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Preface

Innovation in New Zealand: 2009 gives a statistical picture of business innovation and performance in New Zealand. Innovation is defined as the introduction of any new or significantly improved goods, services, processes, or marketing methods.

Innovation is important to New Zealand as it encourages growth, knowledge transfer, and entrepreneurship. To understand the way innovation occurs in New Zealand businesses, it is important to measure not only the rate of innovation, but also the characteristics and activities surrounding this innovation. The results tell us about the types of innovation occurring, the reasons for the innovation, which factors hamper innovation, and cooperation between businesses for innovation.

The statistics presented in this report result from the Business Operations Survey 2009, which was conducted in August 2009. The survey had a modular design and included an innovation module (sponsored by the Ministry of Research, Science and Technology) and a business performance module. The modular design enables analysis of the effect of businesses' practices on their performance.

Statistics New Zealand appreciates the cooperation of the businesses and individuals who participated in the Business Operations Survey and enabled these results to be produced.

Geoff Bascand
Government Statistician

Contents

List of tables and figures

Tables by chapter

Figures by chapter

Detailed tables

1 Summary of innovation results

Innovation in New Zealand: 2009 presents results from the 2007 and 2009 Business Operations Survey. Many of the results are similar for the two years, which suggests the overall patterns of innovation activities have not changed. The report also presents some new results from the survey. The following points summarise some of the key results.

Rate of innovation

- In 2009, 46 percent of businesses reported innovation activity.
- 41 percent of businesses had implemented innovations, and 5 percent had ongoing or abandoned innovations.
- The industry with the highest innovation rate was information media and telecommunication services with 60 percent.

International comparisons

- New Zealand's innovation rate is similar to, but lower than Australia's.

Innovation rate characteristics

- Each of the four types of innovation – product, process, marketing, or organisational – had rates of around 25 percent.
- Almost 60 percent of innovating businesses develop their own innovations.

Sources of ideas and information

- 'Existing staff' was the highest ranked source of ideas and information for innovation – 74 percent of innovating businesses used this source.

Innovation and business performance

- Innovators performed better than non-innovators against a range of reported business performance measures.
- 39 percent of product innovators reported more than 10 percent of sales came from new or improved products.

Reasons for innovation

- 'To increase revenue' was the most common reason for innovation – 90 percent of all innovating firms reported this reason.

- 39 percent of businesses that implemented a process innovation did so because of the introduction of new goods or services.

Product development expenditure

- Businesses spent $2.5 billion on product development activities (0.5 percent of total expenditure).
- The telecommunications industry had the highest average spend per business ($830,000).
- 55 percent of businesses who invested in innovation spent more than $1,000 per employee.

Innovation and other activities

- Because innovation encompasses a wide range of activities, including research and development (R&D), business innovation rates are much higher than R&D rates.
- 22 percent of innovating businesses acquired computer hardware and software to support innovation.
- The most common way that businesses protected their intellectual property was with confidentiality agreements (used by 29 percent of businesses).

Cooperation for innovation

- 15 percent of innovating businesses had cooperative arrangements with their suppliers for the purpose of innovation.
- 44 percent of innovating businesses with cooperative arrangements stated 'accessing new markets' as a reason to cooperate for innovation.

Factors hampering innovation

- 19 percent of businesses saw the 'cost to develop and introduce innovations' as hampering innovation to a high degree.
- Of the factors that *did not* hamper business innovation, access to intellectual property rights was the most common (82 percent).

Product innovation

- Half of all businesses who introduced product innovations had new-to-New Zealand innovations.
- 19 percent of businesses who introduced product innovations had new-to-the-world innovations.

2 Rate of innovation

This chapter details innovation rates for New Zealand businesses over the last two financial years ending 2009. Almost half of all New Zealand businesses innovated over this period. Most innovation results in 2009 were similar to those collected in 2007.

Please view detailed tables 1–3 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Innovation rate in New Zealand

Forty-six percent of New Zealand businesses reported innovation activity in 2009 – the same rate as in 2007. The innovation rate has remained at similar levels since the information was first collected in 2005, as have the levels of some general business activities such as exports, expansion, and tourism sales.

The innovation rate is the proportion of businesses that undertook any activity during the last two financial years that resulted in the development or introduction of new or significantly improved:

- goods or services (products)
- operational processes
- organisational or managerial processes
- marketing methods.

Goods or services and marketing methods are usually the most visible forms of innovation. These types of innovation can result in changes in income and sales for a business. Operational, organisational, or managerial process innovations are not always so visible to customers, as these innovations involve changes in the way the company operates. In other words, some innovations focus on external aspects of the business and some focus on internal aspects.

The type of innovation a business performs may depend on the type of industry they are in. For example, a business in the manufacturing industry is likely to innovate in the goods or services area, as it designs and creates goods. However, a business in the accommodation and food services industry is likely to undertake marketing innovation, as their business relies on customers knowing about the business and its services.

The rate of innovation can be split into two distinct categories:

- implemented innovations – where the innovation has been introduced
- ongoing or abandoned innovations – where the innovative activity was still in progress or had been abandoned over the two-year period.

Most innovating businesses had implemented innovations in the last two financial years, as illustrated in table 2.01.

Table 2.01

Innovation in New Zealand
Last two financial years at August 2007 and 2009

	Percentage of all businesses[1]	
	2007	2009
Innovators[2]		
With implemented innovations	41	41
With ongoing or abandoned innovation activity	5	5
Total innovators	**46**	**46**
Non-innovators	54	54

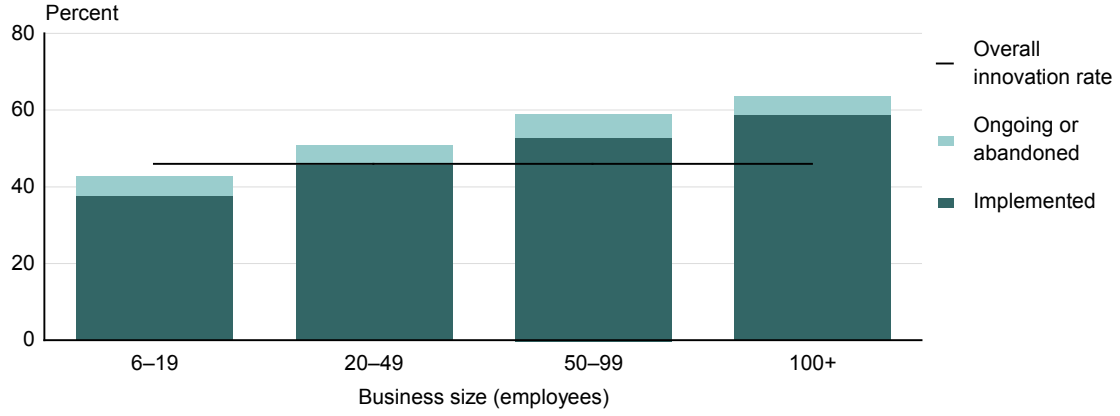
1. For more information on the businesses included, see chapter 14.
2. If a business has implemented an innovation, it is included under the 'Implemented' category, even if it has ongoing or abandoned innovations.

Innovation rate by business size

Results of the Business Operations Survey 2009, presented in figure 2.01, show that the innovation rate increases with business size: from 43 percent for businesses with 6–19 employees to 64 percent for business with 100+ employees.

Figure 2.01

Innovation rate
By business size
Last two financial years at August 2009



Note: If a business has implemented an innovation it is included under the 'Implemented' category, even if it also has ongoing or abandoned innovations.

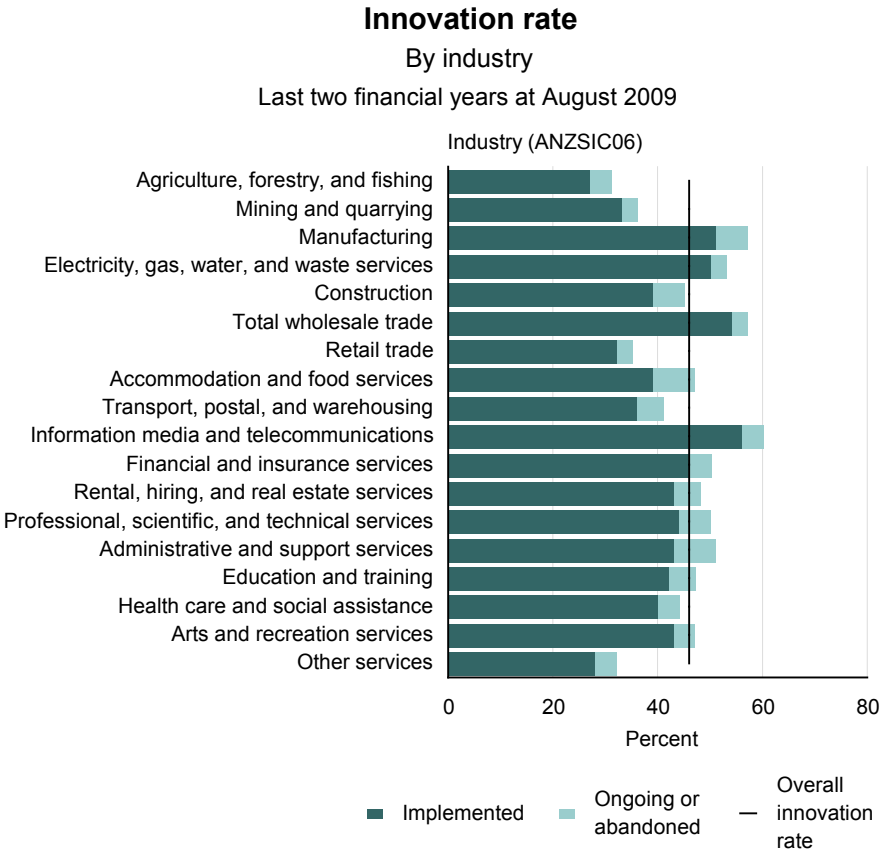
Source: Statistics New Zealand

Innovation rate by industry

Figure 2.02 shows the innovation rate for each industry and the overall innovation rate. The information media and telecommunication services industry reported the highest rate of innovation, at 60 percent. The following industries had rates of more than 50 percent:

- manufacturing
- wholesale trade
- electricity, gas, water, and waste services
- financial and insurance services
- administrative and support services
- professional, scientific, and technical services.

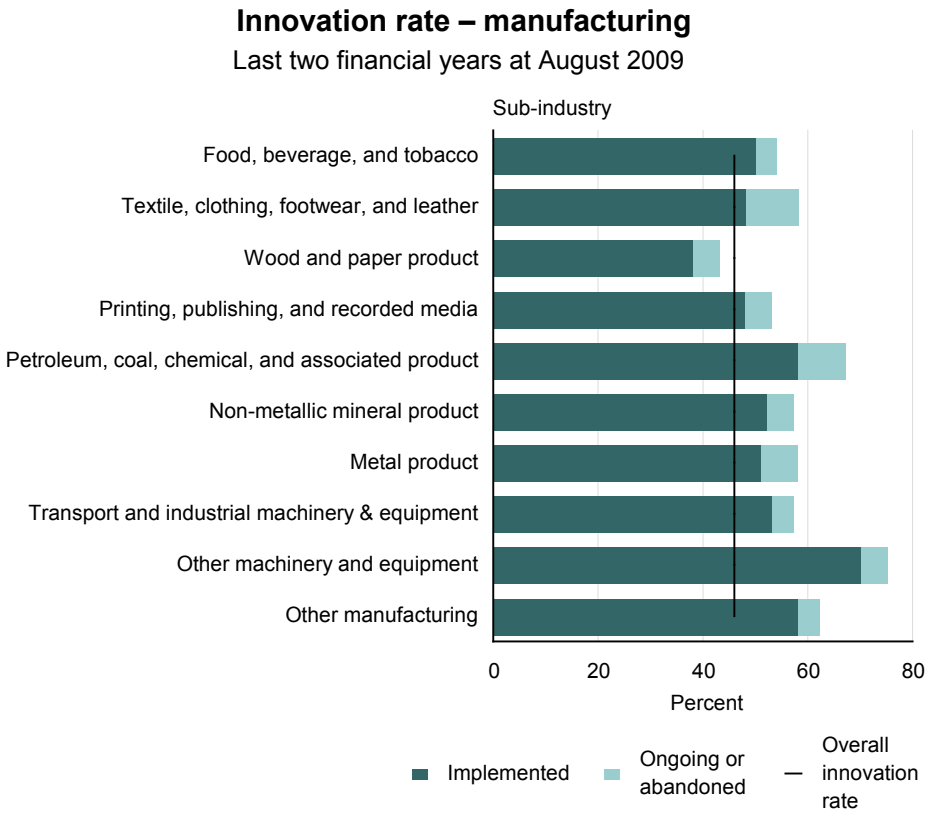
Figure 2.02



Source: Statistics New Zealand

Innovation rates for the sub-industries of the manufacturing industry are illustrated in figure 2.03. The manufacturing industry is of interest as it had the largest number of businesses taking part in the Business Operations Survey. The innovation rates for the manufacturing sub-industries ranged from 44 percent to 75 percent.

Figure 2.03



Source: Statistics New Zealand

3 International comparisons

This chapter gives comparisons between New Zealand and Australia, and between New Zealand and selected countries for innovation rates, characteristics, and activities.

Most Organisation for Economic Co-operation and Development (OECD) countries collect innovation data in accordance with the *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*.[1] However, due to differences in coverage, direct international comparisons are not always possible.

Please view detailed table 4 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

New Zealand and Australian comparisons

Australia measures innovation with similar classifications to New Zealand, so comparisons can be made between the countries. Australia has rates of innovation and innovation activities similar to those of New Zealand.

When New Zealand is compared with Australia on a similar basis, New Zealand has a slightly lower overall innovation rate. For example, results for the same business size and industry coverage are 48 percent for New Zealand and 52 percent for Australia. However, the rates of each of the four main types of innovation show some differences, as presented in table 3.01.

Table 3.01

New Zealand and Australian Innovation rates

	New Zealand(1)	Australia(2)
	Percent	
Goods or service innovations	26	29
Operational process innovations	23	25
Organisational or managerial processes	26	29
Marketing methods	25	20
Overall New Zealand innovation rate	**46**	…
Comparable overall innovation rate(3)	**48**	**52**

1. For more information on businesses included, see chapter 14.
2. Australian results differ from those published, as they exclude any businesses with less than five employees. Results are the latest available; those for the last last two financial years ending 2008.
3. Result is presented using similar business-size and industries. This excludes the agriculture, forestry, and fishing; and education and training industries.

1. Organisation for Economic Co-operation and Development and Statistical Office of the European Communities (2005).

Table 3.02 shows other innovation characteristics that can be compared for the two countries. Note that these particular results for Australia are as published,[2] and not directly comparable with New Zealand results due to different survey populations and periods. However, they do illustrate the relative ratings of various innovation activities in the two countries.

Table 3.02

New Zealand and Australian innovation characteristics

	New Zealand(1)	Australia(2)
	Percent	
Proportion of non-technological(4) innovators in manufacturing sector	34	32(3)
Proportion of non-technological(4) innovators in services sector	32	28(3)
Proportion of businesses who cooperate	10	16(3)
Implemented Innovations	41	32(3)
Proportion of innovators cooperating with publically funded research agencies(5)	8	7(6)
Proportion of innovators cooperating with universities(7)	4	2(6)

(1) For more information on businesses included, see chapter 14.
(2) Australian results include businesses with 0–5 employees and exclude the agriculture industry.
(3) Results are the latest available; those for the year ended 30 June 2007.
(4) Refers to organisational, managerial, or marketing innovations.
(5) New Zealand collects this information in a broader question, which may include research agencies that are not publically funded.
(6) Results are for the year ended 30 June 2007.
(7) New Zealand results include polytechnics and universities.

Note: Manufacturing has been defined as businesses in the Manufacturing industry of the Australia and New Zealand Standard Industial Classification (ANZSIC). Services has been defined as businesses in the ANZSICs of G,F,H,I,J,K,L,M,N,P,Q,R, and S.

The highest reported responses for some of New Zealand's innovation results are similar to those of Australia. The industry with the highest innovation rate is the same for both countries: information media and telecommunications. The highest reported responses for sources of information for innovation and for methods of protecting intellectual property rights are also similar.

Other international comparisons

New Zealand's innovation rate can also be compared with other countries. These comparisons are indicative only, as differences exist between the countries in innovation definitions, methodologies, and other factors also make direct comparisons difficult.

2. Department of Innovation, Industry, Science and Research (2010).

Table 3.03

Rates of innovation activity

By selected countries

Country	Innovation activity					Number of years	Employee-size threshold
	Goods or services (product)	Operational processes	Organisational or managerial processes	Marketing methods	Total innovation rate		
	Percent						
Australia[1]	29	25	29	20	52	2[2]	5
Finland	31	23	25	22	48	3[3]	10
New Zealand	**26**	**23**	**26**	**25**	**46**	**2[4]**	**6**
Ireland	28	35	32	27	45	3[3]	10
Denmark	22	21	28	25	42	3[3]	2[5]
Norway	21	18	20	20	34	2[3]	5

Sources: National Statistical agencies in each country

1. Australian results differ from those published, as they exclude businesses with less than 5 employees.
2. The reference period for Australia is the two calendar years 2007–2008
3. The reference period for the European countries is the three calendar years 2006–2008, and the most recently published results are included.
4. The reference period for New Zealand is the last two financial years as at August 2009.
5. The employee-size threshold for Denmark differs for different industries.

4 Innovation rate characteristics

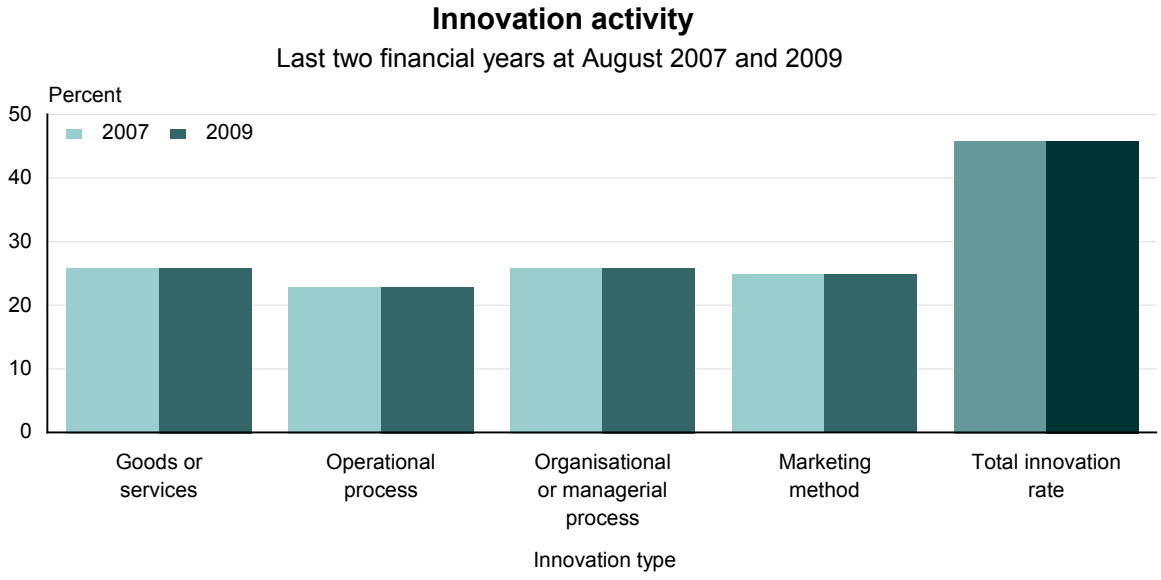
This chapter explores innovation rates for New Zealand in more detail. Innovation in New Zealand was spread evenly across all four types of innovation. More than half of innovating businesses developed these innovations themselves.

Please view tables 5–7 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Innovation rate by type of innovation

The surveyed businesses were asked about their innovation activities in each of the four innovation types: product, process, organisational, and marketing. Figure 4.01 illustrates the rates of each type of innovation in New Zealand. The total innovation rate for 2009 was 46 percent, and each type of innovation had a rate close to 25 percent. These results indicate that no one type of innovation is more prevalent and that many businesses are involved with more than one type of innovation activity.

Figure 4.01



Source: Statistics New Zealand

Development of innovations

The survey asked innovating businesses to indicate how each type of innovation was developed to determine whether businesses were more likely to develop their own innovations or to obtain them from others. Businesses could select a combination of answers if they used more than one approach.

Businesses have differing levels of capability, resource, experience, or knowledge for innovation. Some businesses may choose to develop their own innovations, keeping them in-house. Others may choose to develop innovations in partnership with others so they benefit from shared knowledge or resources.

The results indicated that most businesses develop their own innovations (58 percent of product innovators) or develop innovations in partnership with others (27 percent). A smaller number of product innovators obtained innovations from others and made significant improvements (17 percent). Slightly fewer obtained innovations from others and made no significant improvements (15 percent).

Innovation rate compared with gross domestic product

To explore innovation more thoroughly, innovation can be compared with gross domestic product (GDP) by industry sector.

Gross domestic product is a commonly used measure of national income. For full details of GDP methodology, see the latest Statistics New Zealand GDP release (available from www.stats.govt.nz).

The Business Operations Survey 2009 results show that the industry with the highest innovation rate – information media and telecommunications – only contributes 3 percent to gross domestic product. This low level of contribution is due to the smaller number of businesses in this industry compared with others.

The manufacturing industry contributed the most to gross domestic product, with 14 percent, and had the second highest innovation rate of 57 percent.

In comparison, the primary agricultural sector contributed 5 percent to gross domestic product and had an innovation rate of 32 percent.

These few results show that innovation rates vary according to the nature of business activities in different industries. However, the industries with the highest rates of innovation are not necessarily the industries that are most important to the economy.

5 Sources of ideas and information

This chapter presents results about sources of ideas or information that businesses found important for the purposes of innovation. 'Existing staff' was the most common source of information businesses used for innovation.

Please view tables 8–9 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Overall sources

Survey results show that the sources of information most reported to be important to innovating businesses were:

- 'existing staff' (74 percent)
- 'customers' (61 percent)
- 'new staff' (54 percent).

