisation, industry, or the workforce – as the top barrier to achieving gender balance in leadership in their organisation.
- Almost a third of businesses cited organisational culture as a barrier to achieve gender parity. A number of barriers can be attributed to workplace culture. For example, resistance to change within the team, the perception that policies are difficult to implement and it is hard to challenge existing organisational culture.

Policies promoting diversity and inclusion

- 60% of businesses do not have a gender policy in place.
- Only 8% and 7% of businesses have dedicated staff time and budget respectively to develop, maintain and execute their diversity and inclusion focus.
- Of the 40% of businesses who have a gender policy in place, more than half of businesses offer diversity and inclusion training.
- 40% of survey respondents offered flexible working arrangements.

Source: Research Now (2017),
Deloitte Access Economics (2017)

40% of businesses surveyed have a gender diversity policy or strategy in place.



41% of business leaders think that gender diversity is very or extremely important to achieving business outcomes.

1. Purpose and introduction

Westpac has engaged Deloitte Access Economics to explore and measure the benefits of diversity, with a particular focus on gender diversity in management positions, on the New Zealand economy.

The analysis in this report is based on primary research and data analysis, as well as a review of relevant literature. Specifically, we:

- Considered the state of play of diversity within the workforce in New Zealand
- Conducted a survey of 500 business leaders across regions and industries in New Zealand to gain a better understanding of diversity within the workforce
- Estimated the benefits of diversity for the New Zealand economy using computable general equilibrium (CGE) modelling.

This is a well-evidenced debate. But the literature largely focuses on the workforce in general, or women in executive positions. By looking at how having a better representation of women in management levels, both at and below chief executive could lead to better outcomes, this report fills a key gap in the literature.

About the survey

This report includes insights from a new, bespoke survey of 500 business leaders in New Zealand. The survey was in field during September 2017 and was completed by employees at manager level or above in businesses with five or more employees.

The survey is representative across all industries and regions in New Zealand.

The survey asked 30 questions about their place of employment, including:

- The level of gender diversity in senior leadership
- The current diversity policies and how that has changed over time
- The importance of diversity to their organisation
- Barriers to achieving diversity
- Their business outcomes.

More information about the survey can be found in Appendix B of this report.

2. Defining diversity and corporate leadership

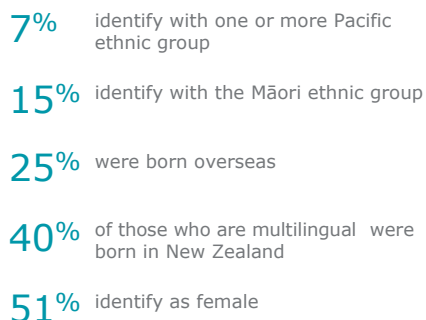
New Zealand is a diverse country, home to people from many different walks of life, as shown in Figure 1. We can all identify with a range of characteristics, including gender, ethnicity, age, religious beliefs and values.

As a reflection of an increasingly diverse population, there are more diverse workplaces. Businesses are beginning to realise that embracing diversity in a meaningful way makes good business sense and promotes fairness.

In a new survey of business leaders across New Zealand, we established that 41% believe gender diversity is very or extremely important to business outcomes, as illustrated in Figure 2.

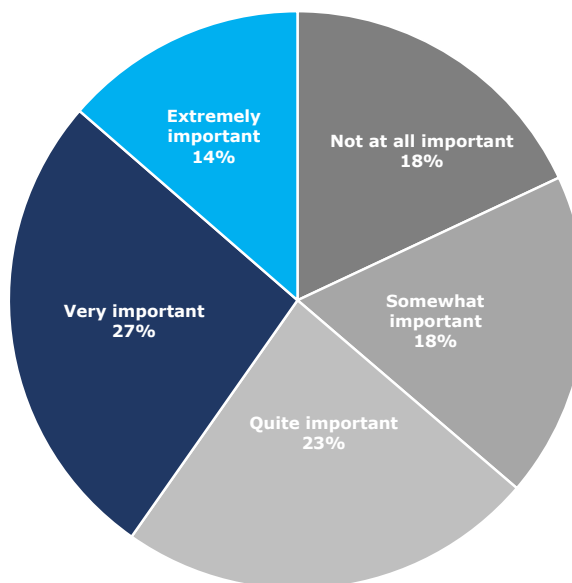
Effective management of workplace diversity is linked to improvements in organisational performance, resilience to shocks or disruptions, effectiveness, profitability and revenue generation. However, more needs to be done, not only to ensure the benefits are realised for businesses, but also for the intrinsic value we place on fairness.

Figure 1: The diversity of New Zealand's population



Source: Census 2013; Statistics New Zealand

Figure 2: Importance of gender diversity for achieving business outcomes



Source: Research Now (2017), Deloitte Access Economics (2017)

2.1 What is workplace diversity

Literature on workplace diversity uses a number of definitions. As illustrated in Figure 3, there are two key concepts, diversity and inclusion.

Diversity refers to the number or proportion of people in an organisation or group who identify with a range of characteristics. Diversity can be defined as:

“the variety of differences between people in an organisation... diversity not only involves how people perceive themselves, but how they perceive others. Those perceptions affect their interactions.” (Greenberg, 2004).

Because diversity is largely a measure of representation, it may not encompass how people are respected, treated and valued.

Inclusion is the enabler of diversity. Beyond ensuring a level playing field for everyone, inclusion means that individuals feel encouraged, valued, and respected and that they are able to contribute their talents to drive organisational performance (Diversity Council of Australia, 2017). Put succinctly, “inclusion means that everyone matters” (Westpac, 2017).

We define **inclusion** to comprise both an active process of change (to include) and an emotional outcome (to feel included). Although feelings of inclusion clearly differ from person to person, our research finds that perceptions of **fairness and respect and value and belonging** are the two key indicators, and that they build upon each other sequentially and pave the way for experiences of psychological safety and inspired performance (Deloitte, 2013).

Similar definitions emerge in the literature. Shore et al. define inclusion as treatment that satisfies an employee’s needs for ‘belongingness’ and ‘uniqueness’ (Shore et al., 2011). An employee who feels as though they belong and that their uniqueness is valued (i.e. their diversity) enjoys inclusion, while an employee who perceives the opposite on both counts feels excluded (Shore et al., 2011). Other definitions also incorporate similar values of belonging (Lirio et al., 2008), engagement and respect (Avery et al., 2008) and opportunity (Wasserman, Gallegos and Ferdman, 2008).

Business performance is significantly influenced by diversity and inclusion. When organisations are committed to diversity and individuals feel included, research demonstrates that business performance can increase by up to 80% (Deloitte, 2013). Organisations with more inclusive cultures are six times more likely to be innovative, six times more likely to be agile, three times more likely to be high performing, and twice as likely to meet or exceed financial targets (Deloitte, 2017).

Figure 3: Relationships between diversity, inclusion and performance



Source: Deloitte Access Economics

A number of outcomes can be considered when discussing equality in the workplace, for example equal pay, equal representation, and equal opportunity.

This report focuses on diversity and inclusion, both of which require a level of equality to be effective. Together, they help to ensure that workplaces reflect a broad range of views in decision making and business activities.

2.2 Who are the business leaders

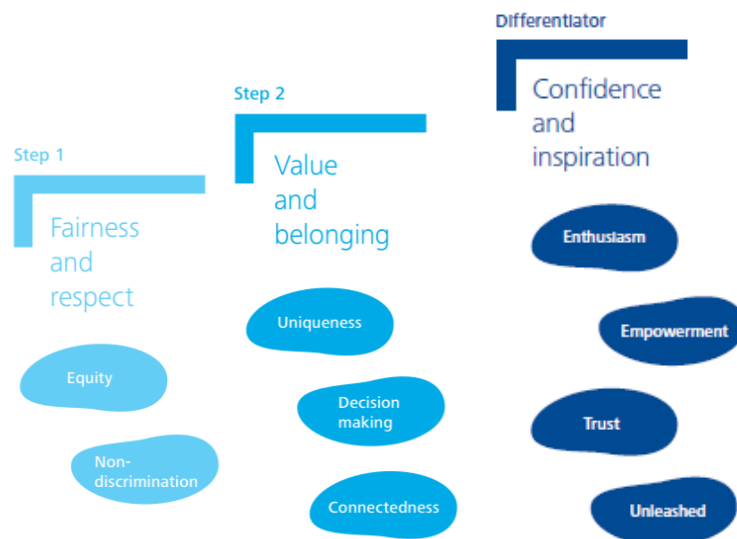
There are many ways of defining leadership in a business context. For example, LinkedIn has a tenpoint scale reflecting job seniority, from entry level, to managers and directors, to business owners. In our survey, 70% of businesses consider leading a specific team/area of the organisation as a characteristic of a leader, and 64% also consider that leaders have the authority to make strategic decisions, as shown in Figure 5.

In order to measure gender diversity at various leadership positions consistently across businesses, we use the following definitions.

For the purposes of this report, corporate leadership is defined as including the following levels:

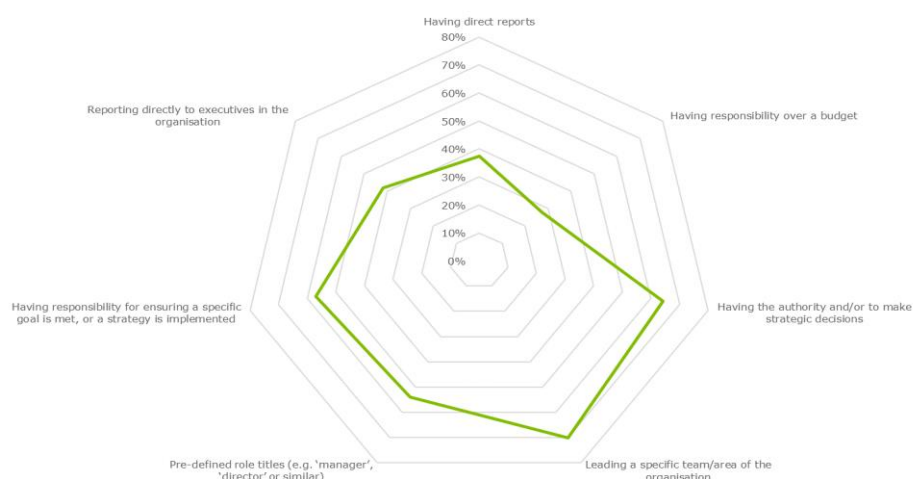
- CEO or equivalent
- Key management personnel
- Other executives/general managers
- Senior managers
- Other managers

Figure 4: Deloitte inclusion maturity model



Source: Deloitte (2013)