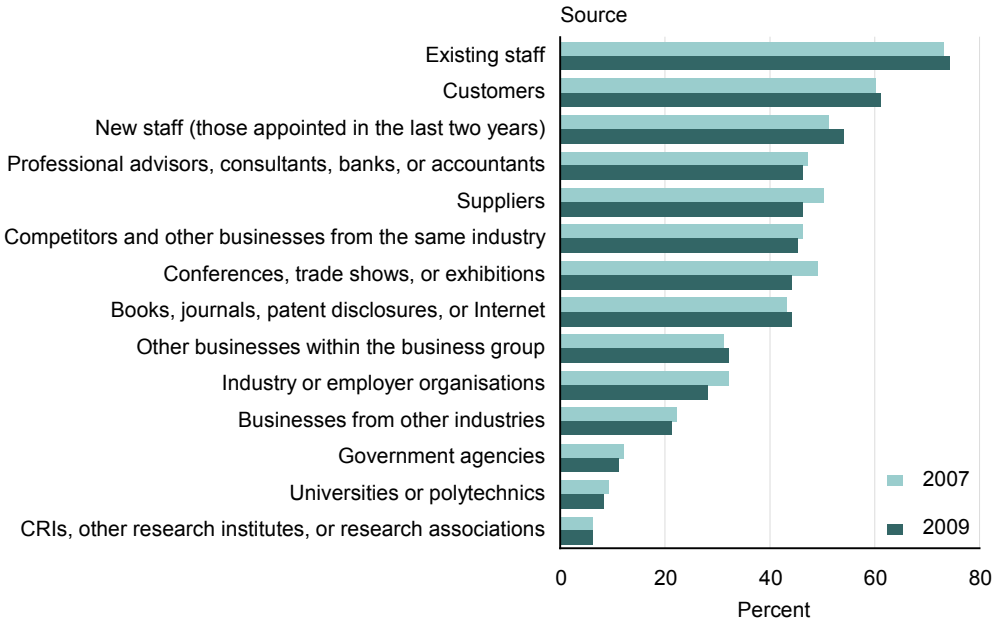
Less than 10 percent of businesses rated either 'universities or polytechnics' or 'Crown research institutes (CRIs), other research institutes, or research associations' as important sources of information.

Figure 5.01

Sources of information

For innovating businesses

Last two financial years at August 2007 and 2009



Source: Statistics New Zealand

Sources by industry

To give a picture of the types of organisations or people that were important sources of information for different industries, the following sources were selected, as they show a range of internal and external sources:

- universities or polytechnics
- CRIs, other research institutes, or research associations
- existing staff
- new staff.

Universities or polytechnics; CRIs, other research institutes, or research associations; and government agencies are external to businesses and a source of research and technical knowledge.

Existing and new staff are internal sources of knowledge that businesses may have easy access to.

Universities or polytechnics were rated as important sources by 22 percent of businesses in the education and training industry, but by only 1 percent in the retail trade industry.

CRIs, other research institutes, or research associations were rated as important sources by 23 percent of businesses in the agriculture, forestry, and fishing industry.

Rates for existing staff as sources of information ranged from 92 percent in the mining and quarrying industry to 59 percent in the agriculture, forestry, and fishing industry.

Rates for new staff as sources of information ranged from 75 percent in the education and training industry to 42 percent in the agriculture, forestry, and fishing industry.

6 Reasons for innovation

This chapter focuses on the reasons why businesses undertake innovation and what the perceived benefits are. Both are key factors for understanding innovation activities.

Please view tables 10a–11 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Reasons for innovation

The Business Operations Survey asked all innovating businesses to indicate their reasons for undertaking innovation. Innovation included all four subcategories (goods or services, operational processes, organisational or managerial processes and marketing methods).

Overall results for all businesses are shown in figure 6.01.

The most common reasons for innovating were to:

- increase revenue (90 percent of all innovating firms)
- increase productivity (78 percent)
- increase responsiveness of customers (73 percent)
- reduce costs (72 percent)
- increase market share (72 percent).

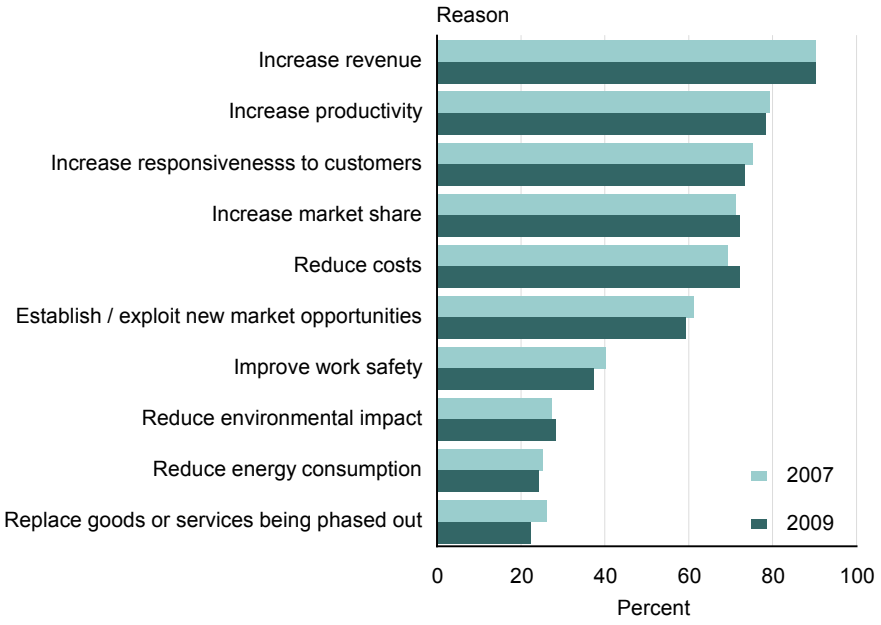
These findings were generally similar across most business-size classes and industries (see detailed tables 10a and 10b in chapter 17 or in the available files section online for a full breakdown). However, larger businesses tended to indicate more reasons, and cited reducing costs, reducing environmental impact, and reducing energy consumption more frequently than small businesses did. Some industry-specific trends can also be seen in tables 10a and 10b.

Most of the reasons for innovating in 2009 are similar to those of 2007.

Figure 6.01

Reasons for innovating

Last two financial years at August 2007 and 2009



Source: Statistics New Zealand

Relationships between different types of innovation

Businesses may need to undertake certain activities in support of others, and so, innovation of one type may necessitate innovation of other types. This explains why the overall innovation rate as presented in chapter 2 is less than the sum of the rates for product, process, and marketing innovations.

For example, businesses may need to innovate their processes to accommodate new goods or services they introduce. They may also need to introduce marketing innovations in support of new goods or services, or occasionally, restructure their organisation to accommodate these changes.

The Business Operations Survey specifically asked businesses with process innovations if these were required because of product innovations they had introduced.

Thirty-nine percent of businesses with process innovations performed them because of new goods or services.

The industries with the highest rates of operational process innovation due to the introduction of new goods or services were:

- accommodation and food services (60 percent)
- telecommunications (59 percent)
- arts and recreation services (56 percent)
- education and training (55 percent).

7 Innovation and business performance

Chapter 7 gives the results of the Business Operations Survey questions about how innovators and non-innovators measured their business performance.

A key result was that innovators were more likely than non-innovators to see increases in their profitability and productivity from 2008 to 2009.

Please view tables 12–13 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Business performance measures

A number of business performance indicators were compared between innovators (with implemented, and ongoing or abandoned innovations across all four types of innovation) and non-innovators (all other businesses). This analysis is summarised in figure 7.01. Compared with non-innovators, innovators were more successful in all measures.

An increase in sales was the most commonly achieved measure for both innovators and non-innovators, followed by increased profitability, and increased productivity. The biggest differences were the higher proportions of innovating firms with increased productivity (39 percent of innovators compared with 23 percent of non-innovators) and increased market share (30 percent compared with 14 percent). All these results are similar to those of 2007.

Figure 7.01

Business performance indicators

Last financial year at August 2009

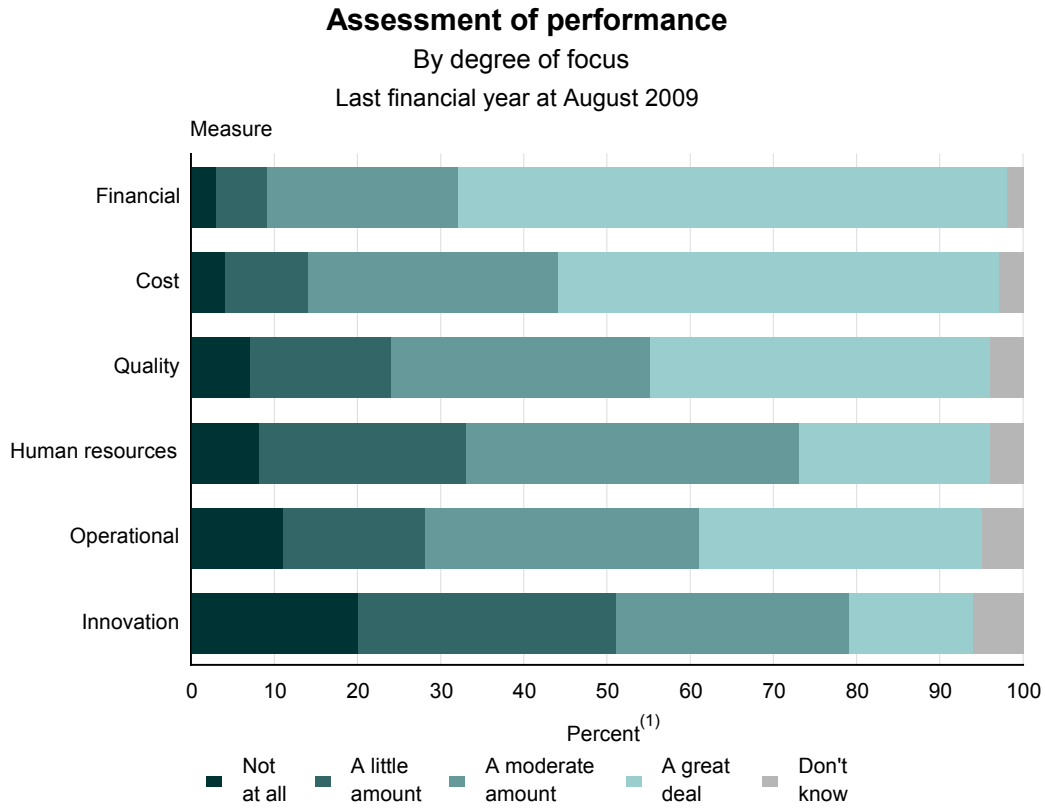
Source: Statistics New Zealand

Performance assessment

Earlier results show that the main reasons that businesses innovate relate to measures of their financial performance (see chapter 6 for details). Other results from the survey show that 66 percent of all businesses focused a great deal on financial and cost measures when assessing their performance, whereas only 15 percent focused a great deal on innovation.

While innovation rates have been sustained, the combination of these results seems to show that it is the outcomes of innovation that are important to businesses. Innovation is a means to achieve those desired outcomes, rather than the end in itself.

Figure 7.02



1. Percentages are of all New Zealand businesses. For more information on the businesses included, see chapter 14.

Source: Statistics New Zealand

8 Product development expenditure

A number of activities that businesses perform can be classed as innovation-related activities (product development and related activities). This chapter explores these activities, along with product development expenditure.

- research and development (R&D) was the area where most expenditure on product development and related activities occurred
- product development expenditure per employee shows that 55 percent of innovating businesses spent more than $1,000 per employee.

Please view detailed tables 14–16 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Product development expenditure

A key component of innovation is product development or activities related to it. Businesses were asked how much they spent on these activities.

Overall, New Zealand businesses spent almost $2.5 billion on product development and related activities in 2009 – a similar amount to that in 2007. This spending equates to 0.5 percent of businesses' total expenditure. Levels of expenditure increase with business size, as larger businesses have more capacity and funding for product development. The industries that spent the most in 2009 were:

- manufacturing ($773 million)
- professional, scientific, and technical services ($414 million)
- wholesale trade ($332 million)
- retail trade ($307 million).

These figures are dependent on the number of businesses in each industry, as industries with more businesses can spend more money collectively than smaller industries with fewer businesses. Therefore, the average spend per business is of interest. The industries with the highest average expenditure per business were:

- telecommunications ($830,000)
- other machinery and equipment ($691,000)
- finance ($666,000)
- insurance ($603,000).

Innovators spent an average of $131,000 per business compared with $14,000 per business for non-innovators.

Product development expenditure per employee

Forty-five percent of businesses who invested in product development or related activities spent less than $1,000 per employee. The overall average spend per employee was $2,115, which is less than the average spend per employee on indirect taxes ($5,675) and interest and donations ($55,435), but more than salaries and wages paid to self-employed commission agents ($1,234) (Statistics New Zealand, 2009).

Product development expenditure by type

Data collected on product development and related expenditure encompasses R&D, design, marketing, and other activities. Innovating businesses spent the highest proportion (38 percent) of their total product development expenditure on R&D.

Eleven percent of total product development expenditure was on design. Small businesses were more likely to report expenditure on design (16 percent) than larger businesses (9 percent).

The rest of the expenditure was spread across marketing and other product development and related activities. Verification of this data with respondents has indicated that these results are subject to variability due to respondent understanding of which innovation-related activities should be included in these categories. For example, expenditure on marketing may include activities related to product development, or may also include general marketing.

Statistics New Zealand considers figures for marketing and other activities to be less reliable than figures for the other activities. The 2011 innovation collection will be further developed in an attempt to better capture these activities.

Product development expenditure scales

To give these results context across the New Zealand economy, it is useful to consider dimensions of scale. Only 4 percent of businesses in the survey have 100+ employees, whereas 74 percent have 6–19 employees.

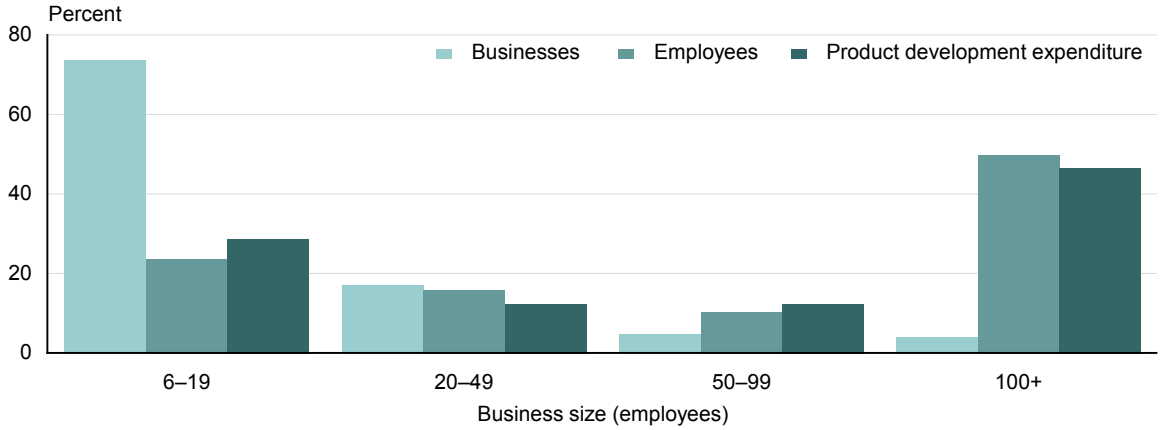
However, in terms of economic impact, a different picture emerges. The 4 percent of businesses in the largest business-size group account for 50 percent of all employees and 47 percent of all product development expenditure. This means that the innovation practices of all the business-size groups are important to give an accurate picture of the New Zealand economy.

Figure 8.01

Comparison of businesses, employees, and product development expenditure[1]

By business size

Financial year at August 2009



1. For example, the 4 percent of businesses in the largest business-size group account for 50 percent of all employees and 47 percent of all product development expenditure.

Source: Statistics New Zealand

9 Innovation and other activities

Research and development (R&D)

Research and development is one of the key components of innovation and product development. This chapter compares the overall rate of innovation with the proportion of firms undertaking or funding R&D activities.

Please view detailed tables 17–19b (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Only a small proportion of all businesses perform R&D (8 percent), compared with much higher rates of wider innovation (46 percent). Innovation has a broader definition than R&D, so a lower rate of R&D is reported. However, R&D is not necessarily a small component of innovation activity, in terms of expenditure, as explained in chapter 8.

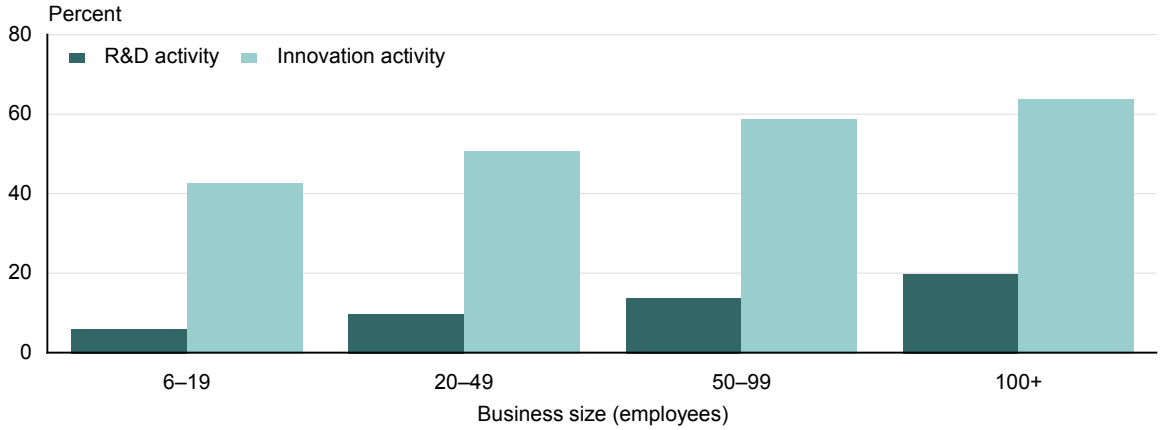
Research and development and innovation activity by business size is shown in figure 9.01. For both types of activity, higher rates are found among larger businesses, with businesses of 100+ employees most likely to perform R&D and/or innovate.

Figure 9.01

Research and development[1] and innovation activity[2]

By business size

Financial year at August 2009



1. Results are for the last financial year at August 2009.
2. Results are for the last two financial years at August 2009.

Source: Statistics New Zealand

Activities supporting innovation

The survey asked all businesses to indicate which activities supported innovation during the last two financial years. The three most frequently reported activities were:

- acquisition of computer hardware and software (22 percent of all businesses)
- employee training (21 percent)
- acquisition of machinery and equipment (17 percent).

Businesses were also asked to indicate which activities were done, but *not* to support innovation. The three most common activities reported, but *not* to support innovation were: employee training, acquisition of computer hardware and software, and acquisition of machinery and equipment. These top three activities were the same as those done to support innovation, revealing that businesses can perform the same activities, but for different reasons.

Table 9.01

Innovation activities
Last two financial years at August 2007 and 2009

	Done to support innovation		Done, but not to support innovation	
	2007	2009	2007	2009
Activity	Percentage of all businesses[1]			
Acquisition of computer hardware and software	21	22	47	44
Employee training	24	21	53	55
Acquisition of machinery and equipment	17	17	38	33
Implementing new business strategies or management techniques	16	15	21	20
Marketing the introduction of new goods or services	14	15	12	12
Organisational restructuring	11	10	20	23
Market research	9	9	10	12
Design (eg industrial, graphic, or fashion design)	8	9	6	6
Significant changes to marketing strategies	8	8	8	10
Acquisition of other knowledge	6	7	5	6

1. For more information on the businesses included, see chapter 14.

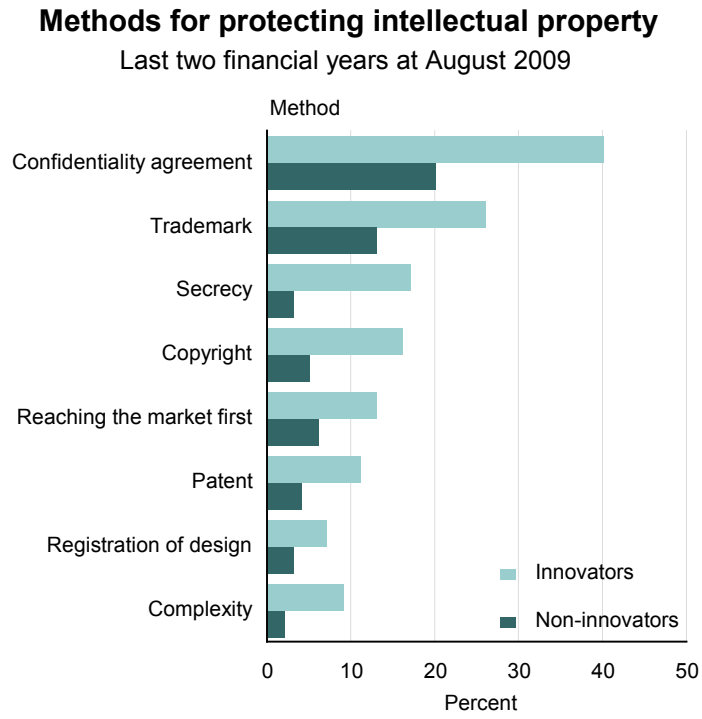
Protection of intellectual property

Another outcome of R&D and innovation can be intellectual property. This may be in the form of critical knowledge associated with products or services produced, or the intellectual property may itself be a product that can realised for commercial return, such as licensing of patent or trademarks.

Respondents were asked what, if any, methods of protection were used to protect their intellectual property. The results for innovating and non-innovating businesses are shown in figure 9.02. Non-innovating businesses may use methods to protect their intellectual property, as they may have performed

innovation in previous years, or brought innovations or patents from other organisations.

Figure 9.02



Source: Statistics New Zealand

A confidentiality agreement was the most common method (used by 29 percent of all businesses), followed by the use of trademarks (19 percent). Each of the remaining methods were used by less than 10 percent of innovating businesses.

Patents are another form of protection for intellectual property and were reported at relatively low rates by both innovators and non-innovators in the survey (11 and 4 percent, respectively). Other data shows New Zealand and Australia share a similar rate of using patents for intellectual property protection (16.6 and 17.8 patents per million of population, respectively). These patent rates are lower than many of the other countries in the OECD, as New Zealand is ranked 21st and Australia 18th out of 30 counties.

Table 9.02

Patents

By selected countries

Country	Patent per million population	Ranking in OECD
Australia	16.6	18
Finland	60.6	6
New Zealand	**11.8**	**21**
Ireland	17.8	17
Denmark	60.1	7
Norway	26.4	15

Source: OECD Main Science and Technology Indicators 2009/2

1. Rankings are out of 30 countries.

10 Cooperation for innovation

Businesses can cooperate with many different kinds of partners for innovation. This chapter explores the types of cooperative arrangements for innovation and the reasons for engaging in them.

- Most cooperative arrangements were with suppliers located in New Zealand.
- The most common reason for cooperative arrangements was to access new markets.