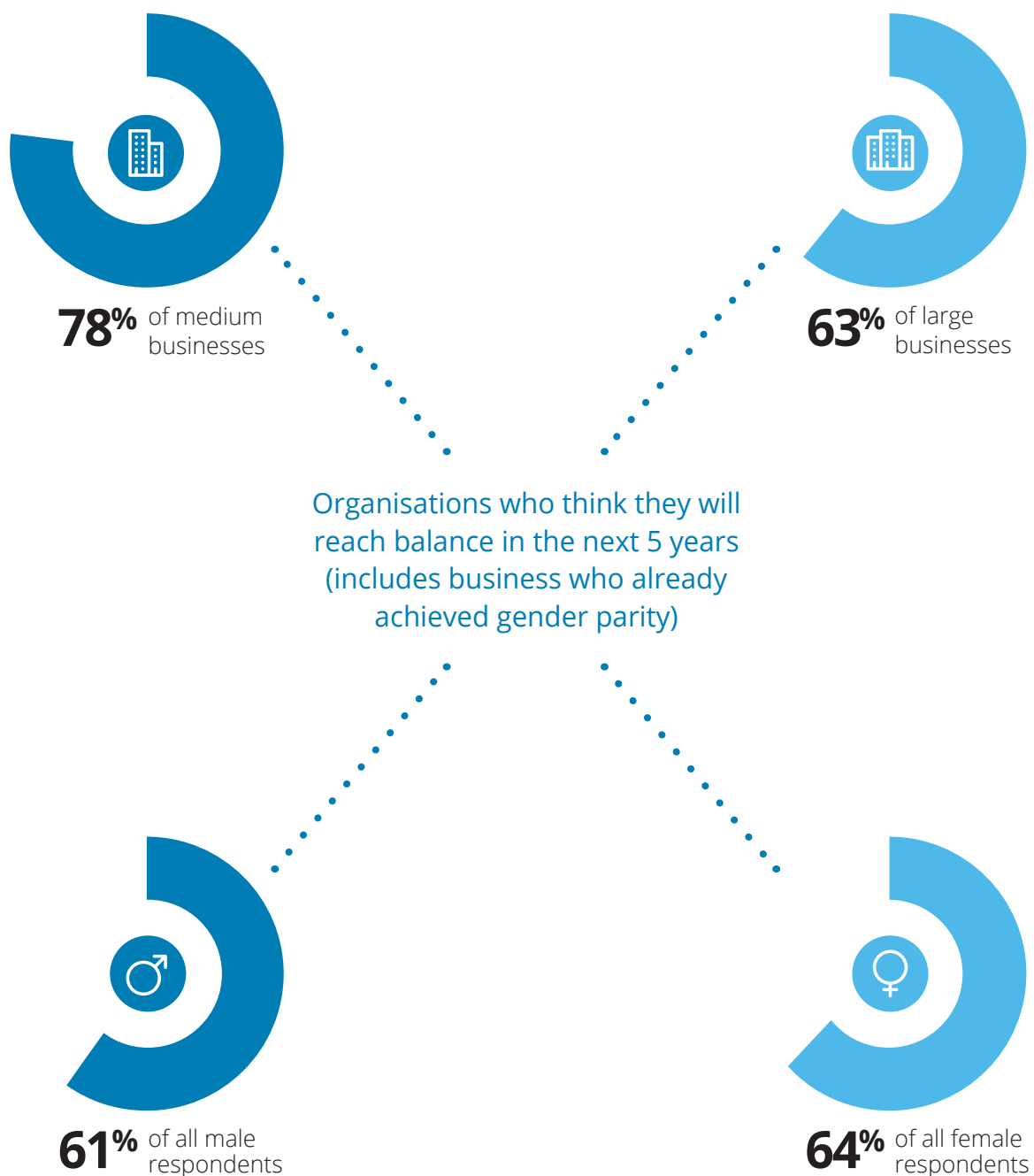
Figure 5: Characteristics that define leadership within an organisation



Source: Research Now (2017), Deloitte Access Economics (2017)

Note: Respondents could select more than one option

1 in 4 organisations do not expect to reach gender parity in their leadership teams in the next five years. Perceptions about when parity will be reached vary.



3. Current state of play

The majority of New Zealanders are female. Statistics New Zealand estimates that girls⁴ and women account for 51% of the total population (Statistics NZ, 2017b).

However, New Zealand businesses still do not mirror the broader population in terms of women at leadership level. Women's participation in the workforce in general is similar, but still one in three women are at the top end.

In the three months to June 2017, there were nearly 1.2 million employed women in New Zealand. Recent decades have seen steady increases in the proportion of working-age women who are either employed or looking for work, reaching a new high of 75% last year.⁵

Women of working age in New Zealand are now better qualified than men (Ministry for Women, 2016c). The Ministry for Women (2016a) reports that in 2016, a third more males (4,038) left school without any qualifications compared to females (3,054). Six out of ten university degrees are currently being earned by women. Even in science, information technology, engineering and mathematics (STEM) a majority of the graduates (54%) are now female.

Despite the number of talented women in New Zealand's workforce there are still areas for improvement.

3.1 Still few women at the top end

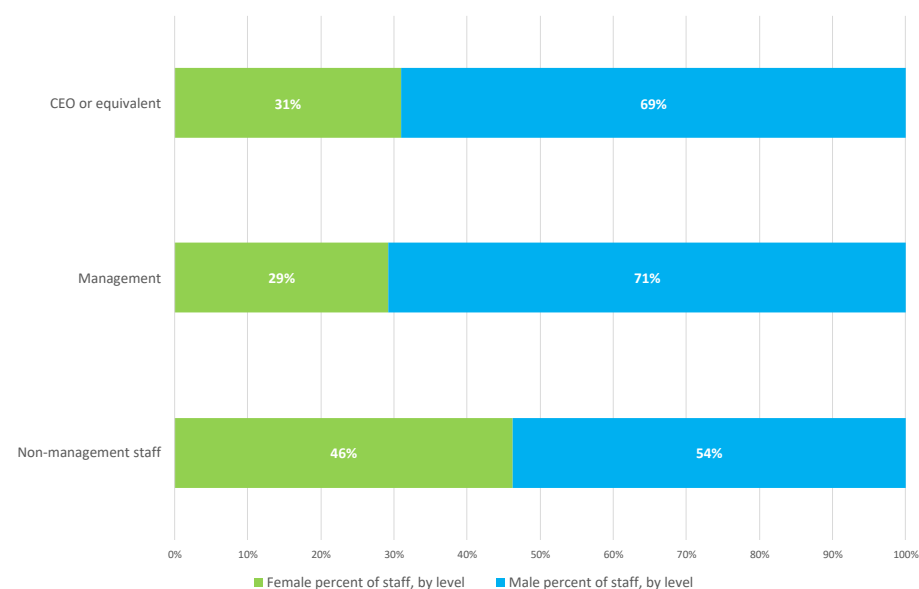
There is currently not a comprehensive measurement of gender diversity in leadership in New Zealand businesses. The available evidence suggests that women are under-represented in management positions.

For example, in our survey, women represented 46% of non-management positions, similar to the representation of women in employment overall. Businesses reported that 31% of women were in CEO or equivalent positions and 29% of management positions were taken up by women, as shown in Figure 6.

Interestingly, the larger the company is, the more likely it is to have more gender diverse leadership. The proportion of female directors in the top ten companies (29%) is more than twice as high as in smaller companies (13%) (NZX, 2017b).⁶

How is this expected to evolve in coming years? For many New Zealand businesses, the view is that the gender gap in leadership will persist.

Figure 6: Female proportion of staff by management level



Source: Research Now (2017), Deloitte Access Economics (2017)

⁴ While there are girls under the age of 18 in the workforce, in this report the term women is used for all females in the workforce.

⁵ This figure is based on OECD data. OECD defines the working age as 15 to 64, whereas Statistics New Zealand defines working age as 15+. Based on Statistics New Zealand's definition, the

current participation rate for women is 64%.

⁶ Bigcap, midcap, and smallcap are relative terms. On the NZX, they refer to top 10, top 50 and top 200 respectively.

One in four business believe they are still at least 5 years away from achieving gender balance in management roles, as shown in Table 1.

Even today, less than half of New Zealand's listed companies have a formal diversity policy (NZX, 2017a). Based on our survey results, only 40% of businesses have a gender policy or strategy in place. Of those who have a gender policy or strategy in place, 26% measured its performance or progress. Further, only 7% of businesses have dedicated budget to develop, maintain and execute their diversity and inclusion focus, while just 8% have allocated staff time.

About 40% of the businesses surveyed indicated that they did not observe a change in leadership positions held by women over the past two years, as shown in Table 2.

Table 1: Current gender parity in businesses in New Zealand (% of respondents)

Years to gender balance	Response
We already have at least 40% women in leadership	29%
Within 1 to 2 years	15%
Within 3 to 5 years	19%
Within 5 to 10 years	11%
More than 10 years from now	7%
Never	9%
Not sure/don't know	10%

Source: Research Now (2017), Deloitte Access Economics (2017)

Table 2: Change in the proportion of women leadership in the past two years (% of respondents)

Change	Respondents
An increase	47%
No change	42%
A decrease	6%
Not sure	5%

Source: Research Now (2017), Deloitte Access Economics (2017)

3.2 Gender diversity in leadership is not a priority for many businesses

Despite the apparent under-representation of women in leadership, few businesses have formal policies or procedures in place to address issues relating to gender. Based on our survey results, **only 40% of businesses have a gender policy or strategy in place**. It's a similar story in New Zealand's largest businesses, with less than half of New Zealand's listed companies having a formal diversity policy (NZX, 2017a).

To be successful, gender diversity initiatives shouldn't just be driven by women. In fact, our survey results find that nearly **three quarters of women** think that it is very important or somewhat important for men to be involved in gender diversity initiatives. Men are less likely to view their involvement in gender diversity initiatives as important, as shown in Table 3.

Only **30% established a policy primarily because it would improve business outcomes**, as shown in Table 4, despite a strong body of evidence showing that workforce diversity is associated with a range of positive business outcomes.

For businesses that do have a policy, the next step is committing to gender diversity. Gender equality must be treated as a priority, with a plan of action and clear accountability (Deloitte, 2016a). Yet of those in our survey with a gender policy, only 26% measured performance or progress. Further, only 7% of businesses have dedicated budget to develop, maintain and execute their diversity and inclusion focus, while just 8% have allocated staff time.

Table 3: How important do businesses think it is for men to be involved in gender diversity initiatives (% of respondents)

Level of importance	Female respondents	Male respondents
Very important	43%	33%
Somewhat important	30%	31%
Neither important or unimportant	16%	24%
Somewhat unimportant	6%	4%
Very unimportant	3%	3%
Not sure	2%	5%

Source: Research Now (2017), Deloitte Access Economics (2017)

Table 4: Reason for establishing a gender related policy

Reason	Response (% of respondents)
Board directive	24%
It aligns with the organisation's broader vision	50%
Pressure from stakeholders	11%
Pressure from staff	17%
Because it was believed that the policy would improve business outcomes	30%
A talent attraction initiative	26%
To reflect our customer base	27%
It was required by legislation	24%

Source: Research Now (2017), Deloitte Access Economics (2017)

Note: these were multiple responses in the survey.

3.3 Women in leadership based on international comparisons

To further explain what the current state of play is like in New Zealand, we considered women's participation from different perspectives:

- Women's absolute participation in the workforce
- Women's relative participation in the workforce, i.e. women's participation relative to men in New Zealand.

Our analysis has found that overall, New Zealand performs better in female labour force participation than most OECD countries.

In absolute terms New Zealand is among the best of the developed nations in terms of how many women of working age are participating in the labour force (75% versus OECD average of 63%). As shown below, New Zealand also has one of the smallest gender pay gaps in the OECD. New Zealand also performs better than average regarding female unemployment (5.7% compared to 6.6%).

In relative terms - how well women compare to men in the same country - New Zealand's outcomes are not so stellar, but still mostly better than average. Men are 8% more likely to be in the workforce than women in New Zealand. This is better than the OECD average, where men are 11% more likely to be in the workforce.

Similarly, while men are 14% more likely to be employed than women in New Zealand, across the OECD men are 21% more likely to be employed. However, men are 12% less likely to be unemployed than women in New Zealand, whereas unemployment ratios are equal for both genders across the rest of the OECD.

Relative to Australia, New Zealand performs equal to or better in nearly every respect, including pay gaps. The key exception being that like most of the rest of the OECD, Australia has almost the same unemployment rates for men and women.

3.4 Pay inequality

As well as the gap in female representation in leadership, there is also a disparity in pay outcomes for women in New Zealand. Three factors contribute to this pay gap:

- **Horizontal segregation.** Women tend to cluster in a narrow range of occupations. Evidence of horizontal segregation can be found in New Zealand, as just short of half of all the women (47%) are employed in occupations where women constitute 70% or more of the workforce (NZ Government, 2016).
- **Vertical segregation.** Women tend to cluster in jobs where scope for promotion is limited; in occupations that, while often having more flexible hours, also have little room for career progress.
- **The unexplainable residual.** Both horizontal and vertical segregation do not explain the majority of gender pay gap. This unexplainable residual appears to be based on unconscious bias or discrimination.

Table 5: Summary of the state of play: New Zealand v OECD

	Percentage women			Ratio men to women		
	New Zealand	Australia	OECD	New Zealand	Australia	OECD
Participation	75%	71%	63%	1.08	1.08	1.11
Employment	71%	67%	59%	1.14	1.15	1.21
Unemployment	5.7%	5.9%	6.6%	0.88	0.98	1.00

Source: Deloitte Access Economics based on OECD (2017), Ministry for Women, (2016a)

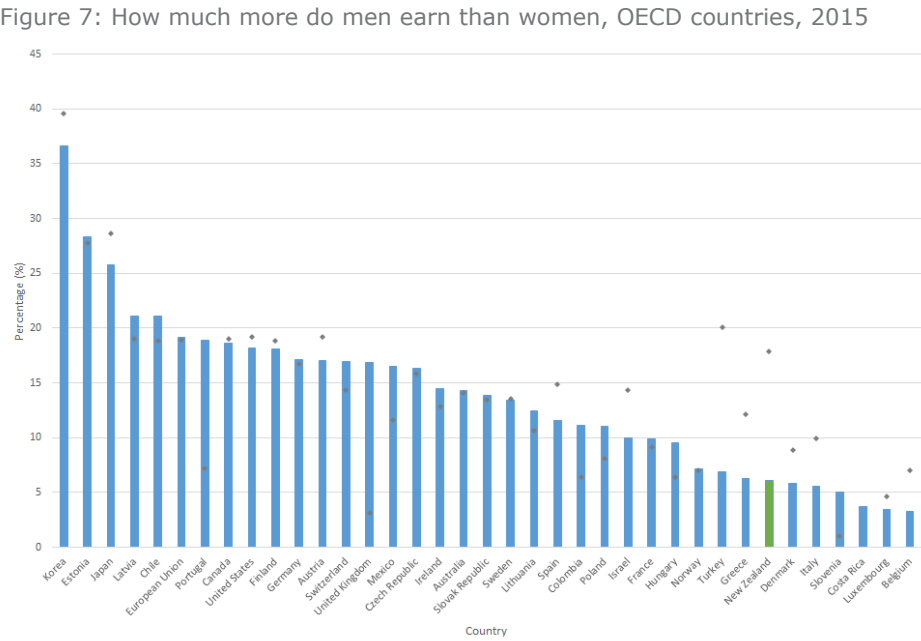
Notes: Participation is the proportion of the working age population who are in the labour force (whether employed or unemployed). Employment is the proportion of the working age population who are employed. Unemployment is the proportion of the labour force (not the working age population) who are unemployed.

Despite laws mandating equal pay for equal work, gender pay gaps remain large and widespread even in developed countries – averaging around 15% in OECD countries in 2015 (OECD data, 2015).

As with employment figures, New Zealand is also one of the best performing developed countries regarding gender pay gaps, having the fifth-smallest gap in the OECD in 2015. However, as shown in Figure 8, progress in reducing the gap has been slow.

It might be reasonable to expect that the Government would lead by example regarding gender pay gaps, but this is not necessarily the case in New Zealand. The Human Rights Commission (2012) reported that 22 government departments had larger pay gaps than the labour market average.

The perception around wage equality is different in the responses provided by female and male respondents. The male respondents indicated that almost half (45%) of business already have equal pay at all levels in their organisation. This is in contrast to female respondents indicating that only a third (29%) of their businesses already have equal pay at all levels in their organisation.



Source: OECD (2017)
Notes: The gender wage gap is unadjusted and is defined as the difference between median earnings of men and women relative to median earnings of men. Data refer to full-time employees and to self-employed. Diamonds represent 2010 outcomes.



Source: Ministry for Women (2017)

4. Economic dividends of diversity

4.1 Summary of our results

Gender diversity in the workplace has significant social benefits, including improved living standards, increased financial independence for women, improved mental health and a more equitable society (World Bank, 2012; Harvard Business School, 2015). These benefits alone provide a strong rationale for supporting gender diversity. Gender diversity can also create less well-known improved outcomes for business and the New Zealand economy.

Having more women in leadership positions could encourage more people to join the workforce, thus increasing participation. There are a number of different mechanisms by which this occurs presented in literature. We have modelled the impact on the New Zealand economy as a whole as a result of an increase in labour force participation.

We modelled the benefit from an increase in women in leadership from two perspectives:

- First, having more women in leadership positions can change perceptions about female competency and skills, and this effect can increase labour force participation. We estimate that increased female participation at manager level and above would be worth an additional **\$196 million (or 0.07% of GDP)**.
- Second, women in leadership roles tend to be more supportive of flexible working policies, which in turn also increases labour force participation.

We estimate that if all New Zealand businesses were to achieve gender parity in leadership, it is likely to lead to an increase in the number of businesses offering flexible work policies. The associated benefit resulting from more businesses offering flexible working policies is an additional **\$685 million (or 0.26% of GDP)**.

Of course, it could be that other factors, such as business purpose, drive both women in leadership and work flexibility. Similarly, factors we have not measured, like childcare policies, could influence both female labour force participation and the share of managers which are women. For this reason we have taken conservative approaches for both models. These figures are just to indicate the size of the opportunity, rather than provide a definitive number. Still, it is indicative that there are significant benefits to be had.

Our results demonstrate that if New Zealand firms were to achieve parity in leadership, the economy would be up to \$881 million dollars larger (or 0.33% of GDP) as shown in Table 6 below.

It is also important to note that it would take time to unlock these benefits, especially considering that one in four businesses does not expect to have reached parity in leadership within five years.

The relationship between these factors can be complex. For example, it could be that female participation supports more women in leadership in the same way that more women in leadership supports greater female participation in the workforce. These estimates provide a clear indication that having more women in leadership is associated with better economic outcomes.

Table 6: Economic dividend of diversity

	Labour supply shock	Impact on GDP-NZD, millions	% of GDP
Flexibility (on people not in the labour force)	0.46%	685	0.26%
Labour participation (OECD data)	0.15%	196	0.07%
Total		881	0.33%

Source: Deloitte Access Economics

4.2 Our analysis of how women in leadership at management level contribute to economic outcomes

Economists commonly describe three ways to increase economic growth – increasing the population, increasing workforce participation, and increasing productivity.

In our analysis, we focused on two mechanisms through which having more women in leadership could support greater workforce participation and productivity – by having more female leaders as role models, and by supporting flexible work arrangements.

4.2.1 Female leaders as role models

Almost half of our survey respondents cited the availability of female talent as the top barrier to achieving gender parity in leadership in their organisation, industry, or the workforce.

However, this may be more of a perception than reality. A controlled experiment in which managers hired people to complete mathematical tasks found that both men and women were 1.5 times more likely to hire men despite equivalent skills (Reuben, 2013).

We found that having 1% more female managers is associated with a 0.15% increase in women in the workforce in the following year. In this analysis, we found that, **if gender parity was achieved in business leadership positions, the increase in female participation rates would be worth an additional \$196 million to the economy annually.**

Other research has found a relationship between the proportion of women on boards and the proportion of women on management teams in subsequent years. Interviews with CEOs revealed that women in management positions symbolised career opportunities to other women, overcoming perceived barriers and diversifying selection panels (McKinsey, 2013).

This is supported in academic literature as well (Matsa and Miller, 2011). A study undertaken by Sealy (2008) also showed that organisations with women in management positions gained legitimacy amongst prospective and current female employees. Another benefit of the presence of women in corporate board positions include positive impacts on the retention and pay of female staff (Bilimoria, 2006).

There is a possibility that low female participation rates lead to lower gender diversity in management leadership positions. Econometric modelling using data from 22 countries over 2001-2010 found that female participation rates did influence gender diversity of leadership (Adams and Kirchmaier, 2013). This, alongside our modelling and supporting literature, suggests there is likely to be a two-way relationship between female participation rates and gender diversity of leadership positions.

Having gender parity in leadership would increase participation in the labour force, worth \$196 million annually

4.2.2 Supporting flexible work

In our survey, 40% of respondents had flexible working arrangements in their own place of employment.

Studies show that workplaces without these flexible working arrangements have employees with increased physical and psychological stress, lower job satisfaction and ultimately reduced performance at work (Stamarski and Hing, 2015). While most requests for flexible working are made by mothers with young children, there are a number of men who also benefit (Cooper and Baird, 2014).

Figure 9 illustrates the existing policies in place in the New Zealand businesses surveyed to support gender diversity.

Increased women in leadership can support more flexible working policies in a business. This finding that female leaders support flexible working arrangements is supported by Cooper and Baird (2014) who completed 66 in-depth interviews to find that employee knowledge and access to flexible working arrangements were limited by multiple policy layers emphasising the role of line managers in framing policies and translating them to workplace practices.