Please view detailed tables 20–22 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

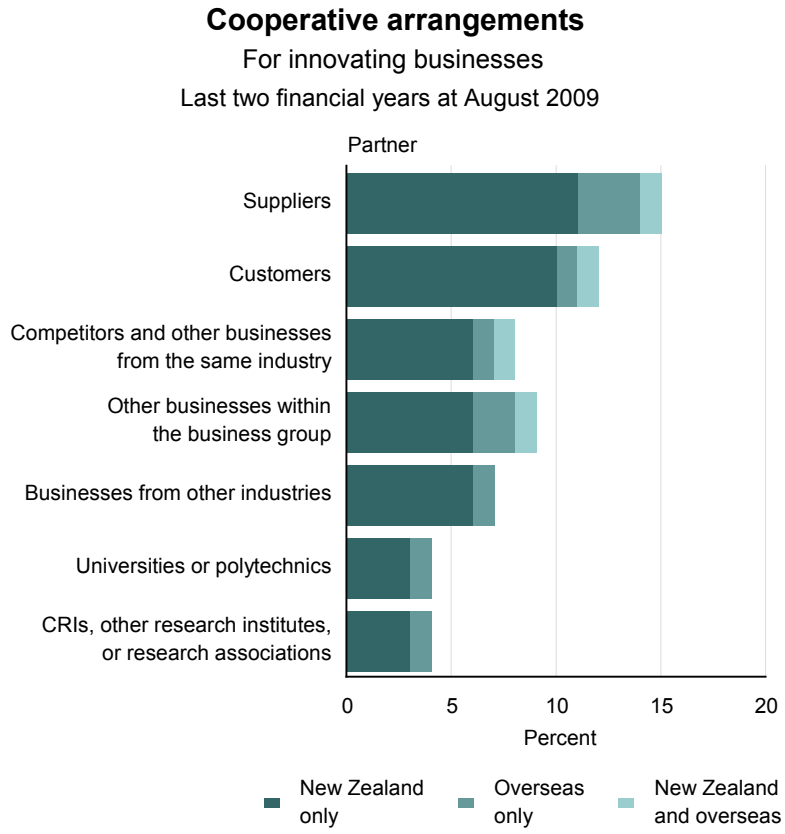
Partners in cooperative arrangements for innovation

In the Business Operations Survey 2009, a cooperative arrangement was defined as participating with another organisation or individual in activities for the purposes of innovation.

Most cooperative arrangements were made with partners located within New Zealand, as illustrated in figure 10.01. Fifteen percent of innovating businesses had cooperative arrangements with suppliers and 12 percent with customers. Nine percent of innovating businesses cooperated with businesses in the same business group.

Results for cooperation with overseas partners were similar to those of 2007.

Figure 10.01



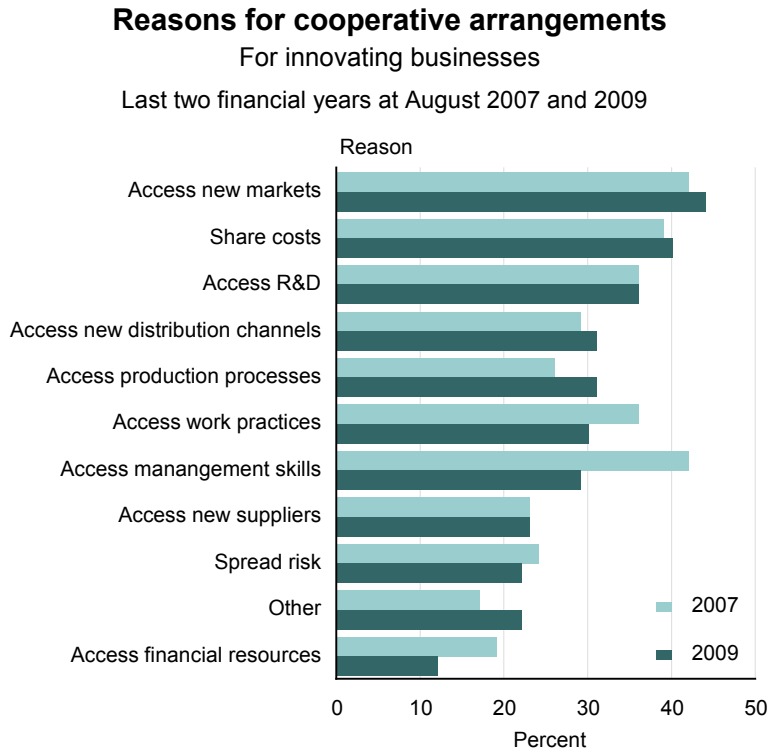
Source: Statistics New Zealand

Reasons for cooperative arrangements for innovation

The most common reason for innovating businesses engaging in cooperative arrangements was to access new markets (44 percent), as shown in figure 10.02. Other significant reasons included to share costs (40 percent) and access R&D (36 percent).

The 2009 results for cooperative arrangements have changed slightly from the 2007 results. Access to management skills was reported as a reason for cooperation by 29 percent of innovating businesses with cooperative arrangements in 2009, compared with 42 percent in 2007. The changing environment (such as a tighter labour market) that businesses were operating in at the time could explain this difference.

Figure 10.02



Source: Statistics New Zealand

Types of innovation-related cooperation activities

Business can perform many different activities when cooperating for the purpose of innovation. The most common activities were joint:

- marketing or distribution (53 percent)
- training (36 percent)
- R&D (32 percent)
- prototype development (26 percent).

The retail trade industry had the highest rate of joint marketing or distribution activities, with 94 percent.

11 Factors hampering innovation

Many factors can either hamper innovation activity, or discourage businesses from innovating at all. This chapter looks at the overall factors cited by businesses as hampering innovation, and explores the differences in these factors by business size and industry.

- The most common factor that hampered innovation to a high degree was the 'cost to develop or introduce' an innovation.
- 'Government regulation' was the factor that showed the greatest variation in results across industries.

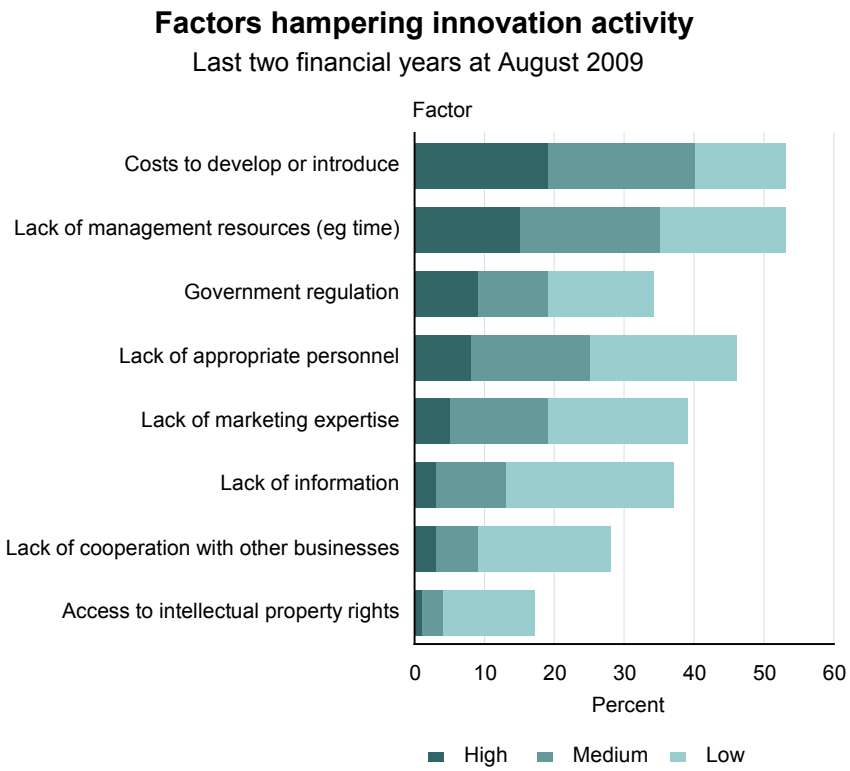
Please view detailed tables 23–24b (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Overall results for factors hampering innovation

The Business Operations Survey asked businesses to rate the degree to which a number of specific factors hampered their ability to innovate. These obstacles or barriers to innovation may have been reasons for not starting innovation activities at all, or for restricting innovation activities.

Figure 11.01 shows 'costs to develop or introduce' was the most significant factor hampering businesses' ability to innovate (19 percent reported that it hampered them to a high degree and 21 percent to a medium degree), followed by lack of management resources (15 percent to a high degree and 20 percent to a medium degree).

Figure 11.01



Source: Statistics New Zealand

The factors that businesses reported as not hampering their ability to innovate were:

- access to intellectual property (82 percent)
- lack of cooperation with other businesses (72 percent)
- government regulation (66 percent)
- lack of information (63 percent).

Similar results were obtained in 2007 across most categories.

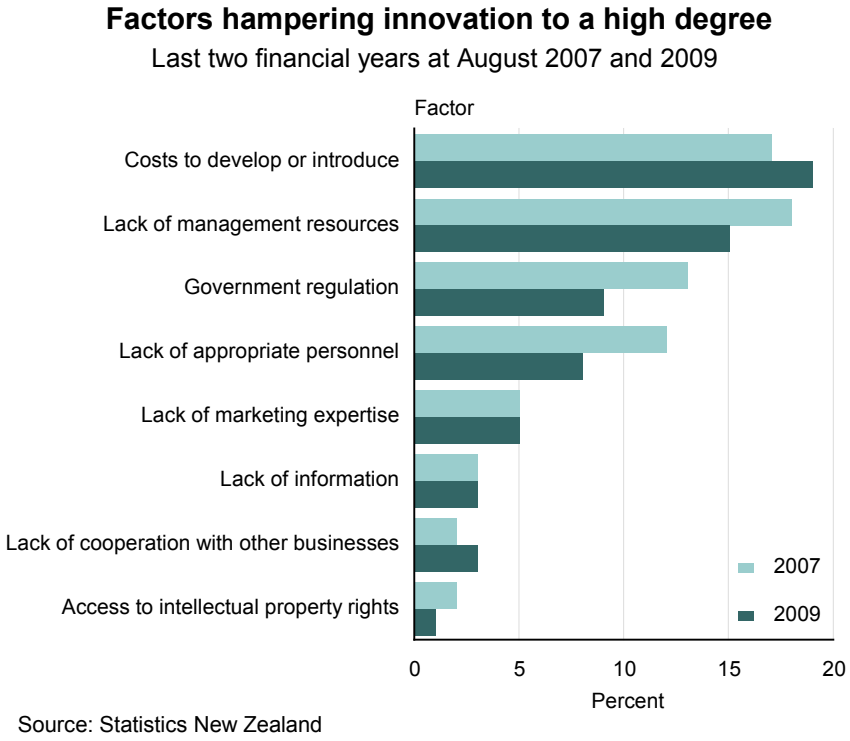
The factor showing the most change was government regulation. In 2009, 34 percent of businesses cited this factor as hampering their ability to innovate, compared with 42 percent in 2007.

Other impediments to innovation that showed noticeable reductions between 2009 and 2007 were:

- lack of management resources – 52 percent in 2009 and 59 percent in 2007
- lack of appropriate personnel – 46 percent in 2009 and 53 percent in 2007.

These changes could be due to many factors, such as changed business conditions between the two collection periods.

Figure 11.02



Source: Statistics New Zealand

Results by industry and business size

Some factors affected certain industries less than others. For example, government regulation was a hampering factor for a high proportion of businesses in the education industry (24 percent), but a low proportion in the other services industry (1 percent).

Some factors also affected certain business sizes less than others. For example, 15 percent of smaller businesses (6–49 employees) saw lack of management resources as hampering innovation to a high degree, compared with 11 percent of larger businesses (50+ employees). All other factors show little variation with business size.

12 Product innovation

Product innovation results in sales for businesses performing this type of innovation. These results are explored in this chapter, as well as product innovations that are new to the market.

Please view detailed tables 25–26 (in chapter 17 of the pdf or in the available files section online) along with this chapter.

Sales from product innovations

Businesses that introduced new or significantly improved goods or services in the last two financial years (product innovators) were asked to indicate the percentage of sales that came from these goods or services in the last financial year. Results by business size are shown in table 12.01.

Table 12.01

Sales from product innovations[1]
Last financial year at August 2009

Percentage of sales	Business size[2]			
	6–19	20–49	50–99	100+
	Percentage of product innovators[3]			
Zero	2	3	5	4
1–10	50	56	54	65
11–20	23	19	19	15
21–30	8	5	7	3
31–40	3	5	1	3
41–100	9	4	3	4
Don't know	5	9	9	6
Number of businesses with product innovations[4]				
	4,662	1,293	441	477

1. Product innovations are the introduction of any new or significantly improved goods or services.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.
3. Percentages are of businesses with implemented goods or services innovation in each business-size category.
4. For more information on the businesses included, see chapter 14.

Thirty-nine percent of product innovators reported that more than 10 percent of sales came from new or significantly improved products introduced in the last two years. Only 3 percent of product innovators reported no sales from product innovations.

When product innovators were examined according to business size, small businesses reported higher proportions of sales from new or significantly

improved products. Forty-three percent of businesses with 6–9 employees reported over 10 percent of sales compared with only 24 percent for businesses with 100+ employees.

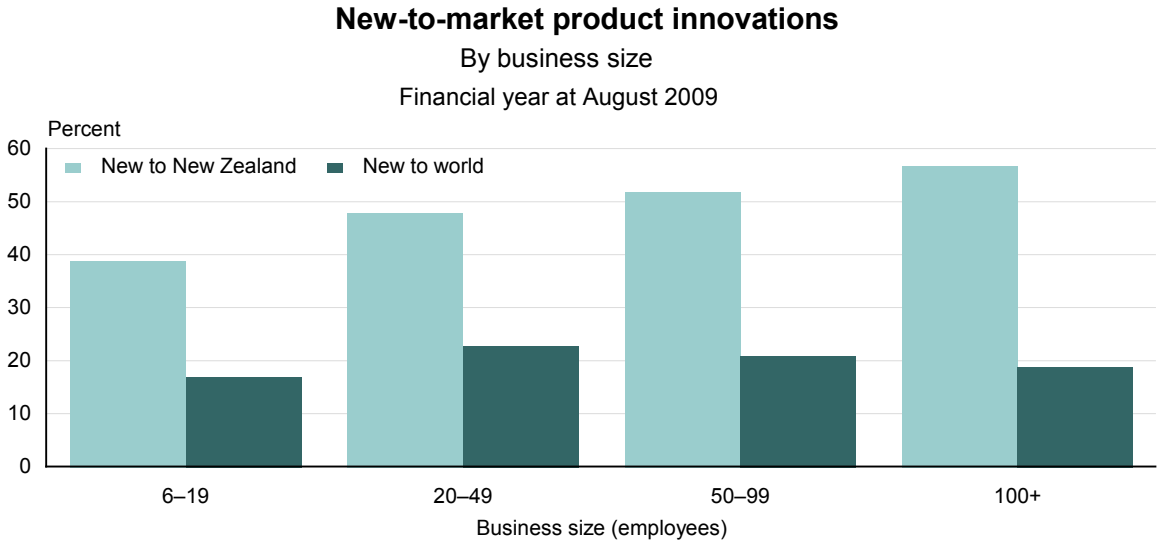
This pattern could be due to many factors, such as smaller businesses having more flexibility to integrate new products into their product range than larger businesses. Smaller businesses also tend to have smaller product ranges than larger businesses, so the introduction of a new product may have a greater effect financially than for a large business. Another factor could be that smaller businesses in the survey tend to be younger, and therefore have greater access and ability to supply new products. For example, the average age of businesses in the 6–19 employee-size group was 13 years compared with 22 years for businesses in the 100+ employee-size group.

New-to-New Zealand product innovations

Forty-three percent of product innovators had innovations that were new to New Zealand.

Rates of new-to-New Zealand product innovation increase with business size. Thirty-nine percent of small businesses (6–19 employees) with product innovation had new-to-New Zealand product innovations. In comparison, this rate was 57 percent for large businesses (100+ employees).

Figure 12.01



1. Percentage of businesses with product innovation.

Source: Statistics New Zealand

The wholesale trade industry had the highest rate of new-to-New Zealand product innovations, at 72 percent.

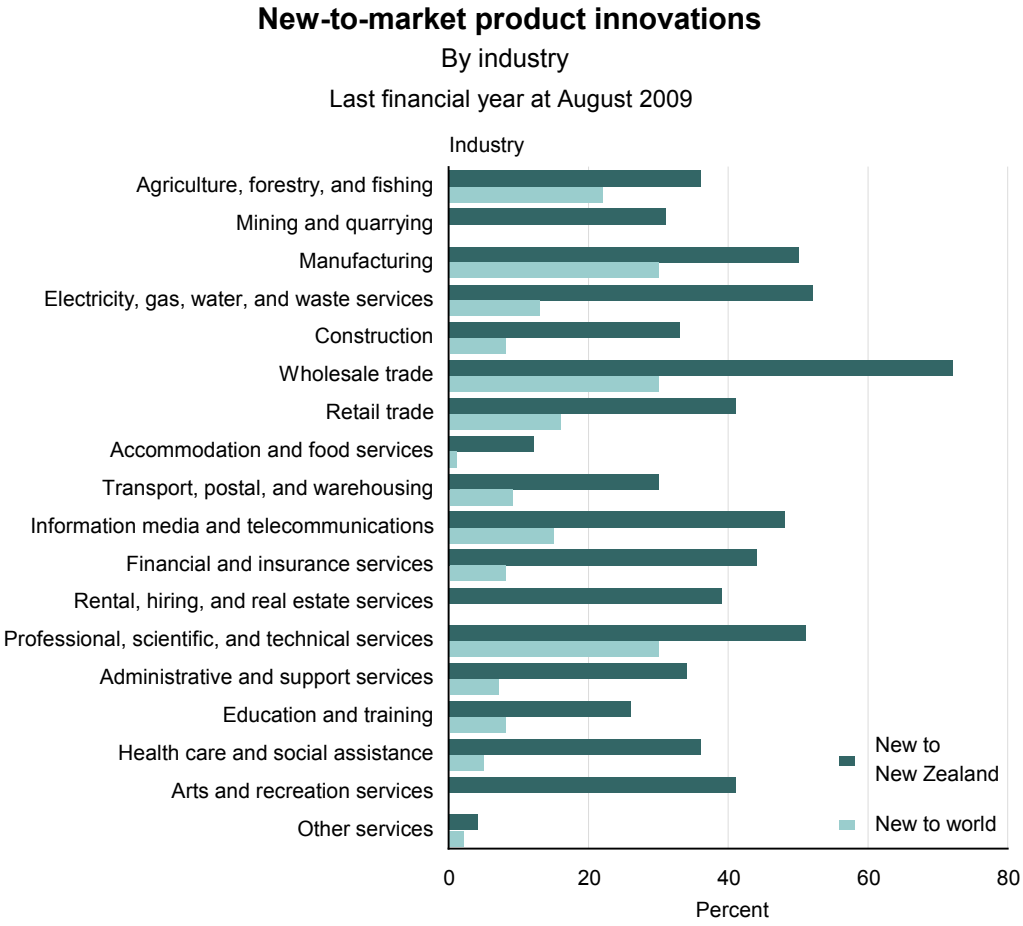
New-to-the-world product innovations

Nineteen percent of businesses had product innovations that were new to the world.

Three industries shared the highest rate (30 percent) of new-to-the-world product innovations:

- manufacturing
- wholesale trade
- professional, scientific, and technical services.

Figure 12.02



1. Percentage of businesses with product innovation.

Source: Statistics New Zealand

Because the nature of innovation is specific to businesses and industries, and not necessarily to business size, there is no pattern of increased new-to-the-world product innovation as business size increases.

The higher rate of new-to-New Zealand product innovations compared with new-to-the-world product innovations can be explained through markets. The New Zealand market is small compared with the world market, so the number of products is limited. Therefore, there is greater scope in the New Zealand market to create innovative products. New Zealand businesses may introduce products from overseas to the New Zealand market, so the products are therefore new to New Zealand. The world market has a greater product range, and therefore possibly more innovative products, so the scope to innovate something new to the world is limited.

13 Guide to interpreting the data

Consider the following factors when analysing the innovation results of the Business Operations Survey 2009.

Limitations of the data

Given the nature of the data collected, there are additional non-statistical limitations on the level of accuracy that the survey can provide. Respondents may not keep records in the form required for the survey, and some estimation may be required.

Comparisons with previous surveys

No changes were made to the innovation module of the Business Operations Survey between 2007 and 2009.

The 2007 survey was run as a duel sample to enable results to be collected and produced in accordance with both the 1996 and 2006 versions of the Australia New Zealand Standard Industrial Classification (ANZSIC). The 2009 survey was collected in accordance with the 2006 version only. *Innovation in New Zealand: 2009* presents results from questions that were in both the 2007 and 2009 surveys on an ANZSIC 2006 basis to allow the trends in results to be shown over this period.

For more information on the change, please see: Business Operations Survey: 2008, available from www.stats.govt.nz.

14 Information about the survey

Survey background

The New Zealand Government has a range of initiatives aimed at increasing New Zealand's economic growth rate above the Organisation for Economic Co-operation and Development (OECD) average and sustaining this higher growth performance over a number of years. For New Zealand's economic performance to be measured against these initiatives, a wide range of data on a variety of measures needs to be collected.

Because of the wide range of data needed, Statistics New Zealand has developed an integrated, modular survey – the Business Operations Survey – as a way of collecting the required information while minimising the reporting load for New Zealand businesses. The survey has been designed to include up to three 'modules' and has been run annually since 2005.

The main objective of the survey is to collect information on the operations of New Zealand businesses in order to quantify business behaviour, capacity, and performance. In addition, each module in the survey has its own specific objectives. The modules included in the Business Operations Survey 2009 and their objectives are listed below.

Module A: Business performance module

The objective of this module is to provide a longitudinal series of information relating to business performance.

Module B: Innovation module

The objectives of this module are to:

- provide information on the innovation characteristics of New Zealand private sector businesses that contributes to policy development which aids innovation
- understand the dynamics of innovative businesses.

The innovation module runs every two years, and replaced Statistics NZ's Innovation Survey, last run in 2003.

This module has been designed in accordance with OECD guidelines to develop understanding of the contribution of innovation to the New Zealand economy by measuring the following aspects:

- levels of firm innovation

- how and why firms collaborate with other firms and institutions in order to innovate
- factors affecting the ability of firms to innovate
- outcomes of innovation for firms, including its affect on exports.

Module C: Business practices module

This module collects data on a range of practices, some of which were collected in the Business Operations Survey 2005. In addition, questions relating to recent financing arrangements were also included to gain an understanding of the current situation.

Target population

The target population for the Business Operations Survey 2009 was live enterprise units on Statistics NZ's Business Frame that at the population selection date:

- were economically significant enterprises (those that have an annual GST turnover figure of greater than $30,000)
- had six or more employees
- had been operating for one or more years
- were classified to the Australian and New Zealand Standard Industrial Classification – New Zealand Version 2006 (ANZSIC06) codes listed as 'in scope' in List 1 (see below)
- were private enterprises as defined by New Zealand Institutional Sector 1996 Classification (NZISC96) (see 'List 2: NZISC96 codes').