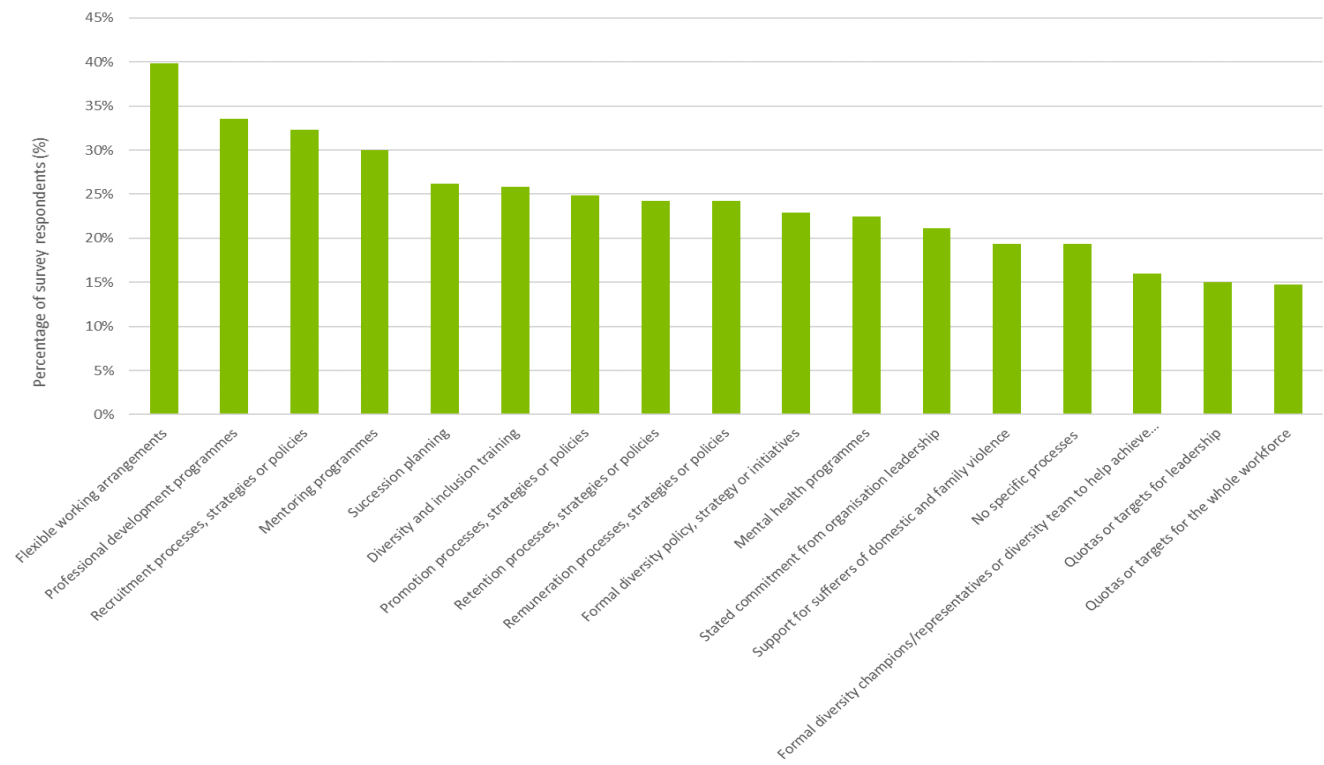
In Australia, there are similar results. The *Westpac Diversity Dividend* report (Deloitte Access Economics, 2017) used data collected by the Workplace Gender Equality Agency to measure the relationship between the representation of women in leadership and the availability of flexible work practices. It found a strong relationship between women in leadership and the availability of flexible work policies.

The availability of flexible working arrangements can be an important factor in influencing individual decisions on whether to join the labour force, and how much. For example, 23% of those who are of working age but not currently in the workforce said that flexible working policies were very important as an incentive to join the labour force in Australia.

Assuming that similar relationships hold in New Zealand, having more women in management could lead to an increase in the availability of flexible working policies, and in turn to greater labour force participation.

We find that if all New Zealand businesses were to achieve gender parity in leadership, there would be more businesses offering flexible working arrangements, in turn leading to an estimated increase in labour supply of 0.5%. Table 7 on the next page shows the derivation of the size of the labour supply shock, stage by stage.

Figure 9: Existing policies in place to support gender diversity



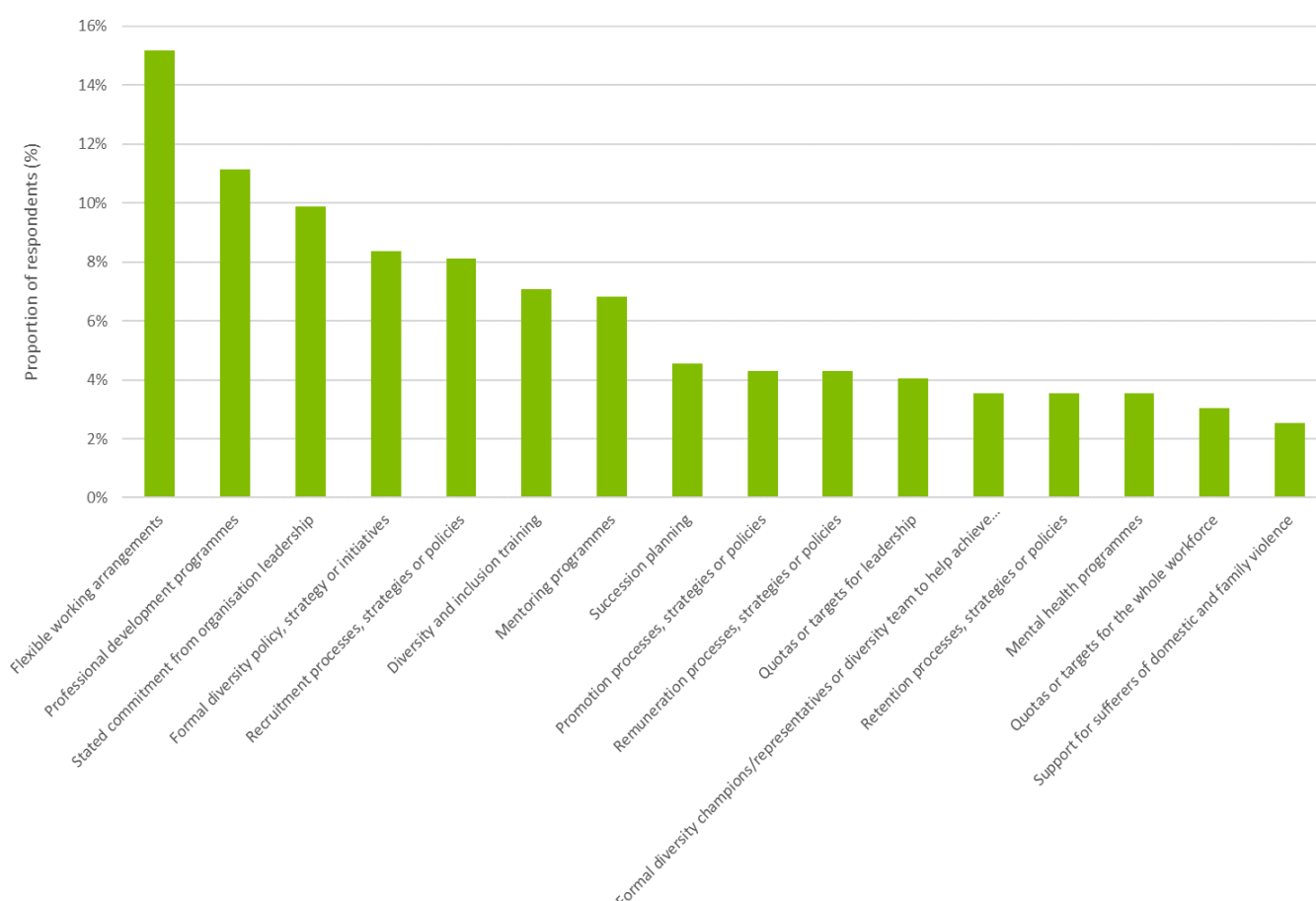
Source: Deloitte Access Economics survey based on results provided by Research Now (2017)

Table 7: Derivation of the labour supply shock from more flexible working policies

Percentage of people not in the labour force citing flexible working policies as a very important incentive to join the labour force (ABS survey)	23%
Improvement in the availability of flexible working policies as the average share of female management increased to 50% (Deloitte Access Economics estimates)	13%
Percentage of people who are currently not in the labour force but will join as a result of the improved availability of flexible work policies	$23\% * 13\% = 3\%$
Scaled by part-time working hours (ABS data)	$3\% * 43\% = 1.29\%$
Percentage of working age population that are not in the labour force in New Zealand (Deloitte Access Economics macroeconomic forecasts)	26%
Shock to existing labour supply	$(1.29\% * 26\%) / (1 - 26\%) = 0.46\%$

Source: Deloitte Access Economics analysis

Figure 10: Most effective policies to increase diversity and inclusion



Source: Deloitte Access Economics survey based on results provided by Research Now (2017)

This shock to labour supply could be associated with an additional \$685 million to the economy annually that would come from increased labour force participation.

Our survey showed that flexible working arrangements were the most often top ranked policy to support increased diversity and inclusion in the workplace (see Figure 10).

This is supported by other research, which reports that employees working in more flexible roles are more productive than employees working under traditional arrangements. A randomised control trial using employees at Fortune 500 companies found that those under flexible arrangements reported higher job satisfaction, were less burned out and less stressed (Moen et al., 2016).

4.3 Financial benefits

Clearly, there could be significant economic benefits for New Zealand from more gender diversity in leadership. But there could also be a dividend to individual businesses from lifting gender diversity in management.

New analysis conducted by Deloitte Access Economics for Westpac Australia modelled the impact of increasing the proportion of women in management positions on return on assets (ROA). The report found that a 1 percentage point increase in the proportion of women in management positions and above increases ROA by 0.07 percentage points the following year (Deloitte Access Economics, 2017).

On average, the New Zealand businesses surveyed estimated that 29% of management positions were filled by women in their organisations on average. This means that increasing the representation of females in leadership to be equal to men would mean a **1.5 percentage point increase in ROA for the average business** in the survey.

Table 8 below shows the value of an effect of this size for businesses of different sizes.

Table 8: Effect of a 1.5 percentage point increase in ROA

Size of business (assets)	Additional return in one year
\$100,000	\$1,500
\$1 million	\$15,000
\$10 million	\$150,000
\$50 million	\$750,000

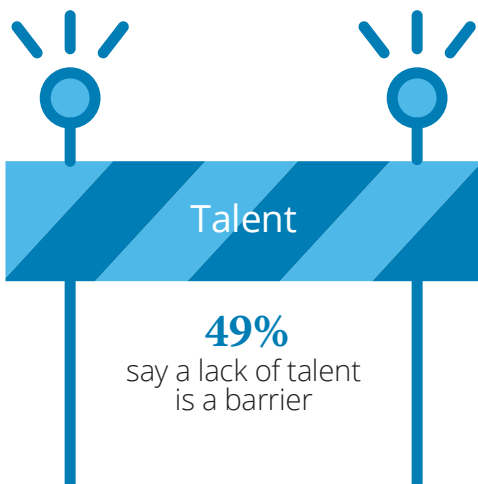
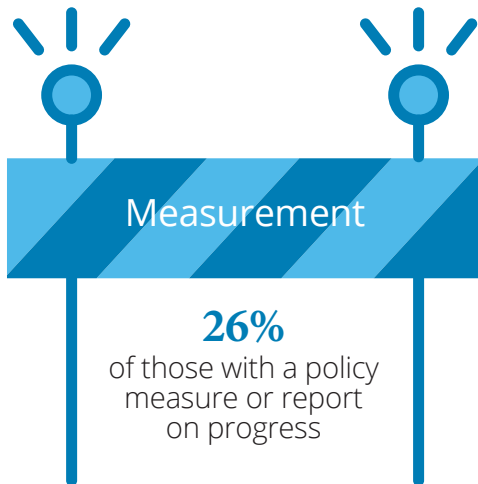
Source: Deloitte Access Economics

This 1.5 percentage point increase assumes that a business achieves parity in a single year. In practice, this may not be feasible for many businesses, who are more likely to see the proportion of women in leadership increase over a longer period of time; as such, these benefits may be more spread out.

Though there are likely to be ongoing benefits to diversity in leadership after parity is reached, these are not encapsulated in the modelling.

Of course, a 50% female leadership team may not be achievable immediately in every situation. Factors like female participation in the labour force, and representation in a given industry, could influence what a diverse leadership team looks like in practice.

The financial benefits to businesses of having more women in leadership is well supported through a broader body of international literature. For example, a mega-study of close to 22,000 businesses from 91 countries in 2016 showed that businesses with at least 30% female leadership are 15% more profitable than other businesses (Noland et al., 2016).