An enterprise is defined as a business or service entity operating in New Zealand, such as a company, partnership, trust, government department or agency, state-owned enterprise, university, or self-employed individual.

The final estimated population size for the survey was 36,348 enterprises.

List 1: ANZSIC06 codes

In scope
ANZSIC06 code – description

A – Agriculture, forestry, and fishing
B – Mining and quarrying
C – Manufacturing
D – Electricity, gas, water, and waste services
E – Construction
F – Wholesale trade

G – Retail trade
H – Accommodation, cafes, and restaurants
I – Transport and storage
J – Information media and telecommunications
K – Financial and insurance services
L – Rental, hiring, and real estate services
M – Professional, scientific, and technical services
N – Administrative and support services
P – Education and training
Q – Health care and social assistance
R91 – Sport and recreation activities
R92 – Gambling activities
S94 – Repair and maintenance.

Out of scope
O – Public administration and safety
R89 – Heritage activities
R90 – Creative and performing arts activities
S95 – Personal and other services
S96 – Private household employing staff and undifferentiated goods and service producing activities of households for own use

List 2: NZISC96 codes

In scope
NZISC96 code – description
1111 – Private corporate producer enterprises
1121 – Private non-corporate producer enterprises
1211 – Producer boards
1311 – Central government enterprises
2211 – Private registered banks
2221 – Private other broad money (M3) depository organisations
2291 – Private other depository organisations nec
2311 – Private other financial organisations excluding insurance and pension funds
2411 – Private insurance and pension funds.

Out of scope
1321 – Local government enterprises
21 – Central bank

2212, 2213, 2222, 2223, 2292, 2293, 2312, 2313, 2412, 2413 – Central and local government financial intermediaries

3 – General government

4 – Private non-profit organisations serving households

5 – Households

6 – Rest of world

Sample design

The survey has been designed to produce aggregate statistics at a national level. This design does not allow statistics to be produced at a regional level.

Measurement errors

The Business Operations Survey 2009 results are subject to measurement errors, including both non-sample and sample errors. These errors should be considered when analysing the results from the survey.

Non-sample errors

Non-sample errors include mistakes respondents make when completing questionnaires, variation in the respondents' interpretation of the questions asked, and errors made during the processing of the data. In addition, the survey applied imputation methodologies to cope with non-respondents. Statistics NZ adopts procedures to minimise these types of error, but they may still occur and are not quantifiable.

Given the nature of the data collected, there are limitations on the level of accuracy that the survey can give. Many respondents do not keep separate accounts of their innovation expenditure, or records may not be kept in the form required for the survey and estimation may be required. Even though the questionnaire had detailed descriptions of what should and should not be included as innovation, there may still be differences in interpretation of what constitutes innovation and the nature of any cooperative arrangements with other businesses involved in the innovation process.

Sample errors

The estimates in this report are based on a sample of businesses. While this sample has been has been chosen to be representative of the overall business population, somewhat different figures might have been obtained if a complete census of the entire business population had been taken using the same questionnaire and processing methods etc. Because the estimates are based on a sample of businesses, all estimates have a sampling error associated with them. The variability of a survey estimate, due to the random nature of the sample selection process, is measured by its sampling errors.

Most of the tables of this release are percentages of the total number of businesses in New Zealand in each size and industry category. The absolute sampling errors for the businesses population are presented in the following table. The table should only be used on the overall estimates that are percentages of all businesses.

Table 14.01

Sample errors for Business Operations Survey 2009

Size of estimate	Sampling error for total population	Sampling error for innovators
1	0.4	0.6
2	0.6	0.8
3	0.7	1
5	1.0	1.2
10	1.3	1.7
20	1.8	2.3
30	2.0	2.6
50	2.2	2.8
70	2.0	2.6
80	1.8	2.3
90	1.3	1.7
95	1.0	1.2
97	0.7	1
98	0.6	0.8
99	0.4	0.6

The sampling errors provided above are measured at the 95 percent confidence level.

How to use sample errors:

For example, the estimated number of businesses with export sales in 2009 is 18 percent. This estimate is subject to a relative sampling error of approximately plus or minus 1.55. This means that 95 percent of the possible samples of the same size will produce an estimate between: 18 - 1.55 and 18 + 1.55, that is, between 16.45 and 19.55.

Sampling errors vary from estimate to estimate, and with population breakdown and size. Similar tables of sampling errors at a size and industry level for specific variables can be provided on request: email info@stats.govt.nz.

Response rate

The Business Operations Survey 2009 had an 80 percent response rate target. The survey achieved an actual response rate of 82.4 percent, which represented 5,603 businesses.

Non-response and imputation

Unit non-responses

Unit (or complete) non-response occurs when units in the sample do not return the questionnaire. Non-response is accounted for by adjusting the weights of the responding units.

Item non-responses

Item (or partial) non-response is when units return the questionnaire, but some questions are not answered. Here, imputation was carried out on the unanswered questions, but not if the respondent answered less than 60 percent of the questionnaire.

Imputation cells and merging

Units were assigned to imputation cells for the calculation and assignment of imputation factors. Imputation cells were based on industry and rolling mean employment. If an imputation cell did not have enough respondents within the cell, then it was merged before imputation, following a list of merging preferences until a sufficient number of responses were achieved.

Imputation of numeric variables

The imputation methods used were weighted mean imputation and donor imputation.

Using the weighted mean method, a weighted mean was calculated from linked responding units for each numeric line code within each imputation cell. Non-responding units were then imputed with the weighted mean for their imputation cell. Weighted mean imputation was used to impute totals.

Donor imputation randomly selected a donor from within each imputation cell. The non-respondent was then imputed with the value(s) from the donor. Donor imputation was used to impute components and percentages so that the distribution was maintained.

Imputation of categoric questions

For categoric imputation, the method used was nearest neighbour imputation, which involved finding a donor with the most similar responses across all categoric variables.

Unlinking

Influential responses were excluded from the imputation factor calculations for numeric variables. Three kinds of unlinking were used:

- automatic exclusion – due to logic, that is, unit was non-response (unit or item), specially treated or not required to answer that question
- automatic unlinking – due to influence, that is, units with undesirable influence on imputation factor calculations for a variable were automatically detected and unlinked for that variable (with the ability to manually decline this). The checks were carried out at the imputation cell level or merged imputation cell level and were done separately for each variable
- manual unlinking – due to influence, that is, additional units with undesirable influence on imputation factor calculations that were not automatically detected could be unlinked.

Special treatment

Special treatment candidates were identified as outliers . If a unit was specially treated then its final weight was set to 1 and it was unlinked for all imputation factor calculations. If a unit was not specially treated then its final weight was its adjusted weight.

15 Definitions

The Business Operations Survey was designed to collect data in accordance with the following definitions and terminology:

ANZSIC

Australian and New Zealand Standard Industrial Classification System – New Zealand Version 1996.

Business Frame

A register of all businesses operating in New Zealand.

Employees

The number of employees is defined by an enterprise's rolling mean employment (RME) count. RME is a 12-month moving average of the monthly employment count (EC) figure. The EC is obtained from taxation data.

Enterprise

A business or service entity operating in New Zealand. It can be a company, partnership, trust, estate, incorporated society, producer board, local or central government organisation, voluntary organisation, or self-employed individual.

Goods and services tax (GST)

Respondents are asked to exclude GST if possible in the financial figures provided in the questionnaire. If they did not, Statistics NZ takes out GST to make all enterprises comparable.

Last financial year

For the purpose of this survey, this refers to the last financial year for which the business had results available, as at August 2009, as entered on the questionnaire.

Innovation definitions

The innovation module of the survey is designed to collect innovation data in accordance with the definitions contained in the *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data* (2005). The manual is available from www.oecd.org. The following definitions relate specifically to the innovation module.

Innovation

For this survey, innovation is broadly defined. It includes the development or introduction of any new or significantly improved activity for the business. This includes products, processes, and methods that the business was the first to develop and those that have been adopted from other organisations.

For the Business Operations Survey 2009, an innovation is defined as the development or introduction of new or significantly improved:

- goods or services – this does not include the selling of new goods or services wholly produced and developed by other businesses
- operational processes – that is, methods of producing or distributing goods or services
- organisational/managerial processes – that is, significant changes in the business's strategies, structures, or routines
- marketing methods – this includes sales and marketing methods intended to increase the appeal of goods or services for specific market segments, or to gain entry to new markets.

Cooperative arrangement

A cooperative arrangement is active participation with another organisation or individual in activities for the purposes of innovation. This includes collaborative arrangements for the purposes of innovation. Each party should bring exclusive knowledge or expertise to the cooperation. Partners do not necessarily gain immediate commercial benefit from the cooperation. A cooperative arrangement does not include only contracting-out work, where there is no active cooperation.

16 References and further reading

References

Department of Innovation, Industry, Science and Research (2010). *Australian Innovation System Report 2010.* Canberra: Author. Available from www.innovation.gov.au.

Organisation for Economic Co-operation and Development (2005). *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data* (3rd ed). Paris: Author. Available from www.oecd.org.

Statistics New Zealand (2009). *Annual Enterprise Survey: 2008 financial year (provisional)*. Wellington: Author. Available from www.stats.govt.nz.

Further reading

For more information on topics or statistics included in this release.

Central Statistics Office (2010). *Community Innovation Survey 2006–2008.* Dublin: Stationary Office. Available from www.cso.ie.

Central Statistics Office (2010). *Eurostat Pocketbooks: Science, technology and innovation in Europe (*2009 ed). Luxembourg: Office for Official Publication of the European Communities. Available from epp.eurostat.ec.europa.eu.

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Statistics New Zealand (2009). *National Accounts: Year ended March 2009* Wellington: Author. Available from www.stats.govt.nz.

Statistics Finland (2010). *Innovation 2008.* Helsinki: Author. Available from www.stat.fi.

17 Detailed tables

The following tables detail all the results mentioned in *Innovation in New Zealand: 2009*. Most of the tables have breakdowns by business size and industry.

Note: For the Business Operations Survey, 'last financial year' or 'last two financial years' refers to the last year or two financial years for which the business had results available, as at August 2009, as entered on the questionnaire.

Table 1

Innovation in New Zealand

Last two financial years at August 2005, 2007, and 2009

	Percentage of all businesses[1]			
	2005[2]	2007[2]	2007[3]	2009[3]
Innovators[4]				
With implemented innovations	47	42	41	41
With ongoing or abandoned innovation activity	5	5	5	5
Total innovators	**52**	**47**	**46**	**46**
Non-innovators	48	53	54	54
Type of innovation[5]				
Goods or services	30	26	26	26
Operational processes	29	23	23	23
Organisational or managerial processes	31	27	26	26
Marketing methods	29	26	25	25
Businesses with cooperative arrangements	13	10	10	10

1. For more information on the businesses included, see chapter 14.
2. Results for 2005 and 2007 are presented on ANZSIC 1996 basis. For more information, see chapter 14.
3. Results for 2005 and 2007 are presented on ANZSIC 2006 basis. For more information, see chapter 14.
4. If a business has implemented an innovation, it is included under the 'Implemented' category, even if it has ongoing or abandoned innovations.
5. Percentages may add to over the stated total as business can perform more than one type of innovation.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Percentages may add to over the stated total as business can have both implemented, or ongoing or abandoned innovations.

Source: Statistics New Zealand

Table 2

Business activities

Last financial years at August 2005, 2006, 2007, 2008, and 2009

Activity	Percentage of all businesses[1]					
	2005[2]	2006[2]	2007[2]	2007[3]	2008[3]	2009[3]
Export sales	17	16	17	16	15	18
Investment in expansion	24	23	21	22	22	26
Research and development	8	7	7	7	7	8
Tourism sales	18	18	18	18	18	19

1. For more information on the businesses included, see chapter 14.
2. Results for 2005 and 2007 are presented on ANZSIC 1996 basis. For more information, see chapter 14.
3. Results for 2007 and 2009 are presented on ANZSIC 2006 basis. For more information, see chapter 14.
4. If a business has implemented an innovation, it is included under the 'Implemented' category, even if it has ongoing or abandonded innnovations.
5. Percentages may add to over the stated total as business can perform more than one type of innovation.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 3
Innovation rate in New Zealand
Last two financial years at August 2007 and 2009

	Total number of businesses[1]		Businesses with innovation activity						Businesses without innovation activity	
			Total innovation rate		Implemented		Ongoing or Abandonded			
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
			Percent[2]							
Business size[3]										
6–19 employees	26,316	26,817	42	43	38	38	5	5	58	57
20–49 employees	6,339	6,243	53	51	46	46	6	5	47	49
50–99 employees	1,758	1,749	60	59	54	53	6	6	40	41
100+ employees	1,467	1,539	67	64	61	59	6	5	33	36
Industry										
Agriculture	2,085	2,133	37	31	29	27	8	4	63	69
Commercial fishing	39	42	38	43	31	29	15	7	62	57
Forestry and logging	198	201	18	16	15	10	3	6	82	84
Agriculture, forestry, and fishing support services	717	756	29	37	23	33	6	4	71	63
Total agriculture, forestry, and fishing	**3,039**	**3,132**	**34**	**32**	**27**	**27**	**7**	**4**	**66**	**68**
Mining and quarrying	99	108	42	36	30	33	9	3	58	64
Food, beverage, and tobacco	897	942	60	53	52	50	8	4	40	47
Textile, clothing, footwear, and leather	429	393	57	58	50	48	7	10	43	42
Wood and paper product	651	570	50	44	44	38	6	5	50	56
Printing, publishing, and recorded media	333	330	59	54	57	48	3	5	41	46
Petroleum, coal, chemical, and associated product	471	414	64	66	57	58	7	9	36	34
Non-metallic mineral product	174	168	66	59	60	52	5	5	34	41
Metal product	975	954	57	58	49	51	7	7	43	42
Transport, and industrial machinery and equipment	861	894	54	58	50	53	4	4	46	42
Other machinery and equipment	210	228	73	75	67	70	7	5	27	25
Other manufacturing	438	396	59	61	56	58	2	4	41	39
Total manufacturing	**5,442**	**5,292**	**58**	**57**	**52**	**51**	**6**	**6**	**42**	**43**
Electricity, gas, water, and waste services	102	120	50	53	44	50	6	3	50	47
Construction	3,696	3,801	40	45	34	39	6	6	60	55
Machinery and equipment wholesaling	915	930	61	61	57	58	4	3	39	39
Other wholesale trade	2,049	2,028	56	54	53	52	3	2	44	46
Total wholesale trade	**2,961**	**2,958**	**57**	**56**	**54**	**54**	**3**	**3**	**43**	**44**
Retail trade	4,434	4,296	41	36	40	32	2	3	59	64
Accommodation and food services	3,975	4,260	35	47	31	39	4	8	65	53
Transport, postal, and warehousing	1,440	1,425	47	41	40	36	7	5	53	59
publishing,	156	132	63	45	52	39	10	7	37	55
Motion picture	129	129	60	63	53	60	5	0	40	37
Telecommunications	72	84	75	79	67	75	4	4	25	21
Total information media and telecommunications	**357**	**345**	**65**	**60**	**56**	**56**	**8**	**4**	**35**	**40**
Finance	216	153	56	49	51	45	6	4	44	51
Insurance	42	45	79	73	71	67	7	0	21	27
Auxiliary	324	303	58	49	53	44	6	5	42	51
Total financial and insurance services	**579**	**504**	**59**	**51**	**54**	**46**	**5**	**4**	**41**	**49**
Rental, hiring, and real estate services	948	927	46	48	40	43	6	5	54	52
Computer systems design	513	552	79	73	75	68	4	4	21	27
Other professional scientific	2,883	2,955	42	46	36	39	6	7	58	54
Total professional, scientific, and technical services	**3,393**	**3,504**	**48**	**50**	**42**	**44**	**6**	**6**	**52**	**50**
Administrative and support services	1,332	1,365	47	51	41	43	6	8	53	49
Education and training	648	699	51	47	44	42	7	5	49	53
Health care and social assistance	1,953	2,103	52	44	44	40	8	4	48	56
Arts and recreation services	444	483	64	47	61	43	1	4	36	53
Other services	1,032	1,032	31	32	26	28	5	4	69	68
Overall	**35,880**	**36,348**	**46**	**46**	**41**	**41**	**5**	**5**	**54**	**54**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all New Zealand businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total. Percentages may add to over the stated total as business can have both implemented, or ongoing or abandoned innovations.
Source: Statistics New Zealand

Table 4

New Zealand and Australian innovation characteristics

Characteristic	New Zealand[1]	Australia[2]
	Most reported response	
Industry with highest innovation rate	Information media and telecommunications	Information media and telecommunications
Hampering factor	Cost to develop or introduce	Lack of skilled personnel
Reason for innovation	Increase revenue	Competition, demand, and market-related drivers
Source of information for innovation	Existing staff	Within the business
Collaboration partner	Suppliers	Clients, customers, or buyers
Intellectual property protection method	Confidentiality agreements	Secrecy or confidentiality agreements

1. For more information on businesses included, see chapter 14.
2. Australian results include businesses with 0–5 employees, and exclude the agriculture industry. Results are the most recent available; those for 2004–2006.

Source: Statistics New Zealand

Table 5
Innovation activity
Last two financial years as at August 2007 and 2009

	Total number of businesses[1]		Innovation activity									
			Goods or services		Operational process		Organisational or managerial		Marketing method		Total innovation rate	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
			Percent[2]									
Business size[3]												
6–19 employees	26,316	26,817	23	25	20	21	23	24	23	24	42	43
20–49 employees	6,339	6,243	30	27	28	27	32	30	28	24	53	51
50–99 employees	1,758	1,749	35	33	37	34	38	36	29	32	60	59
100+ employees	1,467	1,539	41	37	41	41	40	41	30	33	67	64
Industry												
Agriculture	2,085	2,133	14	11	21	17	19	21	16	6	37	31
Commercial fishing	39	42	23	14	31	29	15	7	8	7	38	43
Forestry and logging	198	201	0	3	8	12	12	12	0	1	18	16
Agriculture, forestry, and fishing support services	717	756	17	19	18	20	13	23	12	10	29	37
Total agriculture, forestry, and fishing	**3,039**	**3,132**	**14**	**13**	**20**	**18**	**17**	**21**	**14**	**7**	**34**	**32**
Mining and quarrying	99	108	21	19	33	28	18	14	12	17	42	36
Food, beverage, and tobacco	897	942	42	36	34	31	28	25	29	35	60	53
Textile, clothing, footwear, and leather	429	393	36	42	28	31	31	24	33	27	57	58
Wood and paper product	651	570	26	23	32	32	27	25	19	24	50	44
Printing, publishing, and recorded media	333	330	34	25	43	35	30	21	36	28	59	54
Petroleum, coal, chemical, and associated product	471	414	56	54	36	43	29	32	37	30	64	66
Non-metallic mineral product	174	168	43	32	31	36	36	27	28	27	66	59
Metal product	975	954	39	38	31	33	27	28	22	25	57	58
Transport, and industrial machinery and equipment	861	894	41	42	26	30	31	34	28	27	54	58
Other machinery and equipment	210	228	63	64	34	42	33	38	29	43	73	75
Other manufacturing	438	396	45	44	32	34	33	34	32	32	59	61
Total manufacturing	**5,442**	**5,292**	**41**	**39**	**32**	**33**	**29**	**29**	**28**	**29**	**58**	**57**
Electricity, gas, water, and waste services	102	120	26	28	38	28	24	25	24	23	50	53
Construction	3,696	3,801	16	20	18	18	27	27	21	20	40	45
Machinery and equipment wholesaling	915	930	41	42	31	29	32	36	35	38	61	61
Other wholesale trade	2,049	2,028	41	32	23	25	27	24	29	28	56	54
Total wholesale trade	**2,961**	**2,958**	**41**	**35**	**25**	**26**	**29**	**27**	**31**	**31**	**57**	**56**
Retail trade	4,434	4,296	18	20	19	12	24	19	29	23	41	36
Accommodation and food services	3,975	4,260	19	31	17	27	19	29	24	36	35	47
Transport, postal, and warehousing	1,440	1,425	27	19	24	24	27	23	19	23	47	41
publishing,	156	132	54	27	27	20	25	20	29	23	63	45
Motion picture	129	129	42	28	23	37	33	37	30	40	60	63
Telecommunications	72	84	58	61	46	46	50	50	38	46	75	79
Total information media and telecommunications	**357**	**345**	**50**	**36**	**29**	**34**	**33**	**34**	**31**	**34**	**65**	**60**
Finance	216	153	33	20	38	24	36	37	36	35	56	49
Insurance	42	45	43	47	50	47	50	47	43	47	79	73
Auxiliary	324	303	30	28	33	34	35	31	25	24	58	49
Total financial and insurance services	**579**	**504**	**32**	**27**	**37**	**32**	**37**	**34**	**31**	**29**	**59**	**51**
Rental, hiring, and real estate services	948	927	31	26	27	25	31	31	32	34	46	48
Computer systems design	513	552	70	64	40	39	41	42	38	41	79	73
Other professional scientific	2,883	2,955	17	22	20	22	25	26	18	23	42	46
Total professional, scientific, and technical services	**3,393**	**3,504**	**25**	**29**	**23**	**25**	**27**	**29**	**21**	**25**	**48**	**50**
Administrative and support services	1,332	1,365	23	26	29	28	31	28	27	30	47	51
Education and training	648	699	31	31	27	24	33	28	34	25	51	47
Health care and social assistance	1,953	2,103	29	18	27	22	30	30	19	17	52	44
Arts and recreation services	444	483	37	29	31	18	39	28	49	34	64	47
Other services	1,032	1,032	12	15	12	15	17	22	17	18	31	32
Overall	**35,880**	**36,348**	**26**	**26**	**23**	**23**	**26**	**26**	**25**	**25**	**46**	**46**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all New Zealand businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Percentages may add to over the stated total as business can perform more than one type of innovation.

Source: Statistics New Zealand

Table 6
Development of innovations
By type of innovation
Last two financial years at August 2007 and 2009

Innovation type	Business with implemented innovations[1]		Developed by the business		Developed by business in partnership with others		Obtained from others and significant improvements made		Obtained from others and no significant improvements made	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
	Number		Percent[2]							
Product	6,975	6,873	56	58	27	27	17	17	19	15
Process	5,727	6,045	61	56	25	23	19	24	14	12
Organisational	7,869	8,091	68	66	24	23	15	17	7	7
Marketing	7,197	7,509	52	62	36	35	15	13	14	8

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all New Zealand businesses in each innovation category.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Percentages may add to over 100 percent as businesses may develop their innovations through several methods. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.