More likely to think that
difficulties changing the status
quo are a bigger barrier



More likely to think lack
of talent is the biggest barrier
to achieving balance
in leadership

5. Barriers to diversity

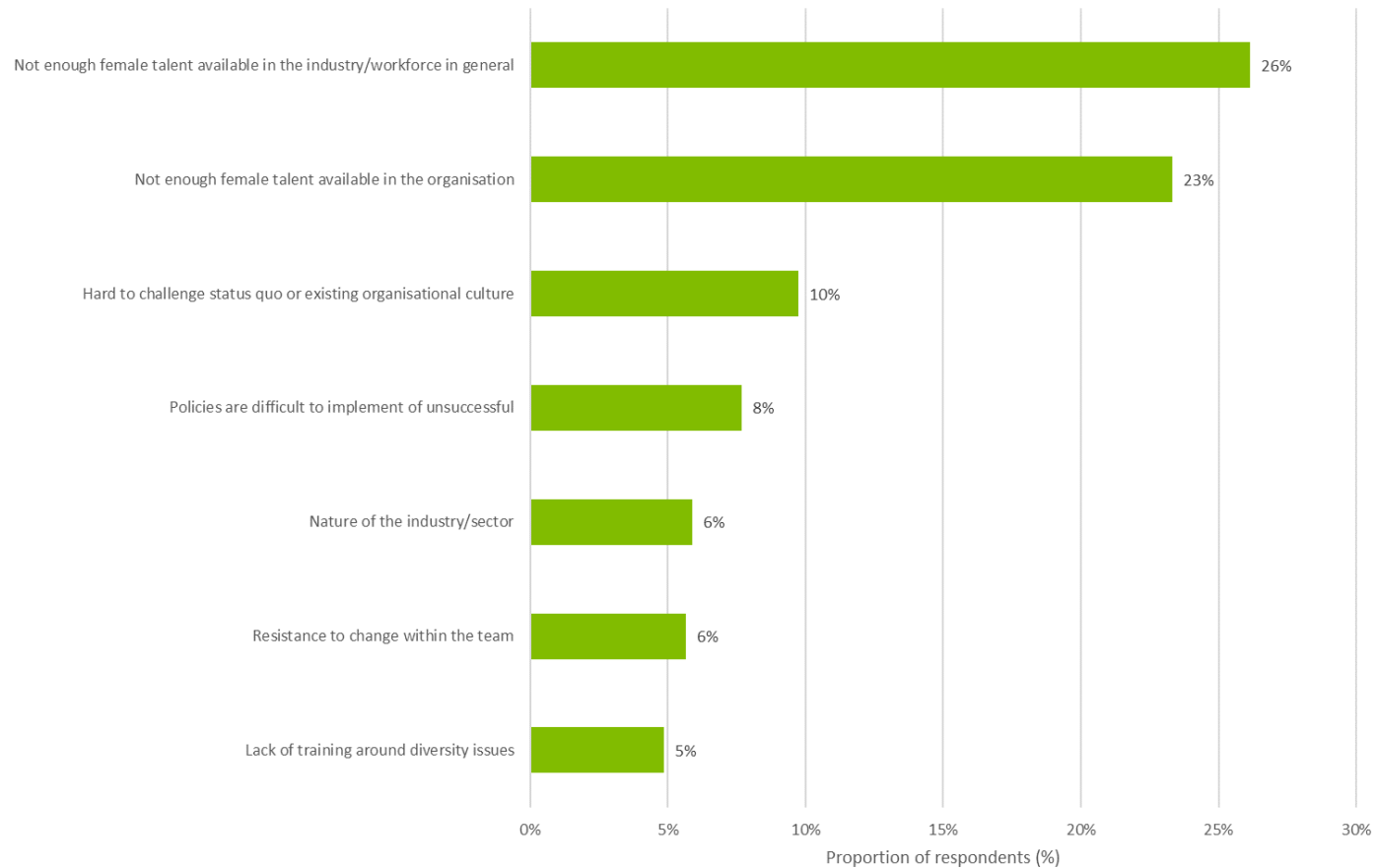
Evidence suggests that gender diversity in leadership leads to better results for businesses, as well as an economic dividend. Yet, women remain under-represented in leadership roles in New Zealand. So what is preventing New Zealand businesses from accessing the benefits of diversity in leadership?

The following four factors were identified based on our survey and research:

- Perceptions around the availability of female talent
- Organisational culture and commitment
- Conscious and unconscious bias
- Broader issues facing women in the workforce.

Figure 11 shows the most common barriers to achieving gender parity in leadership referred to in the survey. A lack of female talent was identified as the key barrier facing New Zealand businesses. Respondents also identified a number of other secondary factors not shown on Figure 11, including a lack of training around diversity issues, the support of the existing leadership team, and a lack of accountability and data supporting gender diversity.

Figure 11: Primary barriers to achieving gender parity in leadership, as identified by New Zealand businesses



Source: Deloitte Access Economics survey based on results provided by Research Now (2017)

5.1 Availability of female talent

Survey respondents cited the availability of female talent as the most common barrier to achieving gender parity in leadership, as shown in Figure 11. Overall, about half of New Zealand businesses identified a lack of female talent in their organisation, their industry or the workforce in general, as the key barrier to gender parity in leadership.

Evidence suggests that, despite the fact that this view is widely held, it is also misplaced. Women are highly skilled – they represented around 60% of bachelor and higher qualifications enrolments in New Zealand in 2016 (Ministry of Education, 2016c). Women are represented across every occupation and industry across New Zealand, and hold management positions within businesses small and large.

Rather than a lack of available female talent, the more pressing issue is the lack of female talent progressing through the ranks – the talent pipeline. Women are not progressing through their careers in order to reach leadership positions. Whether that be due to career breaks, parental leave, part-time work or discrimination – the proportion of NZX-listed company directors that are women was 13% in Q1 2017, down from 14% in 2016 (NZX, 2017a).

This is not because women do not possess the ability or the ambition; rather, the literature suggests that women are equally ambitious (McKinsey, 2013b), and in fact, are recognised as more proficient in traditionally male-dominated functions (Zenger and Folkman, 2012). The barriers to career progression go to the heart of the issue, and are examined in more detail in subsequent sections.

Given that the primary barrier identified is a misconception, New Zealand has some work to do. On the positive side, however – by addressing this information gap, many more businesses will be able to benefit from diversity.

Availability of female talent is the largest barrier cited by businesses to achieving gender equality in leadership

5.2 Organisational culture and the commitment of leadership

The existing organisational culture or status quo was the next most common barrier identified by survey respondents.

A number of the barriers in Figure 11 can be attributed to workplace culture – from a resistance to change within a team, to the perception that policies are difficult to implement or unsuccessful.

All in all, around 29% of organisations cited cultural factors, or an attribution to workplace culture, as the primary barrier to achieving gender parity in leadership. This proportion include a barrier, not willing to change the existing management structure, which is not illustrated on Figure 11. Only 2% of respondents believed this is a barrier to achieve gender equality.

Organisational culture is hard to change, and happens slowly over time. Some of the barriers to changing organisational culture may include a lack of gender policy or strategy, a lack of accountability under that strategy, and a lack of resourcing to effectively action initiatives.

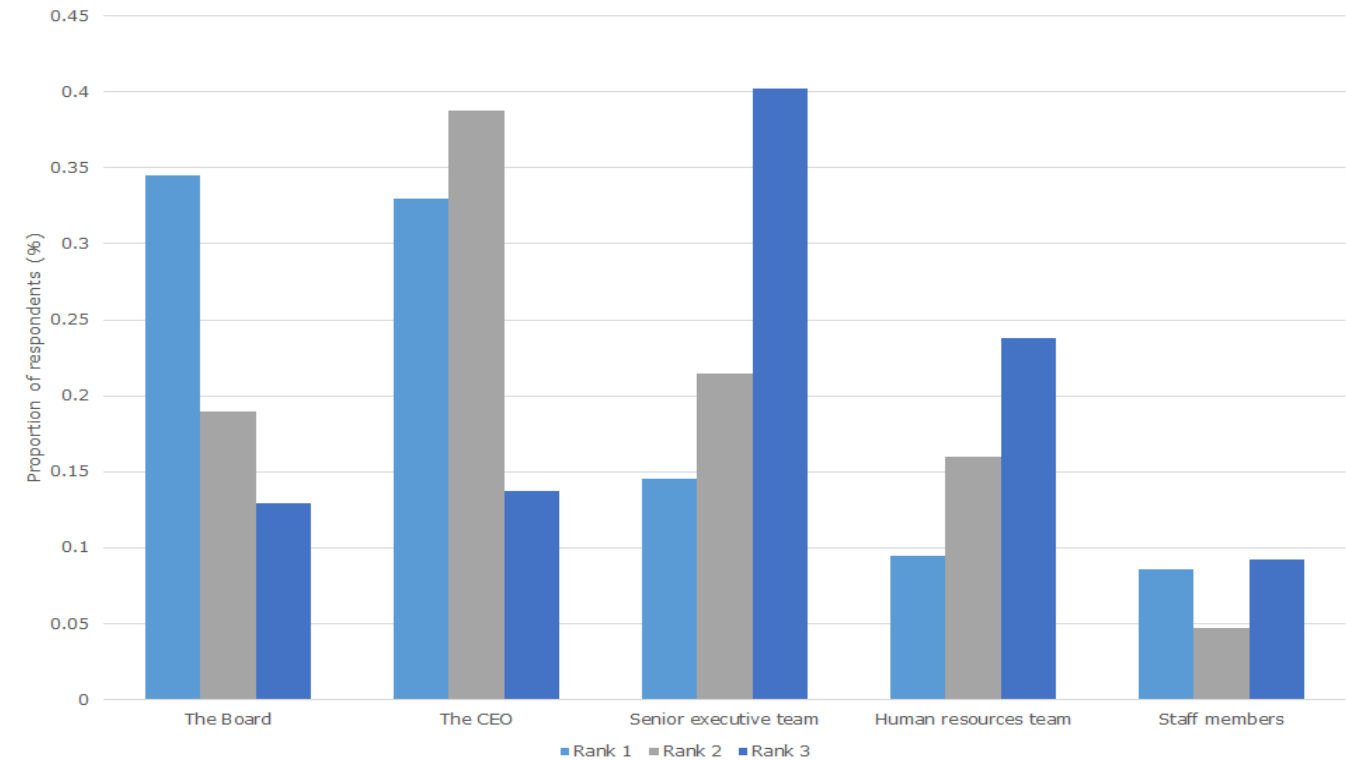
Commitment to gender diversity starts at the top, and this is where current leaders are important. Yet, our survey found that about 18% of businesses think that gender diversity is the responsibility of Human Resources and staff, as shown in Figure 12.

The literature highlights the significance of leaders’ commitment to achieving gender diversity and positive inclusion outcomes, by actively supporting and contributing to the promotion of women to management positions (McKinsey, 2007; Human Rights Commission, 2011).

A lack of leaders’ support can translate to difficulties for women in forming the right networks and obtaining opportunities in order to progress (McKinsey, 2013b).

The commitment of leadership cannot be an empty gesture – gender equality must be treated as a priority, with a plan of action and clear accountability (Deloitte, 2016a). This sort of behaviour can then spread to employees, and help to foster the necessary organisational culture for the progression of women to leadership positions.

Figure 12: Parties responsible for gender equality in the business



Source: Deloitte Access Economics survey based on results provided by Research Now (2017)

5.3 Conscious and unconscious bias

Circling back to the most common response in the survey, the elusive female talent: perhaps it is not that women are not out there, but rather, we are searching for people who look like existing leaders – overwhelmingly male.