Source: Statistics New Zealand

Table 7
Innovation rate compared with gross domestic product

Industry	Total number of businesses[1]	Innovation rate	Percent contribution to GDP[3]
		Percent[2]	
Agriculture, forestry, and fishing	3,132	32	5
Mining and quarrying	108	36	1
Manufacturing	5,292	57	14
Electricity, gas, water, and waste services	120	53	3
Construction	3,801	45	5
Wholesale trade	2,958	56	7
Retail trade	4,296	36	6
Accommodation and food services	4,260	47	2
Transport, postal, and warehousing	1,425	41	4
Information media and telecommunications	345	60	3
Financial and insurance services	504	51	6
Rental, hiring, and real estate services	927	48	6
Professional, scientific, and technical services	3,504	50	
Administrative and support services	1,365	51	9
Education and training	699	47	4
Health care and social assistance	2,103	44	6
Arts and recreation services	483	47	2
Other services	1,032	32	1
Overall	**36,348**	**46**	**100**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all businessses in each business-size category.
3. Total contribution sourced from gross domestic product (GDP) figures for the year ended March 2009.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Contribution to GDP will not add to 100 percent as the Business Operations Survey does not inlcude the public administration and safety industry.
Source: Statistics New Zealand

Table 8
Sources of ideas or information for innovation
Last two financial years at August 2007 and 2009

Source	Percentage of innovating businesses[1]	
	2007	2009
Existing staff	73	74
Customers	60	61
New staff (those appointed in the last two years)	51	54
Professional advisors, consultants, banks, or accountants	47	46
Suppliers	50	46
Competitors and other businesses from the same industry	46	45
Conferences, trade shows, or exhibitions	49	44
Books, journals, patent disclosures, or Internet	43	44
Other businesses within the business group	31	32
Industry or employer organisations	32	28
Businesses from other industries	22	21
Government agencies	12	11
Universities or polytechnics	9	8
Crown research institutes (CRIs), other research institutes, or research associations	6	6

1. For more information on the businesses included, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Source: Statistics New Zealand

Table 9

Selected sources[1] of ideas or information for innovation

Last two financial years at August 2007 and 2009

	Businesses with innovation activity[2]		Source							
			Existing Staff		New staff		Universities or polytechnics		CRIs, other research institutes, or associations	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
	Number		Percent[3]							
Business size[4]										
6–19 employees	11,178	11,589	69	71	48	51	8	8	5	5
20–49 employees	3,336	3,174	79	77	53	55	8	9	7	5
50–99 employees	1,050	1,029	83	83	64	62	13	13	9	7
100+ employees	984	987	87	87	66	69	15	12	12	11
Industry										
Agriculture	768	666	71	53	37	40	13	18	25	31
Commercial fishing	15	18	100	67	80	33	20	0	40	17
Forestry and logging	36	33	42	64	17	55	0	45	0	45
Agriculture, forestry, and fishing support services	207	279	49	73	39	47	13	11	9	5
Total agriculture, forestry, and fishing	**1,026**	**996**	**66**	**59**	**37**	**42**	**13**	**17**	**21**	**23**
Mining	42	39	66	92	42	62	17	15	18	15
Food, beverage, and tobacco	534	501	74	74	43	50	9	8	10	11
Textile, clothing, footwear, and leather	246	228	78	71	50	45	2	5	6	5
Wood and paper product	327	252	72	63	36	35	11	7	6	7
Printing, publishing, and recorded media	198	177	83	61	32	42	3	3	2	2
Petroleum, coal, chemical, and associated product	303	273	71	80	47	41	8	18	7	14
Non-metallic mineral product	114	99	79	58	63	39	21	12	8	12
Metal product	552	555	66	75	36	43	8	11	1	3
Transport, and industrial machinery and equipment	465	516	83	77	34	45	6	5	1	1
Other machinery and equipment	153	171	80	86	53	58	24	18	10	7
Other manufacturing	258	243	76	73	38	43	6	7	3	0
Total manufacturing	**3,153**	**3,015**	**75**	**74**	**41**	**44**	**9**	**9**	**5**	**6**
Electricity, gas, water, and waste services	51	63	70	76	49	52	22	5	11	5
Construction	1,488	1,704	56	73	51	60	2	3	8	2
Machinery and equipment wholesaling	558	564	73	80	58	45	5	5	4	4
Other wholesale trade	1,140	1,104	80	71	52	43	6	4	4	12
Total wholesale trade	**1,698**	**1,671**	**78**	**74**	**54**	**43**	**6**	**5**	**4**	**9**
Retail trade	1,827	1,533	70	79	51	59	3	1	0	3
Accommodation and food services	1,401	2,013	64	69	62	56	9	4	9	3
Transport, postal, and warehousing	678	579	74	63	42	50	2	3	1	2
publishing,	99	60	85	80	58	60	6	10	3	5
Motion picture	78	81	65	78	46	59	12	4	0	4
Telecommunications	54	66	78	91	61	77	6	14	11	9
Total information media and telecommunications	**231**	**207**	**77**	**81**	**55**	**65**	**8**	**7**	**3**	**4**
Finance	120	75	85	80	70	64	3	12	3	8
Insurance	33	33	91	91	73	73	9	9	9	9
Auxiliary	189	147	86	88	52	65	5	0	0	0
Financial and insurance services	**339**	**255**	**87**	**85**	**63**	**66**	**4**	**6**	**1**	**5**
Rental, hiring, and real estate services	438	441	73	71	60	54	3	7	3	6
Computer systems design	405	402	98	92	61	64	10	6	4	7
Other professional scientific	1,209	1,356	76	78	50	63	17	22	7	7
Total professional, scientific, and technical services	**1,617**	**1,755**	**81**	**82**	**53**	**63**	**16**	**18**	**6**	**7**
Administrative and support services	624	696	71	68	58	55	12	7	12	6
Education and training	333	327	87	86	76	75	30	22	6	6
Health care and social assistance	1,008	927	81	80	63	61	18	15	5	2
Arts and recreation services	282	225	82	85	56	39	10	13	11	4
Other services	315	330	71	71	47	47	7	17	0	0
Overall	**16,545**	**16,776**	**73**	**74**	**51**	**54**	**9**	**8**	**6**	**6**

1. Selected as these were deemed to show greatest variation across business-size and industry categories.
2. For more information on the businesses included, see chapter 14.
3. Percentages are of all innovating New Zealand businesses in each business-size or industry category.
4. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.

Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 10a

Reasons for innovating

Last two financial years at August 2009

	Businesses with innovation activity[1]	Reason									
		Increase revenue	Increase productivity	Increase responsiveness to customers	Reduce costs	Increase market share	Establish / exploit new market opportunities	Improve work safety	Reduce environmental impact	Reduce energy consumption	Replace goods or services being phased out
	Number	Percent[2]									
Business size[3]											
6–19 employees	11,589	90	76	72	70	71	57	35	26	23	21
20–49 employees	3,174	90	79	74	74	76	60	40	30	24	24
50–99 employees	1,029	88	81	75	77	74	63	43	33	30	24
100+ employees	987	88	88	79	85	78	66	45	40	37	27
Industry											
Agriculture	666	90	85	19	80	33	36	50	56	30	14
Commercial fishing	18	83	100	17	83	50	33	50	67	50	0
Forestry and logging	33	100	91	9	73	18	45	100	82	55	0
Agriculture, forestry, and fishing support services	279	83	90	75	69	49	41	70	30	27	22
Total agriculture, forestry, and fishing	**996**	**88**	**87**	**34**	**76**	**38**	**38**	**57**	**49**	**30**	**15**
Mining and quarrying	39	92	92	69	92	46	62	77	69	54	23
Food, beverage, and tobacco	501	87	66	60	59	81	77	37	37	40	28
Textile, clothing, footwear, and leather	228	84	75	64	76	76	71	32	36	34	26
Wood and paper product	252	92	77	70	73	70	73	51	31	24	25
Printing, publishing, and recorded media	177	90	83	80	66	83	66	27	32	19	34
Petroleum, coal, chemical, and associated product	273	97	81	67	80	75	67	47	43	43	26
Non-metallic mineral product	99	82	82	64	82	82	58	61	24	21	6
Metal product	555	95	83	77	74	79	65	47	28	19	19
Transport, and industrial machinery and equipment	516	93	83	72	75	80	69	35	24	19	28
Other machinery and equipment	171	93	86	68	84	84	79	28	30	33	44
Other manufacturing	243	90	83	75	77	74	64	52	38	36	37
Total manufacturing	**3,015**	**91**	**79**	**70**	**73**	**78**	**69**	**41**	**32**	**28**	**27**
Electricity, gas, water, and waste services	63	86	71	67	71	67	71	52	57	33	10
Construction	1,704	90	86	67	81	67	51	55	26	23	7
Machinery and equipment wholesaling	564	96	75	81	79	85	70	28	21	17	38
Other wholesale trade	1,104	92	64	68	65	87	66	31	22	14	48
Total wholesale trade	**1,671**	**93**	**68**	**72**	**69**	**86**	**67**	**30**	**22**	**15**	**44**
Retail trade	1,533	92	76	79	68	82	53	26	20	16	29
Accommodation and food services	2,013	95	79	87	84	76	53	39	42	43	29
Transport, postal, and warehousing	579	84	82	75	81	66	53	55	42	45	18
publishing,	60	85	55	60	70	70	65	5	15	20	20
Motion picture	81	89	81	78	70	78	78	7	0	11	19
Telecommunications	66	95	86	77	77	86	73	14	18	23	41
Total information media and telecommunications	**207**	**88**	**74**	**72**	**72**	**77**	**72**	**10**	**12**	**16**	**25**
Finance	75	92	84	84	80	80	56	16	12	16	12
Insurance	33	82	82	82	82	82	73	9	36	18	18
Auxiliary	147	90	84	80	67	78	63	8	16	10	20
Total financial and insurance services	**255**	**89**	**82**	**81**	**73**	**80**	**61**	**12**	**16**	**13**	**19**
Rental, hiring, and real estate services	441	97	71	82	69	86	66	22	10	10	15
Computer systems design	402	93	66	74	57	81	79	6	10	13	32
Other professional scientific	1,356	88	80	77	59	63	60	14	18	15	13
Total professional, scientific, and technical services	**1,755**	**89**	**77**	**77**	**59**	**68**	**64**	**13**	**17**	**15**	**17**
Administrative and support services	696	81	81	70	70	74	65	31	20	18	13
Education and training	327	84	72	82	69	77	65	39	30	30	17
Health care and social assistance	927	75	68	80	52	55	43	48	14	13	6
Arts and recreation services	225	91	63	79	73	69	57	35	36	37	28
Other services	330	90	80	90	74	75	66	56	34	32	16
Overall	**16,776**	**90**	**78**	**73**	**72**	**72**	**59**	**37**	**28**	**24**	**22**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all innovating New Zealand businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.

Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 10b
Reasons for innovating
Last two financial years at August 2007

	Businesses with innovation activity[1]	Reason									
		Increase revenue	Increase productivity	Increase responsiveness to customers	Reduce costs	Increase market share	Establish / exploit new market opportunities	Improve work safety	Reduce environmental impact	Reduce energy consumption	Replace goods or services being phased out
	Number	Percent[2]									
Business size[3]											
6–19 employees	11,178	90	78	74	66	70	60	40	26	25	25
20–49 employees	3,336	89	81	76	74	73	59	38	27	22	28
50–99 employees	1,050	91	85	79	79	78	70	46	31	29	28
100+ employees	984	89	85	79	82	77	62	43	32	29	30
Industry											
Agriculture	768	91	88	43	73	48	59	47	46	43	24
Commercial fishing	15	100	60	20	80	60	40	20	0	20	0
Forestry and logging	36	83	92	25	92	17	0	75	67	17	17
Agriculture, forestry, and fishing support services	207	77	90	80	61	72	52	51	23	30	22
Total agriculture, forestry, and fishing	**1,026**	**88**	**88**	**49**	**71**	**52**	**56**	**49**	**42**	**39**	**23**
Mining and quarrying	42	88	75	62	80	71	65	62	59	41	18
Food, beverage, and tobacco	534	98	76	51	69	80	74	31	30	25	26
Textile, clothing, footwear, and leather	246	90	87	71	72	80	77	35	27	29	26
Wood and paper product	327	93	96	77	75	65	64	53	36	31	24
Printing, publishing, and recorded media	198	94	92	89	82	86	68	36	42	33	33
Petroleum, coal, chemical, and associated product	303	95	72	73	76	82	79	39	36	26	44
Non-metallic mineral product	114	89	82	58	84	84	74	66	42	26	26
Metal product	552	89	82	61	71	60	60	48	28	28	28
Transport, and industrial machinery and equipment	465	85	75	70	67	70	67	46	19	15	30
Other machinery and equipment	153	100	82	75	73	86	84	43	25	27	47
Other manufacturing	258	97	74	77	73	80	71	36	26	22	38
Total manufacturing	**3,153**	**92**	**81**	**68**	**72**	**75**	**70**	**42**	**30**	**26**	**31**
Electricity, gas, water, and waste services	51	83	81	68	75	73	71	49	56	33	20
Construction	1,488	89	87	85	82	65	55	73	37	33	22
Machinery and equipment wholesaling	558	95	75	81	72	85	80	39	23	15	46
Other wholesale trade	1,140	90	72	73	76	79	65	33	22	13	29
Total wholesale trade	**1,698**	**92**	**73**	**76**	**75**	**81**	**70**	**35**	**23**	**14**	**34**
Retail trade	1,827	96	73	74	72	81	55	33	18	35	24
Accommodation and food services	1,401	95	79	78	70	82	63	43	44	41	25
Transport, postal, and warehousing	678	90	84	86	70	70	52	44	42	36	31
publishing,	99	94	70	67	64	85	67	12	12	9	24
Motion picture	78	81	73	81	69	65	81	15	15	15	31
Telecommunications	54	94	72	89	83	89	78	17	17	11	39
Total information media and telecommunications	**231**	**90**	**71**	**77**	**70**	**78**	**73**	**12**	**14**	**12**	**28**
Finance	120	90	88	83	73	78	73	20	13	13	20
Insurance	33	82	82	82	73	73	64	9	18	9	27
Auxiliary	189	84	81	76	60	63	52	13	6	5	11
Total financial and insurance services	**339**	**87**	**84**	**80**	**68**	**70**	**61**	**17**	**10**	**7**	**17**
Rental, hiring, and real estate services	438	86	79	79	66	80	77	43	11	15	29
Computer systems design	405	95	65	72	51	86	84	4	7	4	39
Other professional scientific	1,209	86	80	83	61	60	49	16	12	7	17
Total professional, scientific, and technical services	**1,617**	**88**	**77**	**80**	**59**	**66**	**58**	**13**	**11**	**6**	**22**
Administrative and support services	624	87	81	84	71	77	54	38	23	25	23
Education and training	333	86	74	81	60	67	60	34	14	14	15
Health care and social assistance	1,008	69	79	82	42	43	47	48	17	14	16
Arts and recreation services	282	96	68	80	64	80	65	47	34	35	32
Other services	315	86	87	80	82	54	38	59	31	27	34
Overall	**16,545**	**90**	**79**	**75**	**69**	**71**	**61**	**40**	**27**	**25**	**26**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all innovating New Zealand businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 11
Operational process innovations required because of new goods or services
August 2007 and 2009

	Businesses with process innovation[1]		Operational process innovations required because of new goods or services	
			2007	2009
	2007	2009	Percent[2]	
Business size[3]				
6–19 employees	3,690	3,972	39	43
20–49 employees	1,131	1,173	41	30
50–99 employees	474	423	36	35
100+ employees	432	477	37	30
Industry				
Agriculture	297	231	22	18
Commercial fishing	9	6	0	50
Forestry and logging	12	15	0	20
Agriculture, forestry, and fishing support services	66	108	27	44
Total agriculture, forestry, and fishing	**387**	**363**	**24**	**26**
Mining and quarrying	18	21	33	43
Food, beverage, and tobacco	216	243	39	51
Textile, clothing, footwear, and leather	60	72	55	42
Wood and paper product	153	129	31	37
Printing, publishing, and recorded media	129	93	37	35
Petroleum, coal, chemical, and associated product	132	120	52	48
Non-metallic mineral product	39	51	46	35
Metal product	216	231	32	29
Transport, and industrial machinery and equipment	159	177	57	32
Other machinery and equipment	60	87	60	48
Other manufacturing	105	102	26	47
Total manufacturing	**1,263**	**1,308**	**41**	**40**
Electricity, gas, water, and waste services	30	27	40	44
Construction	330	450	18	32
Machinery and equipment wholesaling	201	189	43	49
Other wholesale trade	297	324	28	22
Total wholesale trade	**501**	**516**	**34**	**32**
Retail trade	576	369	31	22
Accommodation and food services	423	783	55	61
Transport, postal, and warehousing	210	294	19	52
publishing,	30	15	30	20
Motion picture	21	39	71	31
Telecommunications	27	33	78	64
Total information media and telecommunications	**78**	**87**	**54**	**41**
Finance	60	21	25	29
Insurance	15	18	40	33
Auxiliary	69	90	30	30
Total financial and insurance services	**144**	**129**	**29**	**35**
Rental, hiring, and real estate services	171	156	60	33
Computer systems design	183	168	56	32
Other professional scientific	474	414	44	45
Total professional, scientific, and technical services	**657**	**582**	**47**	**41**
Administrative and support services	273	285	43	34
Education and training	114	138	55	54
Health care and social assistance	321	384	48	26
Arts and recreation services	120	48	58	56
Other services	111	105	24	34
Overall	**5,727**	**6,045**	**39**	**39**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all New Zealand businesses in each business-size or industry category who performed process innovation.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.

Source: Statistics New Zealand

Table 12

Business performance indicators

Last financial year at August 2007 and 2009

	Total number of businesses[1]		Higher profitability than competitors		Higher productivity than competitors		Increase in sales		Increase in profitability		Increase in productivity		Increase in market share	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
			Percent[2]											
Innovators														
Implemented	14,700	14,862	20	23	31	32	65	49	47	35	47	40	38	32
Ongoing and abandoned	1,848	1,914	17	14	24	24	56	28	37	26	37	27	28	14
Overall innovators	**16,548**	**16,776**	**20**	**22**	**30**	**31**	**64**	**47**	**46**	**34**	**46**	**39**	**37**	**30**
Non-innovators	19,335	19,569	13	13	18	19	53	35	42	29	32	23	20	14
Overall	**35,883**	**36,345**	**16**	**17**	**24**	**25**	**58**	**41**	**44**	**31**	**38**	**30**	**28**	**21**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all New Zealand businesses in each innovation category.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 13
Assessment of performance
Last two financial years at August 2009

Measures	Degree of focus when assessing performance				
	Not at all	A little amount	A moderate amount	A great deal	Don't know
	Percent[1]				
Financial	3	6	23	66	3
Cost	4	10	30	53	3
Operational	11	17	33	34	5
Quality	7	17	31	41	4
Innovation	20	31	28	15	6
Human resources	8	25	40	23	4

1. Percentages are of all New Zealand businesses. For more information on the businesses included, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 14
Innovation expenditure
Last financial year at August 2007 and 2009

	Number of employees[1]				Product development expenditure $NZ (000)			
	Average per business		Total		Average per business		Total	
	2007	2009	2007	2009	2007	2009	2007	2009
Business size[2]								
6–19 employees	11	10	277,500	277,500	19	26	497,035	710,550
20–49 employees	30	30	190,200	187,800	100	49	631,645	307,144
50–99 employees	70	69	122,700	121,200	147	175	259,095	305,899
100+ employees	381	380	558,200	584,100	706	749	1,035,031	1,152,893
Industry								
Agriculture	16	16	33,100	34,700	5	10	11,221	22,179
Commercial fishing	13	13	520	560	S	S	S	S
Forestry and logging	16	15	3,100	3,100	S	S	C	S
Agriculture, forestry, and fishing support services	24	21	17,500	15,800	49	16	35,178	12,402
Total agriculture, forestry, and fishing	18	17	54,200	54,200	16	12	47,510	36,147
Mining and quarrying	42	43	4,200	4,600	253	530	25,079	57,226
Food, beverage, and tobacco	90	84	81,100	78,800	220	181	197,375	170,108
Textile, clothing, footwear, and leather	33	30	14,200	11,600	576	49	247,125	19,166
Wood and paper product	39	40	25,700	22,800	20	35	13,104	19,820
Printing, publishing, and recorded media	26	28	8,500	9,200	15	196	4,857	64,820
Petroleum, coal, chemical, and associated product	47	51	22,100	21,000	209	250	98,307	103,704
Non-metallic mineral product	41	44	7,100	7,400	77	120	13,451	20,228
Metal product	30	26	29,000	24,700	119	118	115,722	112,919
Transport, and industrial machinery and equipment	26	25	22,400	22,700	67	103	57,720	92,482
Other machinery and equipment	60	53	12,700	12,100	393	691	82,561	157,571
Other manufacturing	21	19	9,000	7,500	35	32	15,260	12,609
Total manufacturing	43	41	231,900	217,900	155	146	845,482	773,429
Electricity, gas, water, and waste services	65	65	6,600	7,700	247	142	25,156	16,885
Construction	21	22	77,300	82,900	18	7	68,142	28,417
Wholesale trade	28	30	84,100	90,100	147	112	434,321	332,244
Retail trade	37	38	165,200	163,200	70	72	308,247	307,247
Accommodation and food services	24	22	95,700	95,000	8	19	30,139	80,425
Transport, postal, and warehousing	52	52	74,600	74,200	26	40	36,801	56,763
publishing,	53	80	8,200	10,500	67	142	10,394	18,771
Motion picture	46	65	5,900	8,400	45	73	5,844	9,438
Telecommunications	208	158	15,000	13,300	495	830	35,652	69,708
Total information media and telecommunications	**82**	**93**	**29,100**	**32,200**	**145**	**284**	**51,890**	**97,917**
Finance	94	181	20,400	27,700	283	666	61,122	101,949
Insurance	162	218	6,800	9,800	555	603	23,314	27,123
Auxiliary	27	30	8,700	9,000	117	44	38,016	13,264
Total financial and insurance services	62	92	35,700	46,600	211	282	122,452	142,336
Rental, hiring, and real estate services	19	20	18,000	18,200	28	13	26,992	12,463
Computer systems design	27	27	13,800	15,000	229	370	117,269	204,045
Other professional scientific	25	25	72,500	73,300	58	71	166,262	209,987
Total professional, scientific, and technical services	**25**	**25**	**86,200**	**88,200**	**84**	**118**	**283,532**	**414,032**
Administrative and support services	61	58	80,800	78,800	15	41	19,361	55,319
Education and training	25	27	16,100	18,800	47	16	30,638	11,270
Health care and social assistance	31	33	61,200	68,500	6	19	11,420	40,239
Arts and recreation services	34	35	15,100	17,000	121	25	53,756	11,856
Other services	12	12	12,600	12,500	2	2	1,888	2,273
Innovators								
Innovators	42	41	697,200	696,100	125	131	2,071,717	2,201,689
Non-innovators	23	24	451,400	474,600	18	14	351,090	274,798
Overall	**32**	**32**	**1,148,700**	**1,170,700**	**68**	**68**	**2,422,807**	**2,476,487**

1. For more information on the businesses included, see chapter 14.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.