Gender stereotypes can limit the career progression of women. As Riordan (2014) identifies, people gravitate toward people like them – limiting the perceived pool of eligible leaders for management positions, perpetuating a similarity bias. Indeed, 6% of respondents in our survey identified the nature of their industry as a barrier to achieving gender parity in leadership. This suggests that perceptions of existing leaders are influencing who we see as future leaders.

Other surveys confirm this point: both Bain (2013) and McKinsey (2013b) identify female leadership styles as a key barrier to women’s progression. In McKinsey’s 2013 survey, almost 40% of female respondents believed that their gender’s leadership styles were incompatible with those prevailing in the leadership of their organisations (McKinsey (2013b).

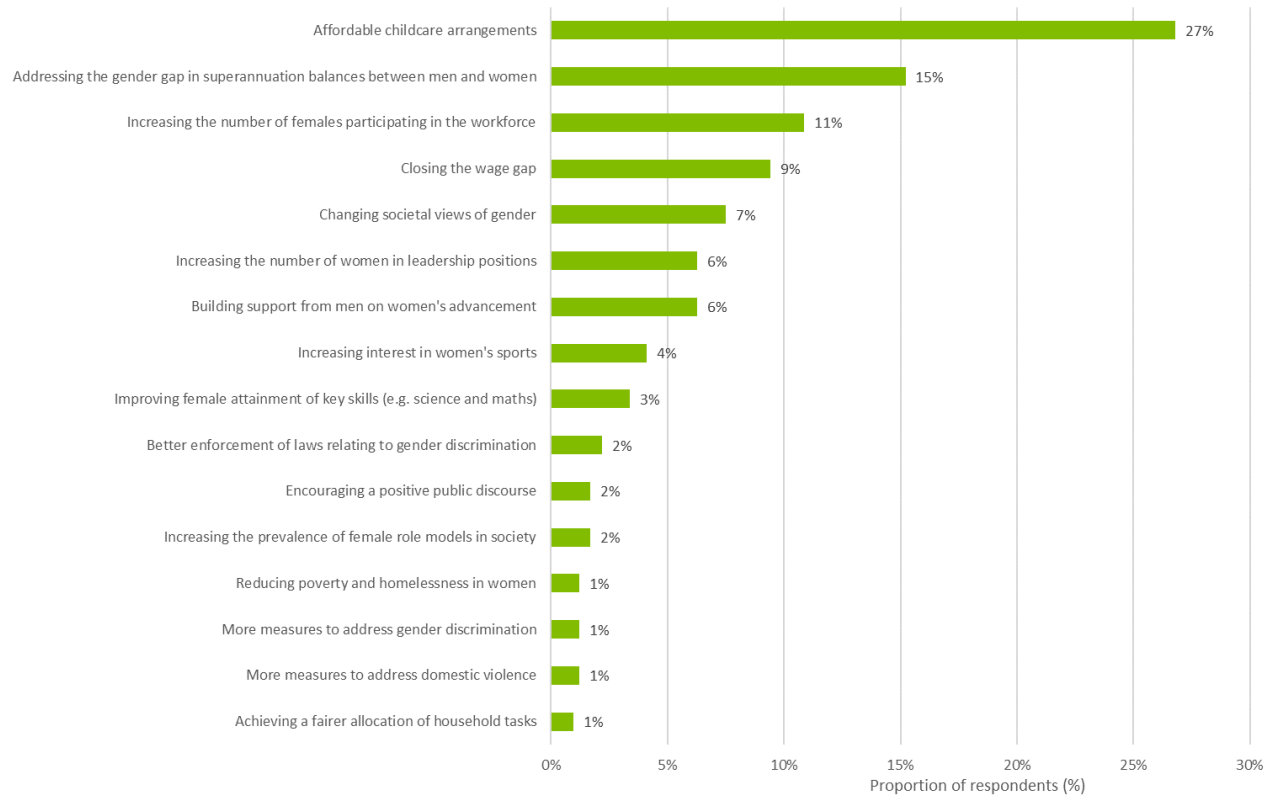
On a similar note, bias and stereotyping can also lead to women being excluded even where they do reach leadership positions. If women feel bound to conform to existing gender norms, or are largely excluded from decision-making processes, businesses will not enjoy the benefits of women being present in the room. Both diversity and inclusion are necessary to genuinely embrace women as valuable contributors in the workplace.

5.4 Broader issues facing women in the workforce

Many of the issues that generally affect women in the workforce also limit their progression to leadership. Only 2% of respondents in our survey identified family commitments which prevent women joining or staying in the workforce as the key barrier to achieving gender parity as their first ranked barrier. However, even where family responsibilities do not affect women’s participation in the workforce, they can still influence their career progression.

Figure 13 shows one third of survey respondents believed that the availability of affordable childcare arrangements is the most important factor for achieving gender parity. About 15% of respondents believe addressing the superannuation and wage gap will lead to changes in gender parity, and 11% believe that increasing female participation rates will assist in achieving gender parity.

Figure 13: Priorities for achieving gender parity in leadership



Source: Deloitte Access Economics survey based on results provided by Research Now (2017)

A survey by McKinsey found that the "anytime, anywhere" performance model poses greater difficulties for women with children, compared to men with the same responsibilities (McKinsey, 2013b). Consistent with these findings, survey respondents think that the availability of affordable childcare arrangements is an important factor in the consideration for the advancement of women. Specifically, 27% of businesses identified availability of affordable childcare as the most important factor.

Both McKinsey and Edwards et al., identify another troubling factor: that many men don't recognise the challenges women face at all. In McKinsey's survey, only 58% of men thought that women with equal skills face greater challenges in reaching leadership, compared to 93% of women (McKinsey, 2013b). In fact, 37% of our survey respondents cited it is important for men to be involved in gender diversity initiatives. This suggests that there is still work to be done in terms of gaining male support and understanding of the broader challenges facing women in the workplace.

5.5 Creating the right environment

Achieving gender parity on paper is only the first step; the benefits of diversity can only be fully realised when an organisation is also inclusive. Inclusive businesses are able to:

- Retain staff and unlock their employees' innovative potential
- Better meet the needs of customers and clients
- Demonstrate strong business performance.

Beyond a "tick the box" approach, inclusion requires genuinely embracing women as valuable contributors in the workplace.

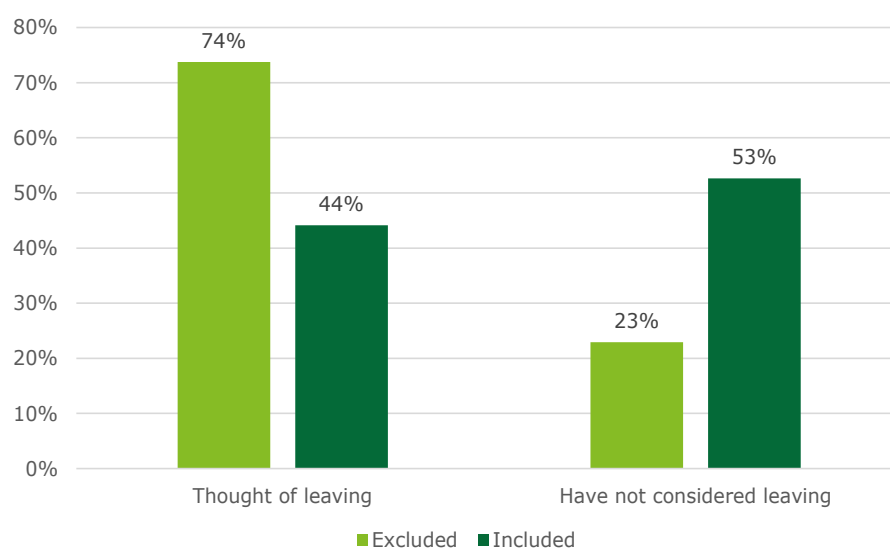
Inclusivity creates the right environment for strong employee performance and engagement. As Miller and Katz (2002) point out, people can bring far more of themselves to their jobs because they are required to suppress far less. There may be evidence to suggest this is true for women, given studies which show women adopting masculine traits in order to fit in (Ely, 1995). What if this energy can be devoted to the organisation, rather than to a goal that has the effect of mitigating diversity?

Fostering an inclusive environment also has other benefits. Studies show that employees are more satisfied with their jobs, more engaged and are less likely to leave the company when their organisation is inclusive.

For example, Acquavita et al. (2009) found that employees' perception of inclusion and exclusion were significant in predicting job satisfaction for social workers. Another study undertaken by Avery et al. (2008) found that employees' perceived inclusiveness linked positively to their intention to remain with their organisation, while Mor Barak et al. (2006) suggests that the connection between inclusivity and job satisfaction influences turnover intentions.

Using bespoke data from a survey of over 1,500 employees across 18 organisations, we assessed the impact of diversity and inclusion on a range of employee engagement measures. As shown in Figure 14, employees who feel included are less likely to consider leaving. Businesses can save significant amounts of money by reducing turnover.

previous 12 months, by perception of inclusion



Source: Deloitte (2013) data, Deloitte Access Economics (2017) analysis

6. Conclusion

Today, 75% of working age women are in the labour force, compared to 63% thirty years ago. Women are also increasingly well represented in leadership positions. However, New Zealand can still improve its performance in gender diversity and female representation in leadership. For example, less than one fifth of the board members of New Zealand listed companies in 2017 are women (NZX, 2017a).

This report finds that, when combined with a culture of inclusion, there are significant benefits from improving diversity. Indeed, the economic modelling in this report demonstrates that if New Zealand firms were to achieve parity in leadership, the economy would be **\$881 million larger (a boost equivalent to 0.33% of GDP)**. This is due to increased labour force participation from both an increased acceptance of flexible working arrangements – which women leaders are more likely to promote – and from having more female leaders as role models.

As well as the collective national interest, it is also in companies' own best interests to swell the ranks of women in leadership. There is a direct **financial benefit** from reaching gender parity in leadership. Deloitte Access Economics (2017) found that each 1% increase in female managers increases return on assets by 0.07%.

For New Zealand businesses, reaching parity in leadership could mean a **1.5 percentage point increase in return on assets**. The benefits to business are not just financial. Companies with more women in leadership are more innovative, have greater employee loyalty and more satisfied customers.

Despite the business case for diverse leadership, it appears that many New Zealand businesses do not have balanced representation of women in their management ranks.

To realise the benefits of diversity, proactive effort is required. Change will not occur of its own accord. New Zealand businesses need to lean in and make it happen.

So, what should businesses do?

Having a gender policy, measuring against it, and establishing development/mentoring programs are all ways to enable diversity. Part of the solution is about staying accountable and making sure that initiatives are well resourced, and supported from the top.

While New Zealand does perform better relative to OECD countries on most aspects, such as female participation and pay equality, there are things we can learn from across the Tasman. For example, Australia has a Workplace Gender Equality Agency that collects data from firms to create benchmarks so they can see how they are performing against their peers (Australian Workplace Gender Equality Agency, 2017).

Diversity is just the first step. Ensuring employees feel included is equally important for businesses. It is important to remember that gender is only one element of diversity. Working to improve diversity and inclusion in workplaces along all dimensions – whether it be gender, age or ethnicity – will unlock even more value for New Zealand.

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Appendix A: Modelling economic benefit from gender diversity

This section outlines the modelling techniques for estimating the economic benefit from gender diversity to the New Zealand economy. The results suggest that if gender parity is achieved at leadership levels (i.e. the share of managers employed is equal for men and women in the workforce), it would mean that New Zealand's economy would be about \$196 million or 0.07% larger, as a result of increased female labour participation rates.