Symbols

S Suppressed
C Confidential

Source: Statistics New Zealand

Table 15
Innovation expenditure per employee
Last two financial years at August 2007 and 2009

	Businesses that invested[2]		Innovation expenditure per employee[1] $NZ(000)											
			0–1,000		1,001–2,000		2,001–3,000		3,001–4,000		4,001–5,000		5,001 or more	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
			Percent[3]											
Business size[4]														
6–19 employees	6,153	6,939	40	42	20	16	10	10	5	6	3	4	21	23
20–49 employees	2,028	1,962	51	53	16	13	7	6	5	4	3	5	18	20
50–99 employees	684	666	50	45	14	15	9	8	4	8	5	4	18	21
100+ employees	675	654	54	49	13	13	7	9	7	5	3	4	17	20
Industry														
Agriculture	522	399	51	56	32	26	7	5	1	1	5	6	5	7
Commercial fishing	12	9	75	33	25	0	0	0	0	0	0	0	25	0
Forestry and logging	9	12	67	25	33	0	0	0	33	25	0	25	0	25
Agriculture, forestry, and fishing support services	135	132	67	57	24	14	0	7	0	2	0	2	9	18
Total agriculture, forestry, and fishing	**675**	**549**	**55**	**56**	**30**	**22**	**5**	**5**	**1**	**1**	**4**	**6**	**6**	**10**
Mining and quarrying	18	21	33	43	17	14	0	0	0	0	0	0	50	29
Food, beverage, and tobacco	399	450	59	40	8	25	8	3	7	5	2	2	17	26
Textile, clothing, footwear, and leather	177	174	41	34	15	17	10	7	8	14	3	2	22	19
Wood and paper product	183	147	54	43	28	14	11	8	0	0	0	14	7	18
Printing, publishing, and recorded media	117	90	51	50	23	23	13	13	8	3	3	0	5	10
Petroleum, coal, chemical, and associated product	270	252	34	24	14	14	8	11	9	6	9	7	26	37
Non-metallic mineral product	78	72	35	42	15	21	19	4	8	0	0	8	27	25
Metal product	315	318	45	40	14	13	8	6	6	8	3	4	25	29
Transport, and industrial machinery and equipment	363	402	36	26	16	10	4	10	2	10	7	4	36	40
Other machinery and equipment	126	141	29	21	12	13	7	9	7	2	0	11	43	45
Other manufacturing	207	171	46	40	12	19	20	9	3	5	0	4	16	23
Total manufacturing	**2,235**	**2,220**	**44**	**35**	**14**	**16**	**9**	**7**	**6**	**6**	**4**	**5**	**23**	**29**
Electricity, gas, water, and waste services	27	30	22	40	11	20	0	0	11	0	0	10	33	30
Construction	732	975	59	70	25	15	7	4	2	7	0	0	7	4
Wholesale trade	1,083	1,140	24	36	19	14	14	6	11	4	5	8	27	31
Retail trade	909	801	39	27	23	9	6	18	8	6	2	2	23	37
Accommodation and food services	822	1,125	64	64	19	18	4	10	0	2	0	0	14	6
Transport, postal, and warehousing	357	252	62	58	11	25	9	2	0	1	7	1	9	13
publishing,	72	45	50	40	13	13	17	13	8	13	4	7	8	13
Motion picture	42	48	43	44	21	19	7	6	7	6	0	0	14	25
Telecommunications	42	42	21	14	14	14	7	7	14	7	7	0	43	50
Total information media and telecommunications	**156**	**138**	**38**	**30**	**13**	**17**	**12**	**9**	**8**	**9**	**2**	**2**	**23**	**28**
Finance	84	54	18	33	14	11	14	11	11	6	7	6	36	28
Insurance	18	24	33	38	0	13	17	13	0	13	0	0	50	25
Auxiliary	81	90	26	20	22	27	0	3	7	17	0	3	48	27
Total financial and insurance services	**186**	**165**	**23**	**27**	**16**	**18**	**8**	**9**	**8**	**13**	**3**	**4**	**42**	**29**
Rental, hiring, and real estate services	246	237	32	37	12	19	20	3	12	6	0	6	24	29
Computer systems design	279	351	10	13	11	9	13	11	0	3	0	8	65	56
Other professional scientific	579	915	30	43	13	6	10	10	12	9	10	9	24	24
Total professional, scientific, and technical services	**858**	**1,266**	**23**	**35**	**13**	**6**	**11**	**10**	**9**	**7**	**7**	**8**	**37**	**33**
Administrative and support services	381	399	50	50	11	12	13	10	7	5	7	5	13	20
Education and training	210	258	36	55	31	15	1	20	4	1	7	1	21	9
Health care and social assistance	336	393	80	47	11	21	6	13	0	11	0	0	3	8
Arts and recreation services	174	135	36	44	16	18	7	2	2	11	5	0	34	22
Other services	126	117	69	64	21	26	10	10	0	0	0	0	0	3
Innovators														
Innovators	7,581	8,166	41	42	18	15	10	9	5	6	4	4	22	23
Non-innovators	1,956	2,058	57	55	18	15	5	7	6	4	1	2	13	17
Overall	**9,540**	**10,221**	**44**	**45**	**18**	**15**	**9**	**9**	**5**	**5**	**3**	**4**	**20**	**22**

1. For 2009, a different source of rolling mean employment (RME) has been used to that in previous publications.
2. For more information on the businesses included, see chapter 14.
3. Percentages are of all New Zealand businesses in each business-size or industry category that invested.
4. Defined by RME count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.
Source: Statistics New Zealand

Table 16
Innovation expenditure by type
Last financial year at August 2007 and 2009

	Businesses that invested[1]		Expenditure as a percentage of total product development spend							
			R&D(2)		Design		Marketing		Other	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
Business size[3]										
6–19 employees	6,153	6,939	13	19	26	16	50	19	11	46
20–49 employees	2,028	1,962	22	56	30	10	43	26	5	8
50–99 employees	684	666	35	46	11	7	42	35	12	12
100+ employees	675	654	43	44	4	9	44	31	9	17
Industry										
Agriculture	522	399	44	52	9	3	33	36	13	9
Commercial fishing	12	9	95	90	0	1	2	2	3	7
Forestry and logging	9	12	99	92	0	0	0	0	0	8
Agriculture, forestry, and fishing support services	135	132	59	65	0	1	15	2	25	32
Total agriculture, forestry, and fishing	**675**	**549**	**57**	**58**	**2**	**2**	**19**	**23**	**22**	**17**
Mining and quarrying	18	21	99	99	1	0	0	1	0	0
Food, beverage, and tobacco	399	450	53	35	7	5	30	48	10	14
Textile, clothing, footwear, and leather	177	174	2	47	71	22	26	18	2	13
Wood and paper product	183	147	25	36	12	13	44	25	19	26
Printing, publishing, and recorded media	117	90	12	1	40	97	33	2	15	1
Petroleum, coal, chemical, and associated product	270	252	53	41	4	25	37	16	6	18
Non-metallic mineral product	78	72	12	10	5	2	63	41	20	47
Metal product	315	318	55	43	3	5	10	6	32	45
Transport, and industrial machinery and equipment	363	402	56	45	16	28	17	17	10	11
Other machinery and equipment	126	141	87	76	4	5	7	12	1	7
Other manufacturing	207	171	37	24	23	32	24	25	16	18
Total manufacturing	**2,235**	**2,220**	**40**	**43**	**26**	**19**	**24**	**21**	**10**	**17**
Electricity, gas, water, and waste services	27	30	59	28	S	S	22	66	C	S
Construction	732	975	8	25	78	21	8	16	6	38
Machinery and equipment wholesaling	411	390	32	41	2	4	56	49	10	6
Other wholesale trade	672	753	8	29	5	10	76	52	11	9
Total wholesale trade	**1,083**	**1,140**	**13**	**32**	**4**	**8**	**72**	**51**	**11**	**8**
Retail trade	909	801	0	5	17	4	81	21	2	70
Accommodation and food services	822	1,125	3	1	10	10	78	23	9	66
Transport, postal, and warehousing	357	252	13	22	S	C	65	50	S	S
publishing,	72	45	24	6	32	22	38	70	6	2
Motion picture	42	48	32	10	5	2	38	82	26	6
Telecommunications	42	42	39	52	3	29	53	4	5	16
Total information media and telecommunications	**156**	**138**	**36**	**39**	**9**	**25**	**48**	**24**	**7**	**12**
Financial and insurance services	186	165	26	21	8	2	58	29	8	48
Rental, hiring, and real estate services	246	237	9	13	10	13	77	72	4	1
Computer systems design	279	351	80	84	1	4	9	8	9	4
Other professional scientific	579	915	57	52	7	12	26	31	11	5
Total professional, scientific, and technical services	**858**	**1,266**	**67**	**68**	**5**	**8**	**19**	**20**	**10**	**5**
Administrative and support services	381	399	23	43	6	2	65	48	6	8
Education and training	210	258	17	26	7	5	72	53	4	16
Health care and social assistance	336	393	8	43	3	4	26	24	63	28
Arts and recreation services	174	135	9	17	8	4	81	72	2	7
Other services	126	117	1	27	8	18	84	41	7	14
Innovators										
Innovators	7,581	8,166	34	39	16	9	40	27	10	26
Non-innovators	1,956	2,058	5	35	17	26	75	33	3	5
Overall	**9,540**	**10,221**	**30**	**38**	**16**	**11**	**45**	**27**	**9**	**23**

1. For more information on the businesses included, see chapter 14.
2. Research and development.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.

Symbols

S Suppressed
C Confidential

Source: Statistics New Zealand

Table 17

Businesses with research and developmnet or innovation activities

August 2007 and 2009

	Total number of businesses[1]		Businesses with R&D[2] activity[3]		Businesses with innovation activity[4]	
	2007	2009	2007	2009	2007	2009
			Percent[5]			
Business size[6]						
6–19 employees	26,316	26,817	5	6	42	43
20–49 employees	6,339	6,243	9	10	53	51
50–99 employees	1,758	1,749	12	14	60	59
100+ employees	1,467	1,539	17	20	67	64
Industry						
Agriculture	2,085	2,133	8	9	37	31
Commercial fishing	39	42	15	14	38	43
Forestry and logging	198	201	3	4	18	16
Agriculture, forestry, and fishing support services	717	756	5	4	29	37
Total agriculture, forestry, and fishing	**3,039**	**3,132**	**7**	**8**	**34**	**32**
Mining and quarrying	99	108	11	11	42	36
Food, beverage, and tobacco	897	942	17	17	60	53
Textile, clothing, footwear, and leather	429	393	8	19	57	58
Wood and paper product	651	570	10	10	50	44
Printing, publishing, and recorded media	333	330	6	6	59	54
Petroleum, coal, chemical, and associated product	471	414	24	43	64	66
Non-metallic mineral product	174	168	28	20	66	59
Metal product	975	954	14	14	57	58
Transport, and industrial machinery and equipment	861	894	24	26	54	58
Other machinery and equipment	210	228	37	38	73	75
Other manufacturing	438	396	18	14	59	61
Total manufacturing	**5,442**	**5,292**	**17**	**20**	**58**	**57**
Electricity, gas, water, and waste services	102	119	10	10	50	53
Construction	3,696	3,801	3	4	40	45
Wholesale trade	2,961	2,958	9	12	57	56
Retail trade	4,434	4,296	1	2	41	36
Accommodation and food services	3,975	4,260	1	3	35	47
Transport, postal, and warehousing	1,440	1,425	3	2	47	41
publishing,	156	132	10	9	63	45
Motion picture	129	129	9	9	60	63
Telecommunications	72	84	17	29	75	79
Total information media and telecommunications	**357**	**345**	**11**	**15**	**65**	**60**
Finance	216	153	10	6	56	49
Insurance	42	45	14	13	79	73
Auxiliary	324	303	7	6	58	49
Total financial and insurance services	**579**	**504**	**8**	**7**	**59**	**51**
Rental, hiring, and real estate services	948	927	3	6	46	48
Computer systems design	513	552	33	41	79	73
Other professional scientific	2,883	2,955	7	8	42	46
Total professional, scientific, and technical services	**3,393**	**3,504**	**11**	**13**	**48**	**50**
Administrative and support services	1,332	1,365	5	5	47	51
Education and training	648	699	8	10	51	47
Health care and social assistance	1,953	2,103	2	2	52	44
Arts and recreation services	444	483	5	5	64	47
Other services	1,032	1,032	0	2	31	32
Innovators						
Innovators	16,548	16,776	12	14	100	100
Non-innovators	19,335	19,572	2	2	0	0
Overall	**35,880**	**36,348**	**7**	**8**	**46**	**46**

1. For more information on the businesses included, see chapter 14.
2. Research and development.
3. Includes the buying abroad of technical knowledge or information. Last financial year at August 2009.
4. Last two financial years at August 2009.
5. Percentages are of New Zealand businesses in each business-size or industry category.
6. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.

Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 18.1a
Activities to support innovation
Last financial year at August 2009

	Activity				
	Acquisition of machinery and equipment	Acquisition of computer hardware and software	Acquisition of other knowledge	Implementing new business strategies or management techniques	Organisational restructuring
	Percent[1]				
Business size[2]					
6–19 employees	16	20	6	14	8
20–49 employees	16	22	7	17	11
50–99 employees	22	28	9	22	14
100+ employees	28	34	15	25	17
Industry					
Agriculture	19	16	9	11	5
Commercial fishing	14	14	0	7	7
Forestry and logging	18	10	1	6	6
Agriculture, forestry, and fishing support services	21	17	10	15	8
Total agriculture, forestry, and fishing	19	16	8	12	6
Mining and quarrying	28	22	6	11	8
Food, beverage, and tobacco	23	15	10	17	14
Textile, clothing, footwear, and leather	18	14	6	12	9
Wood and paper product	22	15	4	12	8
Printing, publishing, and recorded media	30	26	6	15	5
Petroleum, coal, chemical, and associated product	36	17	13	9	11
Non-metallic mineral product	20	11	7	9	7
Metal product	20	14	10	15	14
Transport, and industrial machinery and equipment	23	23	9	16	12
Other machinery and equipment	38	41	17	32	17
Other manufacturing	21	24	9	20	8
Total manufacturing	24	19	9	15	11
Electricity, gas, water, and waste services	25	18	3	20	10
Construction	19	15	5	14	9
Wholesale trade	11	23	5	11	9
Retail trade	9	20	3	10	6
Accommodation and food services	19	20	4	18	11
Transport, postal, and warehousing	20	24	6	14	10
publishing,	5	23	11	18	11
Motion picture	28	35	12	18	18
Telecommunications	26	55	29	37	26
Total information media and telecommunications	18	36	15	23	17
Finance	12	23	10	25	21
Insurance	7	41	14	27	20
Auxiliary	7	25	13	21	12
Total financial and insurance services	8	25	12	23	16
Rental, hiring, and real estate services	17	25	5	21	11
Computer systems design	19	48	21	36	13
Other professional scientific	11	27	9	15	6
Total professional, scientific, and technical services	12	30	11	18	7
Administrative and support services	11	23	7	18	12
Education and training	18	31	10	23	15
Health care and social assistance	18	26	8	17	9
Arts and recreation services	19	18	3	12	10
Other services	25	23	6	13	12
Innovators					
Innovators	29	36	12	30	18
Non-innovators	7	9	2	2	2
Overall	**17**	**21**	**7**	**15**	**9**

1. For more information on the businesses included, see chapter 14. Percentages are of all New Zealand businesses in each business-size or industry category.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 18.1b
Activities to support innovation
Last financial year at August 2009

	Activity				
	Design	Marketing the introduction of new goods or services	Market research	Significant changes to marketing strategies	Employee training
	Percent[1]				
Business size[2]					
6–19 employees	9	14	8	8	20
20–49 employees	8	13	9	8	22
50–99 employees	10	20	12	11	25
100+ employees	12	24	19	13	28
Industry					
Agriculture	3	4	2	1	16
Commercial fishing	7	7	0	0	7
Forestry and logging	0	1	0	0	19
Agriculture, forestry, and fishing support services	2	9	2	2	30
Total agriculture, forestry, and fishing	3	5	2	1	19
Mining and quarrying	6	6	6	3	28
Food, beverage, and tobacco	19	28	18	14	20
Textile, clothing, footwear, and leather	18	16	12	12	14
Wood and paper product	7	12	8	5	13
Printing, publishing, and recorded media	18	18	3	12	23
Petroleum, coal, chemical, and associated product	14	17	11	10	20
Non-metallic mineral product	5	14	9	7	20
Metal product	14	15	11	6	15
Transport, and industrial machinery and equipment	25	21	12	13	23
Other machinery and equipment	35	38	25	24	31
Other manufacturing	32	28	11	10	16
Total manufacturing	19	20	12	11	19
Electricity, gas, water, and waste services	5	13	8	8	18
Construction	6	10	7	6	22
Wholesale trade	10	22	11	8	18
Retail trade	5	9	5	5	17
Accommodation and food services	9	17	9	10	18
Transport, postal, and warehousing	3	5	8	6	24
publishing,	18	20	16	7	14
Motion picture	9	16	14	16	18
Telecommunications	22	26	22	18	44
Total information media and telecommunications	**17**	**20**	**17**	**12**	**23**
Finance	6	12	12	14	21
Insurance	7	20	34	27	27
Auxiliary	6	20	11	12	20
Total financial and insurance services	6	18	13	14	20
Rental, hiring, and real estate services	9	25	16	16	26
Computer systems design	23	33	26	13	36
Other professional scientific	10	15	9	10	25
Total professional, scientific, and technical services	**12**	**18**	**11**	**10**	**26**
Administrative and support services	4	13	10	11	20
Education and training	12	20	15	11	41
Health care and social assistance	4	12	6	8	26
Arts and recreation services	6	16	13	12	17
Other services	4	9	2	6	30
Innovators					
Innovators	17	30	18	17	35
Non-innovators	2	1	1	1	10
Overall	**9**	**14**	**9**	**8**	**21**

1. For more information on the businesses included, see chapter 14. Percentages are of all New Zealand businesses in each business-size or industry category.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 18.2a
Activities to support innovation
Last financial year at August 2007

	Activity				
	Acquisition of machinery and equipment	Acquisition of computer hardware and software	Acquisition of other knowledge	Implementing new business strategies or management techniques	Organisational restructuring
	Percent[1]				
Business size[2]					
6–19 employees	14	18	5	14	9
20–49 employees	21	26	8	20	15
50–99 employees	27	33	12	24	17
100+ employees	27	38	12	27	18
Industry					
Agriculture	19	19	12	19	12
Commercial fishing	16	0	8	0	0
Forestry and logging	20	17	0	6	3
Agriculture, forestry, and fishing support services	16	16	10	10	8
Total agriculture, forestry, and fishing	18	18	11	16	10
Mining and quarrying	27	18	3	12	3
Food, beverage, and tobacco	25	15	7	12	7
Textile, clothing, footwear, and leather	22	28	10	13	14
Wood and paper product	23	19	6	12	9
Printing, publishing, and recorded media	37	33	7	24	16
Petroleum, coal, chemical, and associated product	25	20	11	13	10
Non-metallic mineral product	31	22	16	26	16
Metal product	18	18	6	13	8
Transport, and industrial machinery and equipment	25	30	15	16	15
Other machinery and equipment	33	38	23	26	16
Other manufacturing	23	26	8	16	12
Total manufacturing	24	23	10	15	11
Electricity, gas, water, and waste services	35	21	12	24	15
Construction	15	10	2	9	7
Wholesale trade	17	22	6	21	14
Retail trade	13	23	2	18	14
Accommodation and food services	12	16	4	11	7
Transport, postal, and warehousing	13	26	2	17	7
publishing,	13	38	15	17	19
Motion picture	30	35	7	16	14
Telecommunications	41	53	32	28	20
Total information media and telecommunications	**26**	**40**	**16**	**19**	**17**
Finance	11	27	11	27	14
Insurance	7	48	0	27	14
Auxiliary	6	28	7	26	17
Total financial and insurance services	8	28	9	26	16
Rental, hiring, and real estate services	17	18	4	18	14
Computer systems design	9	42	16	30	18
Other professional scientific	14	22	7	15	6
Total professional, scientific, and technical services	**13**	**25**	**8**	**17**	**8**
Administrative and support services	12	24	7	22	14
Education and training	18	31	16	25	15
Health care and social assistance	20	24	6	18	10
Arts and recreation services	26	28	9	36	23
Other services	17	22	1	10	6
Innovators					
Innovators	28	35	12	32	20
Non-innovators	7	9	1	3	2
Overall	**17**	**21**	**6**	**16**	**11**

1. For more information on the businesses included, see chapter 14. Percentages are of all New Zealand businesses in each business-size or industry category.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 18.2b
Activities to support innovation
Last financial year at August 2007

	Activity				
	Design	Marketing the introduction of new goods or services	Market research	Significant changes to marketing strategies	Employee training
	Percent[1]				
Business size[2]					
6–19 employees	7	13	8	7	23
20–49 employees	9	15	8	8	25
50–99 employees	13	20	13	12	29
100+ employees	12	23	20	12	33
Industry					
Agriculture	3	7	5	8	24
Commercial fishing	0	8	8	0	8
Forestry and logging	0	0	3	2	26
Agriculture, forestry, and fishing support services	4	10	2	5	21
Total agriculture, forestry, and fishing	3	8	4	7	23
Mining and quarrying	6	6	3	3	21
Food, beverage, and tobacco	18	22	18	14	22
Textile, clothing, footwear, and leather	17	15	9	6	20
Wood and paper product	11	12	11	6	22
Printing, publishing, and recorded media	16	22	9	10	23
Petroleum, coal, chemical, and associated product	17	26	19	14	22
Non-metallic mineral product	14	22	12	17	21
Metal product	17	14	7	6	16
Transport, and industrial machinery and equipment	24	18	9	5	22
Other machinery and equipment	31	26	23	9	30
Other manufacturing	30	21	12	6	16
Total manufacturing	19	19	12	9	21
Electricity, gas, water, and waste services	6	15	9	9	15
Construction	4	5	4	2	21
Wholesale trade	10	24	16	13	27
Retail trade	5	17	9	11	27
Accommodation and food services	5	11	4	3	12
Transport, postal, and warehousing	1	11	7	5	26
publishing,	21	29	19	10	19
Motion picture	9	21	9	16	30
Telecommunications	24	41	28	20	49
Total information media and telecommunications	19	28	18	14	29
Finance	10	18	15	13	24
Insurance	7	34	34	27	48
Auxiliary	1	15	7	7	20
Total financial and insurance services	5	17	12	10	23
Rental, hiring, and real estate services	10	19	15	12	30
Computer systems design	25	39	26	18	40
Other professional scientific	8	10	6	7	26
Total professional, scientific, and technical services	11	14	9	8	28
Administrative and support services	9	14	10	9	23
Education and training	3	20	18	15	35
Health care and social assistance	3	11	7	2	27
Arts and recreation services	14	27	22	22	34
Other services	4	13	7	1	29
Innovators					
Innovators	16	28	18	15	38
Non-innovators	1	2	1	1	12
Overall	**8**	**14**	**9**	**8**	**24**

1. For more information on the businesses included, see chapter 14. Percentages are of all New Zealand businesses in each business-size or industry category.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 19a
Methods for protecting intellectual property
Last financial year at August 2009

	Method							
	Confidentiality agreement	Trademark	Copyright	Reaching the market first	Secrecy	Patent	Registration of design	Complexity[1]
	Percent[2]							
Business size[3]								
6–19 employees	26	15	9	9	8	5	5	5
20–49 employees	33	23	10	11	10	9	6	6
50–99 employees	44	34	16	15	14	16	7	6
100+ employees	54	47	23	15	16	22	11	8
Industry								
Agriculture	14	9	2	9	6	6	3	2
Commercial fishing	21	14	0	14	0	7	0	0
Forestry and logging	13	1	0	3	3	1	0	0
Agriculture, forestry, and fishing support services	12	2	1	6	5	1	2	2
Total agriculture, forestry, and fishing	**13**	**7**	**2**	**8**	**5**	**5**	**2**	**2**
Mining and quarrying	31	19	11	11	8	14	6	6
Food, beverage, and tobacco	39	42	10	20	17	15	10	10
Textile, clothing, footwear, and leather	25	27	11	18	21	9	8	6
Wood and paper product	26	17	6	10	15	8	6	11
Printing, publishing, and recorded media	31	13	7	22	14	6	6	11
Petroleum, coal, chemical, and associated product	44	43	17	24	23	33	12	12
Non-metallic mineral product	39	32	11	14	21	21	9	13
Metal product	31	21	16	11	14	22	13	4
Transport, and industrial machinery and equipment	40	24	13	15	25	15	11	8
Other machinery and equipment	53	32	21	28	21	29	22	14
Other manufacturing	23	23	17	17	24	11	8	11
Total manufacturing	**35**	**28**	**13**	**17**	**19**	**16**	**10**	**9**
Electricity, gas, water, and waste services	33	15	5	8	15	5	3	5
Construction	25	8	5	7	8	3	2	8
Machinery and equipment wholesaling	49	35	22	21	22	29	18	9
Other wholesale trade	31	35	15	13	13	16	3	5
Total wholesale trade	**37**	**35**	**17**	**16**	**16**	**20**	**8**	**6**
Retail trade	23	17	7	3	6	3	5	1
Accommodation and food services	17	21	9	5	3	3	4	0
Transport, postal, and warehousing	22	11	4	7	8	3	2	5
publishing,	27	27	36	5	11	5	7	2
Motion picture	51	33	28	21	16	2	2	5
Telecommunications	57	43	14	21	29	18	4	18
Total information media and telecommunications	**43**	**33**	**27**	**14**	**17**	**7**	**4**	**8**
Finance	43	39	12	14	10	8	8	6
Insurance	53	60	27	13	20	13	7	13
Auxiliary	46	22	14	12	9	6	4	6
Total financial and insurance services	46	30	14	12	10	7	5	7
Rental, hiring, and real estate services	39	30	16	11	14	8	11	3
Computer systems design	70	40	38	17	25	13	8	27
Other professional scientific	45	14	17	8	10	7	5	8
Total professional, scientific, and technical services	**49**	**18**	**21**	**10**	**13**	**8**	**5**	**11**
Administrative and support services	40	20	9	8	10	3	3	7
Education and training	42	25	27	16	6	2	4	4
Health care and social assistance	36	9	4	5	6	1	2	3
Arts and recreation services	28	29	12	6	4	5	4	3
Other services	17	10	6	5	6	6	4	5
Innovators								
Innovators	40	26	16	13	17	11	7	9
Non-innovators	20	13	5	6	3	4	3	2
Overall	**29**	**19**	**10**	**10**	**9**	**7**	**5**	**5**

1. Goods or services too complex to copy.
2. Percentages are of all New Zealand businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14. For more information on the businesses included, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.

Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 19b
Methods for protecting intellectual property
Last financial year at August 2007

	Method							
	Confidentiality agreement	Trademark	Copyright	Secrecy	Reaching the market first	Patent	Registration of design	Complexity[1]
	Percent[2]							
Business size[3]								
6–19 employees	24	14	9	8	8	6	4	5
20–49 employees	33	22	14	12	14	11	6	5
50–99 employees	45	33	18	15	15	17	9	8
100+ employees	55	48	26	18	18	24	13	9
Industry								
Agriculture	15	13	6	11	7	8	2	5
Commercial fishing	0	0	0	8	0	0	8	0
Forestry and logging	14	6	3	5	2	3	2	3
Agriculture, forestry, and fishing support services	15	7	1	11	5	5	1	1
Total agriculture, forestry, and fishing	**15**	**11**	**5**	**11**	**6**	**7**	**2**	**4**
Mining and quarrying	33	18	9	12	3	15	6	6
Food, beverage, and tobacco	45	40	11	13	16	15	9	6
Textile, clothing, footwear, and leather	27	34	9	20	20	8	13	3
Wood and paper product	18	13	10	18	16	12	7	6
Printing, publishing, and recorded media	31	11	9	10	11	5	6	6
Petroleum, coal, chemical, and associated product	50	45	20	20	21	39	20	13
Non-metallic mineral product	43	28	19	12	31	24	5	5
Metal product	30	26	17	11	17	16	11	6
Transport, and industrial machinery and equipment	29	21	13	15	18	17	10	9
Other machinery and equipment	47	37	24	21	29	39	14	14
Other manufacturing	21	12	12	14	23	14	15	8
Total manufacturing	**33**	**27**	**14**	**15**	**18**	**17**	**11**	**7**
Electricity, gas, water, and waste services	32	12	6	9	9	9	3	6
Construction	21	5	3	9	7	1	2	2
Machinery and equipment wholesaling	47	37	23	18	16	26	17	7
Other wholesale trade	29	39	18	12	17	16	10	6
Total wholesale trade	**34**	**38**	**19**	**14**	**17**	**19**	**12**	**6**
Retail trade	24	16	8	6	5	6	5	4
Accommodation and food services	17	19	11	4	5	6	3	3
Transport, postal, and warehousing	33	9	6	6	7	4	5	4
publishing,	37	42	54	13	31	10	4	6
Motion picture	35	30	44	14	14	7	2	5
Telecommunications	67	33	29	21	25	17	4	17
Total information media and telecommunications	**42**	**37**	**45**	**14**	**23**	**10**	**3**	**7**
Finance	44	36	18	14	10	14	11	4
Insurance	71	36	43	7	14	7	14	14
Auxiliary	48	21	11	11	13	5	4	5
Total financial and insurance services	**49**	**28**	**16**	**12**	**12**	**8**	**7**	**5**
Rental, hiring, and real estate services	37	20	12	12	13	6	6	3
Computer systems design	70	36	44	25	30	18	4	25
Other professional scientific	36	10	10	13	8	4	4	4
Total professional, scientific, and technical services	**41**	**14**	**15**	**15**	**12**	**6**	**4**	**8**
Administrative and support services	36	19	11	9	11	4	5	7
Education and training	36	21	24	3	9	4	6	7
Health care and social assistance	30	8	6	7	6	0	2	6
Arts and recreation services	22	16	11	9	23	6	4	7
Other services	15	6	6	3	6	5	2	6
Innovators								
Innovators	39	25	16	15	17	12	8	8
Non-innovators	19	11	7	6	4	4	3	3
Overall	**28**	**18**	**11**	**10**	**10**	**8**	**5**	**5**

1. Goods or services too complex to copy.
2. Percentages are of all New Zealand businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14. For more information on the businesses included, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 20
Businesses with cooperative arrangements
Last two financial years at August 2007 and 2009

Partner	Businesses with cooperative arrangements[1]							
	Overall		Located in New Zealand only		Located overseas only		Located both in New Zealand and overseas	
	2007	2009	2007	2009	2007	2009	2007	2009
	Percent[2]							
Suppliers	14	15	9	11	2	3	3	1
Customers	12	12	9	10	1	1	1	1
Competitors and other businesses from the same industry	9	8	7	6	1	1	1	1
Other businesses within the business group	10	9	7	6	3	2	1	1
Businesses from other industries	7	7	5	6	1	1	0	0
Universities and polytechnics	4	4	3	3	1	1	0	0
CRIs, other research institutes, or research associations	4	4	3	3	1	1	0	0

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all innovating New Zealand businesses.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.

Due to rounding, some figures may not sum to stated total.

Source: Statistics New Zealand

Table 21a
Reasons for cooperative arrangements
Last two financial years at August 2009

	Innovating businesses with co-operative arrange-ments	Reason										
		Access new markets	Share costs	Access R&D[2]	Access new distri-bution channels	Access produc-tion proces-ses	Access work pract-ices	Access manan-gement skills	Access new supp-liers	Spread risk	Other	Access financial resour-ces
	Number[1]	Percent[3]										
Business size[4]												
6–19 employees	2,274	47	44	32	31	31	27	27	24	23	21	13
20–49 employees	726	41	26	38	29	31	33	31	21	17	30	8
50–99 employees	267	38	43	40	30	30	36	35	21	20	18	15
100+ employees	327	37	45	50	32	36	33	35	26	25	19	18
Industry												
Agriculture	132	32	59	45	59	32	36	50	36	34	5	16
Commercial fishing	3	0	0	0	100	0	0	0	0	0	0	100
Forestry and logging	9	0	33	67	67	100	0	67	33	0	0	0
Agriculture, forestry, and fishing support services	39	62	31	15	46	31	0	31	46	23	38	38
Total agriculture, forestry, and fishing	**186**	**34**	**50**	**37**	**52**	**35**	**26**	**47**	**37**	**31**	**11**	**19**
Mining and quarrying	6	50	0	50	0	0	0	0	0	0	0	0
Food, beverage, and tobacco	108	58	33	39	39	33	47	42	25	33	33	28
Textile, clothing, footwear, and leather	36	33	50	17	42	8	25	58	33	42	17	0
Wood and paper product	63	43	33	67	57	14	38	71	33	14	19	5
Printing, publishing, and recorded media	36	33	42	33	42	8	8	58	8	8	0	0
Petroleum, coal, chemical, and associated product	90	37	13	33	63	10	20	50	17	7	10	13
Non-metallic mineral product	21	29	29	43	57	57	14	71	0	29	0	29
Metal product	141	60	36	30	43	38	28	53	17	32	11	4
Transport, and industrial machinery and equipment	153	51	12	16	45	18	35	45	10	27	4	20
Other machinery and equipment	54	67	11	39	50	17	33	28	22	17	11	11
Other manufacturing	54	61	11	39	44	11	28	33	17	17	11	0
Total manufacturing	**765**	**50**	**25**	**32**	**47**	**23**	**31**	**48**	**18**	**24**	**12**	**13**
Electricity, gas, water, and waste services	15	40	60	40	20	60	40	60	40	60	40	20
Construction	150	46	46	30	28	14	2	28	28	10	28	50
Machinery and equipment wholesaling	123	29	20	37	63	17	5	32	27	24	2	2
Other wholesale trade	252	51	19	30	51	23	29	40	6	6	2	18
Total wholesale trade	**375**	**44**	**19**	**31**	**54**	**22**	**22**	**38**	**12**	**12**	**3**	**13**
Retail trade	255	68	11	92	9	11	61	24	39	60	6	5
Accommodation and food services	276	27	9	28	20	5	28	24	2	11	23	49
Transport, postal, and warehousing	162	28	33	20	4	56	26	26	13	19	0	56
publishing,	9	0	33	0	0	0	33	67	33	0	33	33
Motion picture	18	33	33	33	17	33	33	50	0	17	33	0
Telecommunications	21	71	29	43	29	14	29	29	14	29	14	29
Total information media and telecommunications	**45**	**47**	**33**	**40**	**20**	**27**	**27**	**40**	**20**	**20**	**20**	**20**
Finance	27	22	33	33	11	33	33	22	11	22	22	33
Insurance	9	33	67	33	33	67	100	33	33	67	33	33
Auxiliary	78	38	15	50	23	50	54	27	12	27	27	27
Total financial and insurance services	**114**	**37**	**24**	**42**	**24**	**47**	**50**	**24**	**13**	**29**	**24**	**29**
Rental, hiring, and real estate services	129	40	56	88	33	56	51	12	56	35	33	23
Computer systems design	135	60	13	51	47	36	36	27	24	13	7	11
Other professional scientific	429	45	28	39	54	31	36	22	27	13	7	31
Total professional, scientific, and technical services	**567**	**49**	**24**	**42**	**52**	**32**	**36**	**23**	**26**	**13**	**7**	**25**
Administrative and support services	117	38	38	59	23	54	36	26	51	33	28	18
Education and training	102	44	71	47	41	41	32	35	12	32	18	9
Health care and social assistance	213	32	42	20	14	46	10	21	11	23	3	20
Arts and recreation services	48	69	13	31	19	38	25	0	0	38	0	6
Other services	69	48	52	39	9	70	17	4	0	30	17	30
Overall	**3,594**	**44**	**40**	**36**	**31**	**31**	**30**	**29**	**23**	**22**	**22**	**12**

1. For more information on the businesses included, see chapter 14.
2. Research and development.
3. Percentages are of all innovating New Zealand businesses who have cooperative arrangements in each business-size or industry category.
4. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.

Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested. **Source:** Statistics New Zealand

Table 21b
Reasons for cooperative arrangements
Last two financial years at August 2007

	Innovating businesses with co-operative arrange-ments	Reason										
		Access new markets	Access manan-gement skills	Share costs	Access R&D[2]	Access work pract-ices	Access new distri-bution channels	Access produc-tion proces-ses	Spread risk	Access new supp-liers	Access financial resour-ces	Other
	Number[1]	Percent[3]										
Business size[4]												
6–19 employees	2,418	44	45	40	34	37	30	24	25	24	22	16
20–49 employees	780	40	33	27	36	38	23	23	19	20	12	21
50–99 employees	309	41	39	47	45	35	25	37	22	18	17	16
100+ employees	327	33	39	51	49	29	32	34	28	23	15	16
Industry												
Agriculture	195	32	58	77	62	60	45	57	55	34	40	2
Commercial fishing	6	50	50	50	50	100	50	0	50	0	50	0
Forestry and logging	6	50	100	0	0	50	0	0	0	0	0	0
Agriculture, forestry, and fishing support services	57	21	32	11	63	53	21	32	26	5	5	16
Total agriculture, forestry, and fishing	**258**	**31**	**55**	**63**	**62**	**59**	**40**	**52**	**50**	**27**	**32**	**3**
Mining and quarrying	12	25	0	0	50	25	25	50	0	25	0	25
Food, beverage, and tobacco	114	42	42	34	53	21	29	29	16	3	16	13
Textile, clothing, footwear, and leather	60	45	30	40	75	20	15	30	30	30	25	0
Wood and paper product	81	22	33	70	41	44	48	26	30	19	56	11
Printing, publishing, and recorded media	36	42	25	17	17	42	25	67	0	25	8	0
Petroleum, coal, chemical, and associated product	102	47	21	29	74	18	26	32	15	29	9	12
Non-metallic mineral product	30	60	30	20	50	10	30	20	30	30	0	0
Metal product	189	22	38	46	27	30	22	56	10	29	17	10
Transport, and industrial machinery and equipment	156	60	17	23	71	19	19	46	21	15	2	19
Other machinery and equipment	54	33	17	22	50	17	11	28	17	17	0	17
Other manufacturing	30	40	0	10	20	40	10	0	0	10	0	30
Total manufacturing	**846**	**40**	**29**	**35**	**51**	**25**	**24**	**39**	**17**	**21**	**15**	**12**
Electricity, gas, water, and waste services	12	25	25	50	75	25	50	25	25	25	25	0
Construction	315	70	71	33	22	60	16	19	54	21	47	17
Machinery and equipment wholesaling	183	46	36	54	48	33	36	13	11	54	23	13
Other wholesale trade	210	27	14	39	51	21	49	21	9	34	9	3
Total wholesale trade	**390**	**35**	**24**	**46**	**50**	**28**	**42**	**18**	**10**	**43**	**15**	**8**
Retail trade	261	41	20	38	10	25	56	13	26	29	10	21
Accommodation and food services	162	22	67	52	52	28	30	22	11	15	46	24
Transport, postal, and warehousing	126	14	69	43	31	45	19	24	33	19	10	36
publishing,	27	0	22	33	22	11	11	22	11	0	22	33
Motion picture	15	20	20	60	60	40	0	40	0	0	20	0
Telecommunications	15	80	40	60	80	40	80	40	40	40	0	0
Total information media and telecommunications	**60**	**25**	**27**	**40**	**43**	**23**	**23**	**26**	**17**	**10**	**16**	**21**
Finance	36	42	50	50	33	42	50	25	25	17	25	8
Insurance	12	50	50	25	25	0	50	25	25	25	0	25
Auxiliary	45	20	60	27	20	40	47	27	7	20	0	7
Total financial and insurance services	**90**	**25**	**25**	**45**	**45**	**20**	**20**	**25**	**20**	**10**	**15**	**20**
Rental, hiring, and real estate services	144	48	60	75	29	46	40	48	48	50	21	13
Computer systems design	138	46	17	52	48	13	37	15	24	9	22	11
Other professional scientific	324	53	55	20	35	56	19	15	20	1	3	24
Total professional, scientific, and technical services	**465**	**50**	**44**	**30**	**39**	**43**	**25**	**15**	**21**	**3**	**8**	**21**
Administrative and support services	198	47	42	42	24	39	23	14	24	24	24	21
Education and training	93	61	42	29	19	19	23	16	16	32	16	39
Health care and social assistance	279	27	46	15	13	46	11	22	15	11	13	28
Arts and recreation services	75	68	16	40	16	12	24	0	12	20	16	20
Other services	57	53	37	16	5	42	0	11	5	42	0	26
Overall	**3,837**	**42**	**42**	**39**	**36**	**36**	**29**	**26**	**24**	**23**	**19**	**17**

1. For more information on the businesses included, see chapter 14.
2. Research and development.
3. Percentages are of all innovating New Zealand businesses who have cooperative arrangements in each business-size or industry category.
4. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.
Source: Statistics New Zealand

Table 22
Innovation-related cooperation activities
Last two financial years at August 2007 and 2009

	Businesses with cooperative arrangements[1]		Activity											
			Joint marketing or distribution		Joint training		Joint R&D[2]		Joint prototype development		Other		Joint production	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
	Percent[3]													
Business size[4]														
6–19 employees	2,418	2,271	59	55	23	24	28	29	24	22	37	35	18	25
20–49 employees	780	729	45	47	23	21	33	36	25	31	36	36	24	30
50–99 employees	309	264	46	48	23	20	45	40	26	30	39	36	21	18
100+ employees	327	327	42	52	30	24	46	44	36	38	35	39	20	22
Industry														
Agriculture	195	132	58	52	31	89	63	55	18	25	31	34	14	32
Commercial fishing	6	3	50	0	50	100	50	100	50	0	50	0	0	0
Forestry and logging	6	12	0	25	0	0	0	50	0	0	0	75	50	75
Agriculture, forestry, and fishing support services	57	39	0	23	5	23	37	38	5	54	16	77	53	31
Total agriculture, forestry, and fishing	258	183	47	44	26	69	58	49	17	28	28	48	24	33
Mining and quarrying	12	6	25	0	0	0	25	50	50	50	0	50	25	0
Food, beverage, and tobacco	114	111	63	46	24	8	42	32	26	16	45	11	8	43
Textile, clothing, footwear, and leather	60	36	20	42	20	25	55	50	40	33	10	17	5	8
Wood and paper product	81	63	63	24	56	33	67	24	44	43	33	38	4	0
Printing, publishing, and recorded media	36	36	33	67	50	17	25	42	17	17	33	50	8	0
Petroleum, coal, chemical, and associated product	102	90	32	17	38	20	82	70	44	47	9	13	12	20
Non-metallic mineral product	30	21	30	14	20	14	30	71	50	14	20	43	0	29
Metal product	189	141	33	40	37	19	35	38	43	57	29	32	21	15
Transport, and industrial machinery and equipment	156	153	63	47	31	43	54	55	62	43	25	16	6	10
Other machinery and equipment	54	57	11	47	22	16	61	63	50	37	11	5	11	21
Other manufacturing	30	54	10	33	10	44	10	28	40	50	40	6	30	6
Total manufacturing	846	762	42	39	33	26	50	45	44	40	26	20	11	17
Electricity, gas, water, and waste services	12	15	50	20	25	40	50	40	25	20	0	60	0	40
Construction	315	150	38	66	18	30	21	28	7	34	70	64	18	60
Machinery and equipment wholesaling	183	120	79	40	11	33	39	45	30	45	57	38	10	10
Other wholesale trade	210	252	80	68	20	17	37	32	19	25	33	23	9	33
Total wholesale trade	390	375	79	58	16	22	39	35	24	32	45	26	8	26
Retail trade	261	252	91	95	10	17	8	6	6	4	17	62	14	1
Accommodation and food services	162	273	72	79	13	22	17	2	11	2	69	15	15	24
Transport, postal, and warehousing	126	162	43	35	31	6	29	6	31	13	40	37	12	54
publishing,	27	9	11	33	33	0	11	0	22	0	0	33	44	33
Motion picture	15	18	60	67	20	67	40	33	60	33	20	17	20	17
Telecommunications	15	21	60	57	20	29	40	43	40	29	40	29	20	14
Total information media and telecommunications	60	45	35	60	25	40	25	47	35	27	10	20	30	27
Finance	36	27	67	44	25	22	33	22	17	22	33	11	33	44
Insurance	12	9	50	67	0	33	25	0	0	33	25	33	50	33
Auxiliary	45	78	53	62	27	19	7	19	13	15	40	42	27	27
Total financial and insurance services	90	114	63	61	27	21	17	21	13	18	40	34	30	34
Rental, hiring, and real estate services	144	126	79	88	40	24	10	29	0	7	48	60	23	36
Computer systems design	138	135	41	47	20	40	54	47	61	42	15	11	9	18
Other professional scientific	324	429	41	36	28	8	39	64	39	40	36	23	35	31
Total professional, scientific, and technical services	465	564	41	39	26	16	43	61	45	40	29	20	26	27
Administrative and support services	198	117	56	69	24	18	21	21	20	33	36	38	24	41
Education and training	93	105	58	46	23	11	3	29	10	20	39	57	35	11
Health care and social assistance	279	216	46	26	25	31	12	11	23	11	45	82	33	19
Arts and recreation services	75	48	72	88	0	13	20	13	20	6	20	31	12	6
Other services	57	69	26	52	0	4	5	0	0	0	42	65	63	17
Overall	**3,837**	**3,594**	**54**	**53**	**24**	**23**	**32**	**32**	**26**	**26**	**37**	**36**	**19**	**25**