Additionally, we have estimated how women in leadership roles contribute to flexible working policies (such as tele-commuting and flexible hours) which allow more people to join the labour force. The value of additional labour supply associated with the additional flexibility supported by women in management is estimated to be \$685 million, which is equivalent to 0.26% of GDP.

A.1 Role model effect

Since 2011, the OECD has recorded the share of employed workers who are managers by gender in each country.

To estimate the statistical association between the share of employed persons who are managers and labour participation by gender, we perform the following cross-panel beta regression:

$$MLP_{i,t} = \alpha_0 + \alpha_1 \left(\frac{\text{Female managers}}{\text{Total employees}} \right)_{i,t-1} + \lambda MLP_{i,t-1} + \text{Country dummies} + \text{Year dummies} + \epsilon_{i,t}^1$$

$$FLP_{i,t} = \beta_0 + \beta_1 \left(\frac{\text{Male managers}}{\text{Total employees}} \right)_{i,t-1} + \lambda FLP_{i,t-1} + \text{Country dummies} + \text{Year dummies} + \epsilon_{i,t}^2$$

where $\epsilon_{i,t} \sim \text{Beta}(\alpha, \beta)$

i.e. the labour participation rate (MLP for male and FLP for female) for country i in time t is a function of its labour participation rate in the previous year, share of employed workers who are managers (by gender) and the fixed effects from country and year.

The functional form of the model is a lagged dependent variable model. In essence, the labour participation rate is the average probability that a person in country i at time t will be in the labour force. In this case, the dependent variable would not be normally distributed, which violates one of the ordinary least squares (OLS) assumptions.

The standard statistical procedure to model variables that assume values in the standard unit interval (0,1) is known as a beta regression model. It is based on the assumption that the dependent variable is beta-distributed and that its mean is related to a set of regressors through a linear predictor with unknown coefficients and a link function. For this report, we have used the "betareg" package in the statistical environment R to perform the panel regression (Cribari-Neto and Zeileis, 2010).

Additionally, it is statistically challenging to estimate the whole system of equation using merely four years of data (2011-14)

collected by the OECD. For the purpose of our analysis, we impose the restriction that all coefficients are the same for the male and female equation except for the intercept and the coefficients on the share of female/male managers over total employment. Then the system of equations can be estimated from the following reduced form:

$$LP_{i,t} = \gamma_0 + \gamma_1 * FD + \gamma_2 * f(FD) + FD * \gamma_3 * f(FD) + \lambda * LP_{i,t} + \text{Country dummies} + \text{Year dummies} + \epsilon_{i,t}$$

where,

$$FD = \begin{cases} 0 & , \text{if male} \\ 1 & , \text{if female} \end{cases}$$

$$f(FD) = \begin{cases} \left(\frac{\text{Male managers}}{\text{Total employees}} \right)_{i,t-1} & , \text{if } FD = 0, \text{ i.e. male} \\ \left(\frac{\text{Female managers}}{\text{Total employees}} \right)_{i,t-1} & , \text{if } FD = 1, \text{ i.e. female} \end{cases}$$

$$\rightarrow \begin{cases} \alpha_1 = \gamma_2 \\ \beta_1 = \gamma_2 + \gamma_3 \end{cases}$$

In essence, male labour participation can be affected by the ratio of male managers to total employees; while female labour participation can be affected by the ratio of female managers to total employees. Both male and female labour participation rates are also driven by their own lag terms, as well as the country and year specific fixed effects.

Table A.1 shows the estimated coefficients on the predictors from the beta regression, omitting the time and country fixed effects. The female dummy (SexWomen) is negative and statistically significant at 1%.

This reflects the fact that labour participation rate for females is consistently lower than males across countries and controlling for other factors. The lag of labour participation rate (percent_lp_lag) is significant and positive, suggesting a higher labour participation in the past is likely to increase labour participation in the future.

The variable we are interested in is β_1 which is equal to $\gamma_2 + \gamma_3 = 0.497$. The link function for the beta regression is a logit/sigmoid function. By our calculation, a 1% increase in the share of female employees who are managers is associated with 0.09% uplift in female labour participate rate.

The OECD data suggests that the share of male employees who are managers is 13.3% in 2015 for Australia, while the figure for females is 8.9%. The difference of 4.4% is associated with a 0.39% uplift in female labour participation rate.

OECD has not collected the share of employees who are managers data for New Zealand, so here we assume the figure for New Zealand is similar to that for Australia.

Using demographic and work force participation data the 0.39% uplift in female labour participation rate is converted to a 0.15% positive shock to overall labour supply in New Zealand.

We estimate the impact of increased labour force participation on GDP using our Computable General Equilibrium (CGE) model, per section A.3. We find that the uplift in labour force participation associated with the role model effect is worth **\$196 million to the NZ economy, equivalent to 0.07% of GDP in real NZD terms.**

A.2 Flexible work effect

Both men and women can benefit from the availability of flexible working policies, such as the ability to work remotely or flexible hours. In some instances, the ability to work flexibly can enable people to increase the total amount of hours that they work.

The 2015 Australian Bureau of Statistics' *Barriers and Incentives to Labour Force Participation* survey found that around 23% of the working-age persons who were currently not in the labour force indicated that flexible working policies were very important as an incentive for them to participate in the labour force⁹.

So how does having more women in management affect the availability of flexible working arrangements? We use data from the Workplace Gender Equality Agency (WGEA) in Australia to investigate the association between the share of women in management roles and the availability of flexible working policies. The WGEA dataset records whether a company has formal employment terms, conditions or practices available in the following categories, separately for males/females and managers/non-managers:

- Carer's leave
- Compressed weeks
- Flexible hours
- Job sharing
- Part-time work
- Purchased leave
- Telecommuting
- Time-in-lieu
- Unpaid leave

We adopt the following regression model to examine the association between women in management and the availability of flexible working policies (measured by the total number of flexible policies), controlling for industry and employment size.

$$\begin{aligned} \text{Number of flexibility working policies} &= \beta_0 + \beta_2 \% \text{ female in senior} \\ &+ \beta_2 \log(\text{number of employees}) \\ &+ \text{industry dummies} \\ &+ \epsilon \quad \epsilon \sim N(\mu, \sigma^2) \end{aligned}$$

Table A.1: Estimated coefficient from beta regression

term	Estimate	std.error	statistic	p.value
Intercept (γ_0)	-1.973	0.156	-12.614	0.000***
percent_lp_lag (λ)	4.838	0.124	39.021	0.000***
SexWomen (γ_1)	-0.553	0.042	-13.209	0.000***
percent_senior_lag (γ_2)	-1.507	0.766	-1.967	0.049*
percent_senior_lag:SexWomen (γ_3)	2.005	0.450	4.454	0.000***

Source: OECD data, Deloitte Access Economics analysis

⁹ The flexible policies listed by the ABS related to the ability to 1) vary start finish times; 2) work part-time; 3) work

school hours; 4) do some or all work from home.

The Table below shows the estimated coefficient on the above OLS regression. It can be seen that the coefficient on the percentage of female in management (β_2) is positive and significant.

This coefficient is associated with a marginal effect of increasing the availability of flexible working policies by 13% if the average share of female management increases from the status quo calculated in Australia (22.4%) to parity (50%).

Table A.2: Estimated coefficients for the OLS regression

Term	Estimate	Std.error	Statistic	P.value
(Intercept)	-1.954	4.019	-0.486	0.627
% female in management	9.961	3.048	3.268	0.001***
log(number of employees)	2.191	0.303	7.221	0.000***
industryAdministrative and Support Services	5.968	3.997	1.493	0.136
industryAgriculture, Forestry and Fishing	7.636	4.215	1.812	0.071
industryArts and Recreation Services	4.221	4.110	1.027	0.305
industryConstruction	0.230	3.668	0.063	0.950
industryEducation and Training	9.964	4.216	2.364	0.019
industryElectricity, Gas, Water and Waste Services	8.326	4.546	1.832	0.068
industryFinancial and Insurance Services	12.263	3.421	3.585	0.000
industryHealth Care and Social Assistance	7.695	3.786	2.032	0.043
industryInformation Media and Telecommunications	6.449	3.643	1.770	0.077
industryManufacturing	5.477	3.371	1.625	0.105
industryMining	4.365	3.474	1.256	0.210
industryOther Services	5.359	5.326	1.006	0.315
industryProfessional, Scientific and Technical Services	8.157	3.444	2.368	0.018
industryPublic Administration and Safety	1.447	6.794	0.213	0.831
industryRental, Hiring and Real Estate Services	6.581	4.070	1.617	0.107
industryRetail Trade	-0.381	3.578	-0.106	0.915
industryTransport, Postal and Warehousing	4.827	3.708	1.302	0.194
industryWholesale Trade	6.420	3.513	1.827	0.068

Source: Deloitte Access Economics analysis

The estimated 13% improvement in the availability of flexible working policies would result in a 0.46% positive shock to the overall labour supply in New Zealand's economy. The table below shows the derivation of the size of the labour supply shock, stage by stage.

This 0.46% increase in labour supply in New Zealand is associated with a **0.26% increase in New Zealand's GDP. This equates to an additional \$685 million in GDP for New Zealand in real NZD terms.**

Table A.3: Derivation of the labour supply shock from more flexible work policies

Percentage of people not in the labour force citing flexible working policies as "a very important" incentive to join the labour force (ABS survey)	23%
Improvement in the availability of flexible working policies as the average share of female management increased to 50% (Deloitte Access Economics estimates)	13%
Percentage of people who are currently not in the labour force but will join as a result of the improved availability of flexible work policies	$23\% * 13\% = 3\%$
Scaled by part-time working hours (ABS data)	$3\% * 43\% = 1.29\%$
Percentage of working age population that are not in the labour force in New Zealand (Deloitte Access Economics macroeconomic forecasts)	26%
Shock to existing labour supply	$(1.29\% * 26\%) / (1 - 26\%) = 0.55\%$

Source: Deloitte Access Economics analysis

A.3 CGE modelling

The estimated uplift in labour participation as derived from the previous sections has a significant economic impact on New Zealand GDP. The GDP figures provided above are the modelled impact of increases in labour force participation. The GDP impact is modelled through the DAE Regional General Equilibrium Model (**DAE-RGEM**).

DAE-RGEM is based on a standard CGE model developed by the Global Trade Analysis Project (**GTAP**), and has been tailored to the New Zealand economy.¹⁰ This tailoring involved building in a greater level of disaggregation of New Zealand industries and regions than is provided in the standard model. Because of this, DAE-RGEM can be used to more accurately analyse shocks relating to specific industries and regions in New Zealand.

The DAE-RGEM relies on a number of standard and accepted data sources:

- Parameters and international data are from the GTAP, the leading organisation in the development of CGE modelling.
- New Zealand data are from the Statistics New Zealand input-output tables.

Figure A.1 is a stylised diagram showing the circular flow of income and spending that occurs in DAE-RGEM. To meet demand for products, firms purchase inputs from other producers and hire factors of production (labour and capital). Producers pay wages and rent (factor income) which accrue to households. Households spend their income on goods and services, pay taxes and put some away for savings.

The government uses tax revenue to purchase goods and services, while savings are used by investors to buy capital goods to facilitate future consumption. As DAE-RGEM is an open economy model, it also includes trade flows with other regions, states, and foreign countries.

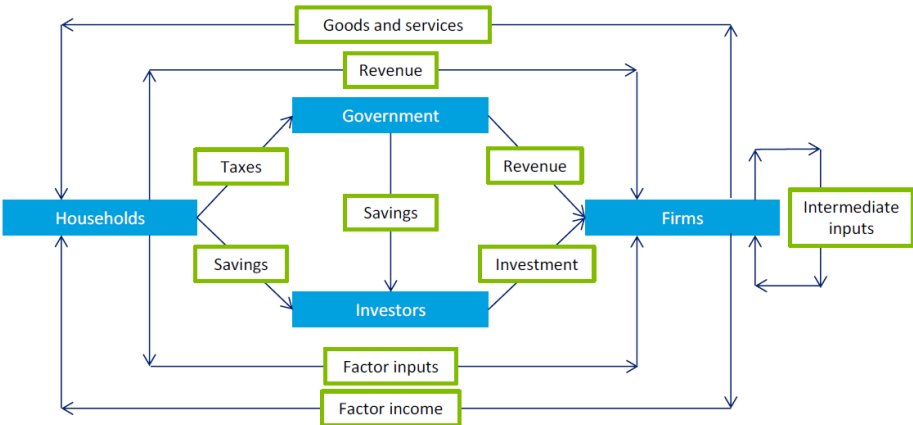
The model compares a baseline scenario where the proposed event (or shock) does not occur with a counterfactual scenario where it does. This requires developing a set of inputs that stylize these alternative scenarios, so that the economic impact of the event can be projected.

A.4 Causation

It is important to note issues around causality in economic modelling. In particular, there are factors we have not been able to control for – such as the cost and availability of childcare and parental leave – which might have affected both the share of female managers and female labour participation. This could result in omitted variable bias.

However, by including lagged dependent variables, as well as country-level fixed effects, we aim to control for these unobserved factors, to the extent possible.

Figure A.1: Stylised diagram of DAE-RGEM



Source: Deloitte Access Economics

¹⁰ GTAP is a global network of researchers and policy makers

conducting quantitative analysis of international policy issues.

Appendix B: Survey information

To inform this report, a survey was fielded in September 2017 to businesses across New Zealand. The sample is nationally representative across region and industry categories.

Employees (manager level and above) at 500 businesses with five or more employees answered questions about gender diversity in management, current policies and changes over time, their business outcomes, the importance of diversity, barriers to achieving diversity.

The charts below present a breakdown of the sample along a range of dimensions, both about the businesses surveyed, and personal details about the respondents themselves.

Chart B.1: Industry breakdown of businesses surveyed

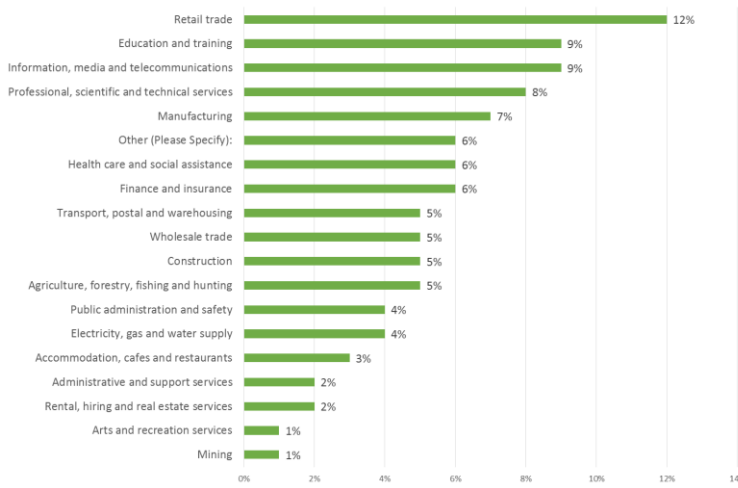


Chart B.2: Organisation types surveyed

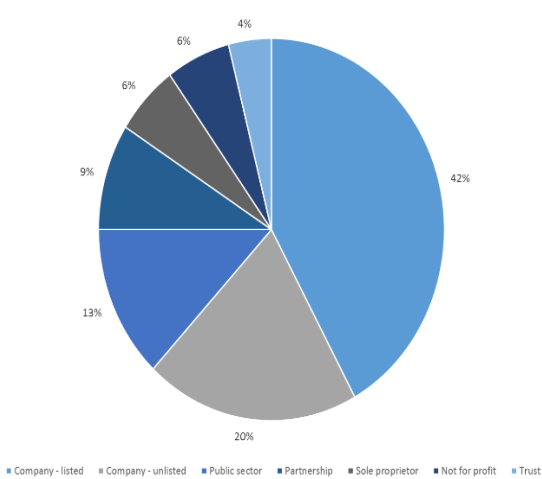


Chart B.3: Size of businesses surveyed, employees

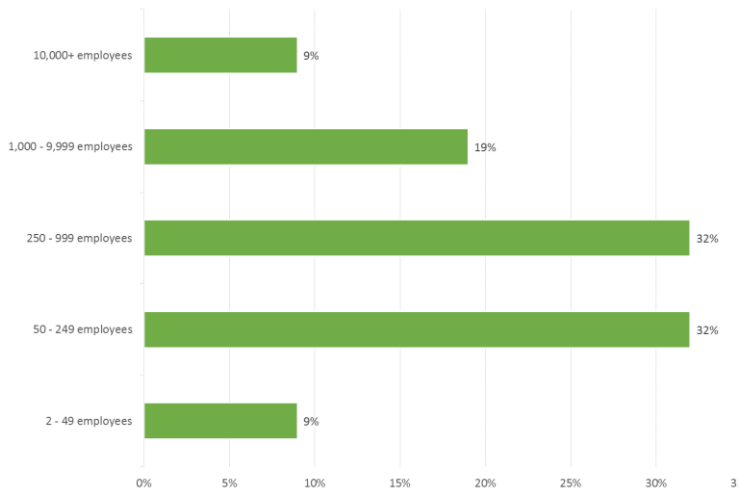


Chart B.4: Size of businesses surveyed, annual revenue

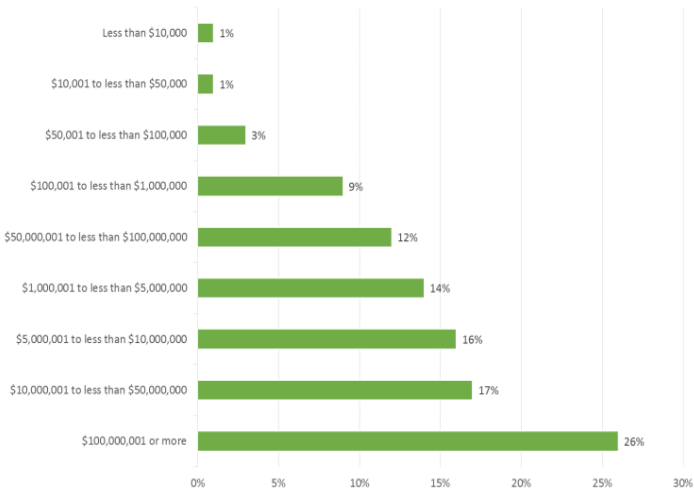


Chart B.5: Regional breakdown of businesses surveyed

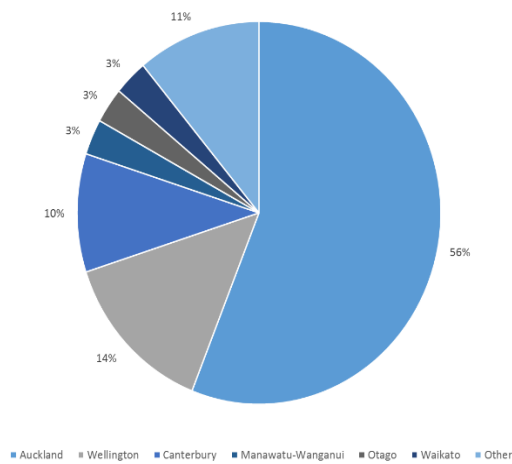


Chart B.6: Position of respondents in business

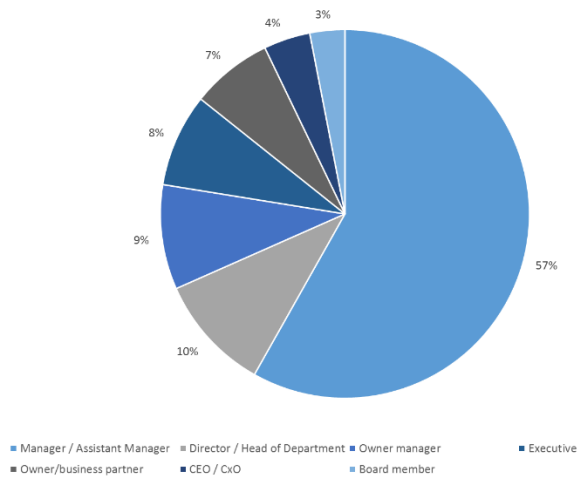


Chart B.7: Gender of respondents

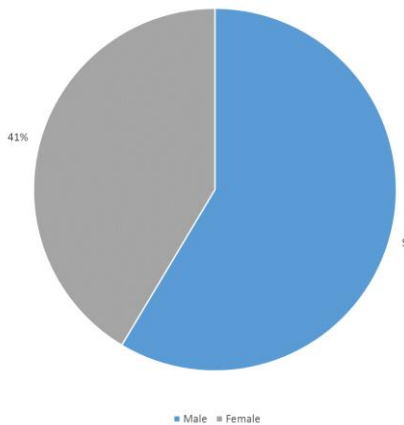


Chart B.8: Respondents’ annual salary

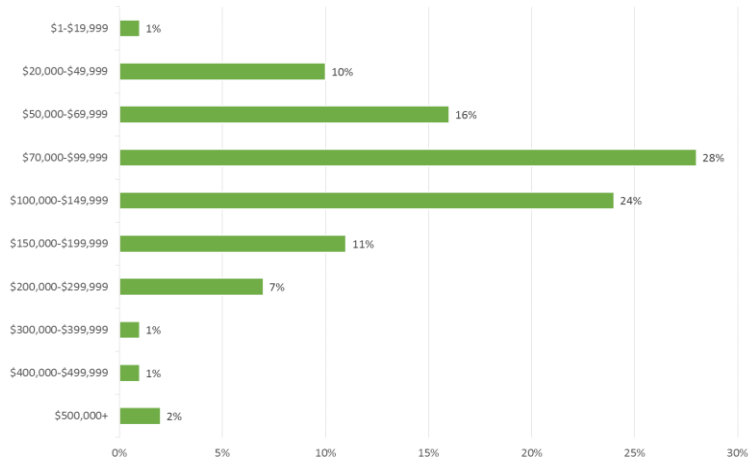
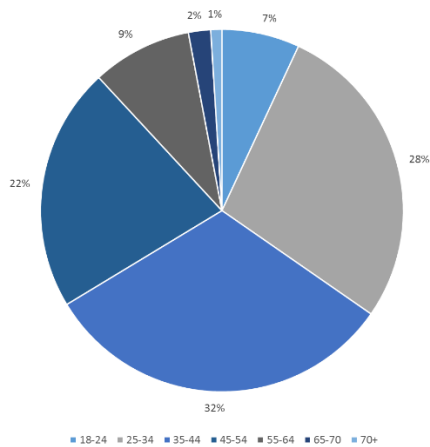


Chart B.9: Age of respondents



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