1. For more information on the businesses included, see chapter 14.
2. Research and development.
3. Percentages are of all New Zealand businesses with cooperative arrangements in each business-size or industry category.
4. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.
Source: Statistics New Zealand

Table 23
Factors hampering innovation activity
Last two financial years at August 2007 and 2009

Factor	Hampering degree						Did not hamper	
	High		Medium		Low			
	2007	2009	2007	2009	2007	2009	2007	2009
	Percent[1]							
Costs to develop or introduce	17	19	20	21	14	13	49	46
Lack of management resources (eg time)	18	15	23	20	18	18	41	48
Government regulation	13	9	13	10	16	15	58	66
Lack of appropriate personnel	12	8	21	17	20	21	47	54
Lack of marketing expertise	5	5	13	14	23	20	60	61
Lack of information	3	3	11	10	23	24	62	63
Lack of cooperation with other businesses	2	3	7	6	20	19	71	72
Access to intellectual property rights	2	1	4	3	15	13	80	82

1. For more information on businesses included, see chapter 14. Percentages are of all New Zealand businesses.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 24a
Factors hampering innovation activity to a high degree
Last two financial years at August 2009

	Factor							
	Costs to develop or introduce	Lack of management resources	Government regulation	Lack of appropriate personnel	Lack of marketing expertise	Lack of information	Lack of cooperation with other businesses	Access to intellectual property rights
	Percent[1]							
Business size[2]								
6–19 employees	19	15	9	8	5	3	3	1
20–49 employees	20	15	9	9	4	4	2	1
50–99 employees	20	11	7	7	3	2	3	1
100+ employees	19	11	7	9	3	2	2	1
Industry								
Agriculture	8	19	3	12	2	3	3	0
Commercial fishing	14	36	7	21	14	7	7	7
Forestry and logging	10	22	4	0	0	0	0	0
Agriculture, forestry, and fishing support services	12	15	6	14	4	3	2	3
Total agriculture, forestry, and fishing	**9**	**19**	**4**	**11**	**3**	**3**	**2**	**1**
Mining and quarrying	6	14	0	14	3	0	0	3
Food, beverage, and tobacco	14	18	11	10	5	3	3	6
Textile, clothing, footwear, and leather	14	27	10	8	8	3	2	4
Wood and paper product	15	21	8	3	6	5	5	2
Printing, publishing, and recorded media	19	30	5	0	5	1	0	0
Petroleum, coal, chemical, and associated product	18	25	13	6	4	4	1	2
Non-metallic mineral product	13	27	11	7	7	2	2	0
Metal product	16	22	12	5	5	5	1	0
Transport, and industrial machinery and equipment	18	36	9	10	9	4	3	3
Other machinery and equipment	25	34	8	9	8	3	1	3
Other manufacturing	19	25	9	5	6	4	2	2
Total manufacturing	**17**	**26**	**10**	**7**	**6**	**4**	**2**	**2**
Electricity, gas, water, and waste services	13	25	8	18	0	3	3	0
Construction	13	13	9	10	7	3	3	1
Wholesale trade	10	19	8	7	3	4	1	0
Retail trade	13	17	8	6	6	3	0	1
Accommodation and food services	21	24	12	15	7	5	5	2
Transport, postal, and warehousing	5	16	3	4	2	2	5	0
publishing,	18	18	7	2	5	0	0	0
Motion picture	7	19	7	2	2	0	2	5
Telecommunications	14	39	11	7	7	7	4	7
Total information media and telecommunications	**13**	**23**	**8**	**3**	**4**	**2**	**1**	**3**
Finance	4	20	4	14	2	2	4	4
Insurance	13	13	7	7	0	0	7	0
Auxiliary	16	12	4	5	2	1	3	0
Total financial and insurance services	**12**	**14**	**5**	**7**	**1**	**1**	**3**	**1**
Rental, hiring, and real estate services	16	24	7	4	7	3	6	2
Computer systems design	26	26	12	0	5	2	1	0
Other professional scientific	15	8	8	4	3	2	1	0
Total professional, scientific, and technical services	**17**	**11**	**8**	**3**	**3**	**2**	**1**	**0**
Administrative and support services	17	14	9	9	7	3	3	1
Education and training	16	20	13	24	6	3	1	5
Health care and social assistance	22	26	10	19	6	2	5	1
Arts and recreation services	12	26	7	9	2	1	0	4
Other services	16	15	1	1	3	1	1	0
Innovation								
Innovators	20	27	11	10	6	4	3	2
Non-innovators	11	13	6	8	4	3	2	1
Overall	**19**	**15**	**9**	**8**	**5**	**3**	**3**	**1**

1. Percentages are of all New Zealand businesses in each business-size or industry category. For more information on the businesses included, see chapter 14.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 24b
Factors Hampering Innovation Activity to a high degree
Last two financial years at August 2007

	Factor							
	Lack of management resources	Costs to develop or introduce	Lack of appropriate personnel	Government regulation	Lack of marketing expertise	Lack of information	Lack of cooperation with other businesses	Access to intellectual property rights
	Percent[1]							
Business size[2]								
6–19 employees	19	17	12	14	5	3	2	2
20–49 employees	17	19	13	11	3	3	2	2
50–99 employees	14	17	12	11	5	2	2	1
100+ employees	13	16	11	8	3	3	2	1
Industry								
Agriculture	14	23	10	21	5	3	2	0
Commercial fishing	15	15	0	23	15	8	0	0
Forestry and logging	6	17	9	6	0	0	3	0
Agriculture, forestry, and fishing support services	15	24	20	26	5	8	4	5
Total agriculture, forestry, and fishing	**14**	**23**	**12**	**21**	**5**	**4**	**3**	**1**
Mining and quarrying	9	15	6	18	0	3	3	3
Food, beverage, and tobacco	21	31	10	16	7	5	2	2
Textile, clothing, footwear, and leather	16	29	11	16	10	3	3	2
Wood and paper product	22	12	18	10	6	4	5	0
Printing, publishing, and recorded media	15	28	9	8	3	6	1	2
Petroleum, coal, chemical, and associated product	27	34	11	10	11	11	3	6
Non-metallic mineral product	24	21	16	9	9	0	0	2
Metal product	24	26	17	12	9	3	0	3
Transport, and industrial machinery and equipment	24	32	22	19	8	2	5	2
Other machinery and equipment	13	34	14	11	6	1	3	0
Other manufacturing	30	22	14	18	4	5	2	2
Total manufacturing	**22**	**27**	**15**	**14**	**8**	**4**	**2**	**2**
Electricity, gas, water, and waste services	15	21	6	21	6	0	0	3
Construction	17	9	10	2	2	2	1	0
Wholesale trade	16	16	12	12	3	2	2	3
Retail trade	20	15	8	17	6	2	3	1
Accommodation and food services	15	14	12	12	3	5	2	1
Transport, postal, and warehousing	10	16	4	14	3	3	2	2
publishing,	15	13	12	4	10	4	0	0
Motion picture	19	28	16	7	5	5	2	2
Telecommunications	8	25	17	13	4	4	4	0
Total information media and telecommunications	**16**	**22**	**13**	**7**	**7**	**4**	**2**	**2**
Finance	13	18	8	13	4	1	3	3
Insurance	7	14	7	14	0	7	0	0
Auxiliary	19	10	12	12	0	1	0	0
Total financial and insurance services	**17**	**13**	**10**	**11**	**2**	**1**	**1**	**1**
Rental, hiring, and real estate services	11	20	8	11	3	4	3	6
Computer systems design	30	27	12	2	7	1	2	5
Other professional scientific	20	7	16	7	4	1	1	0
Total professional, scientific, and technical services	**21**	**10**	**15**	**6**	**4**	**1**	**1**	**1**
Administrative and support services	21	18	16	12	4	3	2	2
Education and training	18	25	15	30	9	1	4	1
Health care and social assistance	22	20	22	22	5	6	2	2
Arts and recreation services	23	22	13	16	3	4	2	3
Other services	14	19	14	8	7	3	0	3
Innovation								
Innovators	24	25	15	13	6	4	3	2
Non-innovators	13	11	10	13	3	2	2	1
Overall	**18**	**17**	**12**	**13**	**5**	**3**	**2**	**2**

1. Percentages are of all New Zealand businesses in each business-size or industry category. For more information on the businesses included, see chapter 14.
2. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated.
Due to rounding, some figures may not sum to stated total.
Source: Statistics New Zealand

Table 25

Sales from product innovations[1]

Last financial year at August 2007 and 2009

	Businesses with product innovation[1]		Percentage of sales from product innovations											
			0		1–10		11–20		21–30		31–40		41–100	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
	Number		Percent[2]											
Business size[3]														
6–19 employees	4,638	4,662	2	2	35	50	25	23	12	8	4	3	8	9
20–49 employees	1,365	1,293	2	3	41	56	27	19	12	5	4	5	4	4
50–99 employees	489	441	4	5	55	54	23	19	4	7	4	1	3	3
100+ employees	483	477	2	4	63	65	19	15	4	3	2	3	4	4
Industry														
Agriculture	165	141	2	0	42	66	24	21	15	13	0	0	0	0
Commercial fishing	6	6	0	0	100	50	0	0	0	0	0	0	0	0
Forestry and logging	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture, forestry, and fishing support services	78	117	15	8	38	33	19	23	23	10	4	8	4	3
Total agriculture, forestry, and fishing	**243**	**264**	**7**	**3**	**41**	**51**	**21**	**20**	**17**	**13**	**0**	**2**	**1**	**2**
Mining and quarrying	12	18	0	17	75	67	50	0	0	0	0	17	0	17
Food, beverage, and tobacco	288	270	1	11	69	54	21	19	7	8	0	3	2	2
Textile, clothing, footwear, and leather	108	132	3	2	56	61	19	23	8	9	3	2	3	2
Wood and paper product	102	93	26	0	32	65	26	26	6	0	3	0	0	0
Printing, publishing, and recorded media	96	69	3	0	47	57	41	22	9	17	0	4	0	4
Petroleum, coal, chemical, and associated product	228	174	3	9	61	57	8	17	14	3	0	9	0	2
Non-metallic mineral product	48	45	6	13	63	60	6	13	6	0	13	7	0	13
Metal product	300	255	1	2	50	62	42	24	0	0	0	0	4	12
Transport, and industrial machinery and equipment	291	321	0	6	47	53	30	16	6	11	1	4	13	10
Other machinery and equipment	111	129	0	2	46	37	16	23	5	12	3	9	16	7
Other manufacturing	150	159	0	2	38	45	34	21	6	6	2	4	8	9
Total manufacturing	**1,725**	**1,650**	**3**	**5**	**52**	**55**	**26**	**20**	**7**	**7**	**1**	**4**	**6**	**7**
Electricity, gas, water, and waste services	21	21	0	0	29	29	0	14	14	14	0	0	14	29
Construction	390	492	0	1	25	49	42	21	13	16	13	0	0	8
Machinery and equipment wholesaling	339	321	0	0	40	61	24	17	13	7	4	4	7	7
Other wholesale trade	744	531	0	1	47	79	26	19	7	0	2	0	4	1
Total wholesale trade	**1,086**	**852**	**0**	**0**	**45**	**71**	**25**	**18**	**9**	**3**	**2**	**2**	**5**	**3**
Retail trade	576	495	1	1	21	65	23	24	30	0	8	0	0	9
Accommodation and food services	498	780	0	0	7	35	23	32	11	7	5	6	22	6
Transport, postal, and warehousing	207	195	1	2	49	31	20	22	6	11	0	6	13	25
publishing,	60	27	5	11	50	33	20	22	10	0	0	0	0	11
Motion picture	39	30	15	0	38	50	15	20	8	0	0	0	23	10
Telecommunications	36	42	0	0	58	43	25	21	0	0	8	0	0	7
Total information media and telecommunications	**132**	**99**	**7**	**3**	**45**	**45**	**20**	**24**	**7**	**3**	**2**	**0**	**9**	**12**
Finance	54	24	0	13	61	63	11	13	6	0	6	0	0	0
Insurance	18	21	0	0	50	71	17	0	17	0	0	14	17	0
Auxiliary	69	63	13	19	57	67	13	10	0	0	4	0	9	10
Total financial and insurance services	**141**	**108**	**9**	**14**	**57**	**69**	**13**	**6**	**4**	**0**	**4**	**0**	**4**	**6**
Rental, hiring, and real estate services	189	162	14	4	32	33	32	26	11	17	0	2	3	9
Computer systems design	318	273	2	9	32	35	31	21	6	8	5	7	11	15
Other professional scientific	390	600	5	1	42	58	18	18	14	9	0	2	14	9
Total professional, scientific, and technical services	**708**	**876**	**4**	**3**	**37**	**51**	**24**	**19**	**10**	**9**	**2**	**3**	**13**	**11**
Administrative and support services	225	282	4	2	45	38	20	21	4	10	4	2	13	12
Education and training	159	162	2	13	32	41	30	31	15	2	9	0	8	7
Health care and social assistance	441	210	4	4	38	60	20	17	12	1	0	6	5	0
Arts and recreation services	117	99	0	0	33	33	38	33	10	6	13	6	0	3
Other services	99	123	0	0	88	78	0	17	0	2	0	0	0	0
Overall	**6,975**	**6,873**	**3**	**3**	**40**	**53**	**25**	**22**	**11**	**7**	**4**	**3**	**7**	**7**

1. Product innovations are the introduction of any new or significantly improved goods or services.
2. Percentages are of all New Zealand businesses in each business-size or industry category who performed product innovation. For more information on the businesses included, see chapter 14.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Percentages will add to under 100 percent where businesses have answered 'Don't know'. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested. **Source:** Statistics New Zealand

Table 26
New-to-market product innovations
August 2007 and 2009

	Businesses with product innovation[1]		Product innovation			
			New to New Zealand		New to world	
	2007	2009	2007	2009	2007	2009
			Percent[2]			
Business size[3]						
6–19 employees	4,638	4,662	41	39	17	17
20–49 employees	1,365	1,293	47	48	18	23
50–99 employees	489	441	51	51	17	20
100+ employees	483	477	53	57	17	19
Industry						
Agriculture	165	141	47	53	38	38
Commercial fishing	6	6	0	0	50	0
Forestry and logging	0	3	0	0	0	0
Agriculture, forestry, and fishing support services	78	117	54	15	12	3
Total agriculture, forestry, and fishing	243	264	49	35	31	22
Mining and quarrying	12	18	25	17	0	0
Food, beverage, and tobacco	288	270	33	48	9	20
Textile, clothing, footwear, and leather	108	132	69	43	31	23
Wood and paper product	102	93	47	42	12	23
Printing, publishing, and recorded media	96	69	38	39	13	26
Petroleum, coal, chemical, and associated product	228	174	68	66	33	41
Non-metallic mineral product	48	45	19	60	13	7
Metal product	300	255	56	56	30	35
Transport, and industrial machinery and equipment	291	321	63	39	46	39
Other machinery and equipment	111	129	70	70	32	40
Other manufacturing	150	159	52	43	8	19
Total manufacturing	1,725	1,650	54	50	26	30
Electricity, gas, water, and waste services	21	21	29	57	0	14
Construction	390	492	6	33	1	7
Machinery and equipment wholesaling	339	321	65	74	41	30
Other wholesale trade	744	531	54	72	15	30
Total wholesale trade	1,086	852	57	73	23	30
Retail trade	576	495	38	41	10	16
Accommodation and food services	498	780	33	12	12	1
Transport, postal, and warehousing	207	195	36	29	1	9
publishing,	60	27	40	33	15	22
Motion picture	39	30	46	40	23	0
Telecommunications	36	42	67	57	8	14
Total information media and telecommunications	**132**	**99**	**50**	**48**	**14**	**12**
Finance	54	24	28	38	6	0
Insurance	18	21	33	57	0	14
Auxiliary	69	63	48	43	17	5
Total financial and insurance services	141	108	38	44	9	8
Rental, hiring, and real estate services	189	162	44	39	8	0
Computer systems design	318	273	60	58	36	36
Other professional scientific	390	600	32	48	22	28
Total professional, scientific, and technical services	**708**	**876**	**45**	**51**	**28**	**30**
Administrative and support services	225	282	35	34	7	6
Education and training	159	162	45	24	13	9
Health care and social assistance	441	210	28	36	1	4
Arts and recreation services	117	99	51	39	15	0
Other services	99	123	30	5	30	2
Overall	**6,975**	**6,873**	**44**	**43**	**18**	**19**

1. For more information on the businesses included, see chapter 14.
2. Percentages are of all New Zealand product innovating businesses in each business-size or industry category.
3. Defined by rolling mean employment (RME) count. For more information on the RME count, see chapter 14.

Note: All counts (not percentages) in this survey were randomly rounded to base 3 to protect confidentiality, so actual figures may differ from those stated. Due to rounding, some figures may not sum to stated total. Due to this table being presented for a sub-population of the survey, the sample errors detailed in chapter 14 do not apply to this table. Sample errors can be produced if requested.
Source: Statistics New Zealand

18 Business Operations Survey questionnaire

Statistics New Zealand
TATAURANGA AOTEAROA

ED/BOS/01

Business Operations Survey 2009

For Help and Information:

Phone: **0800 333 108**
64 9 920 9108

Fax: 09 920 9195

Email: bus@stats.govt.nz

Mail: Statistics New Zealand
Freepost 10007
Private Bag 92003
Auckland

Are the address details above correct? If not, use the boxes below to correct any errors.

Legal name		A0001
Building / Level / Unit		A0002
Street / PO Box / Rural delivery		A0003
Suburb		A0004
Town / City	Postcode	A0005
Attention		A0006

Please complete, sign and return this questionnaire in the envelope supplied.
Return date:

Purpose of this survey

The purpose of this survey is to collect information on the business operations of New Zealand businesses. The data collected by this survey is needed to quantify business behaviour, capacity and performance across a wide selection of industries. The information will help government and other organisations in developing a better understanding of enterprise capacity and performance in New Zealand.

Compulsory requirement

The taking of this survey has been approved by the Minister of Statistics and the return of this questionnaire, duly filled in and signed, is a compulsory requirement under the Statistics Act 1975.

Confidentiality of information supplied

Only people authorised by the Statistics Act 1975 are allowed to see your individual information, and they must use it only for statistical purposes. Your information will be combined with similar information to prepare summary statistics.

As Government Statistician I thank you for completing this survey. Your information contributes to statistics available for business decision-making. To find out how Statistics New Zealand can help your business grow, contact our information centre on 0508 525 525.

Geoff Bascand
Government Statistician

Section A: Business Operations

1 How to answer

- This form will be scanned and recognised by electronic equipment. Therefore please:
  - mark answers like this —
  - print answers in **CAPITAL** letters and
  - keep each letter or number **within** the spaces provided
  - for example J O N E S | L T D or 1 2 3
- Please use a blue or black pen.
- Where actual figures are not available, please give careful estimates.
- Where there is no response, leave blank unless instructed to write 0.
- Supply whole dollar values only.

2 Only include information for the business named on the front page. Do not provide consolidated data.

Don't include:
- subsidiary or associated businesses
- accounting divisions that operate entirely outside New Zealand (NZ)

3 Please keep a record of the time it takes you to complete this questionnaire. You are asked to record this at the end of the questionnaire.

Include:
- the time spent reading the instructions, working on the questions and obtaining information
- the time spent by all employees in collecting and providing this information

Reporting information

4
- These questions should be completed by the General Manager.
- Some answers may need to be confirmed with support people in specific areas.

5 Please provide information relating to the most recent financial year for which this business has results available.

Note:
- if your balance date is between 1 Jan - 30 Sep, report for the year ending 2009
- if your balance date is between 1 Oct - 31 Dec, report for the year ending 2008

What is the balance date of the financial year which you will use for this questionnaire? A0501

Day Month Year

This is the reference point for the questions that follow.

6 If possible, please supply GST exclusive amounts. The amounts given in this questionnaire: A0600

Please mark ovals like this —

1 exclude GST
2 include GST

Sales of goods and services

7 For the last financial year, estimate the proportion of this business's sales of goods and services that came from exports: A0701

%

8 For the last financial year, estimate the proportion of this business's sales that came from tourism: A0800

Include:
- sales of goods and services indirectly related to tourism but purchased by tourists eg retail sales of food, alcohol, clothing
- sales of goods and services directly related to tourism eg accommodation, transport, and recreation services

1 zero
2 25% or less
3 50% or less
4 75% or less
5 76% - 100%
6 don't know

New investment

9 For the last financial year, did this business invest in its expansion? A0900

Include:
- purchase of one or more businesses or assets (eg land, buildings, equipment)
- development or introduction of new or significantly improved goods, services or processes
- entry into new markets

Don't include:
- increases in turnover for existing business
- ongoing operational expenses

1 yes
2 no
3 don't know

Research and development

10 For the last financial year, did this business undertake or fund any research and development (R&D) activities? A1000

Include:
- any activity characterised by originality: it should have investigation as its primary objective, and an outcome of gaining new knowledge, new or improved materials, products, services or processes
- the buying abroad of technical knowledge or information

Don't include:
- market research
- efficiency studies
- style changes to existing products

1 yes → go to 11
2 no → go to 13
3 don't know → go to 13

11 For the last financial year, how much did this business spend on R&D activities? A1101

$, , ,

12 Estimate the percentage of R&D expenditure from question 11 that relates to in-house R&D activities. A1201

Include subcontractors working in-house.
Don't include R&D funded by this business but carried out by other organisations.

%

International presence

13 As at the end of the last financial year, did any individual or business located overseas hold an ownership interest or shareholding in this business? A1300

1 yes → please give the total percentage % A1301
2 no
3 don't know

14 As at the end of the last financial year, did this business hold any ownership interest or shareholding in an overseas located business (including its own branch, subsidiary or sales office)? A1400

1 yes → go to 15
2 no → go to 16
3 don't know → go to 16

15 Mark all that apply. Through which of the following methods did this business gain those overseas ownership interests or shareholdings?

- joint ventures A1501
- acquisitions of existing overseas businesses A1502
- greenfields (ie establishment of new overseas businesses) A1503
- other methods A1504

Employment

16 Over the last financial year, what percentage of staff (working proprietors and employees) worked for this business on the following basis?

Include:
- those temporarily absent from work (eg sick, on leave, strike or temporary lay-off)
- casual staff
- all managerial and executive staff (eg Chief Executive)

Don't include
- contractors (for example, temporary staff paid by employment agencies)
- working proprietors not actively engaged in the operation of this business

full-time (working 30 hours or more per week)	%	A1601
part-time (working less than 30 hours per week)	%	A1602
TOTAL staff	1 0 0 %	

17 As at the end of the last financial year, what percentage of staff (working proprietors and employees) were working in the following occupational groups?

Note: assign staff to an occupational group according to the tasks or duties they spent the majority of their time performing

If any answers are 'zero' please write 0

Managers and professionals
- **Managers** lead organisations, departments or divisions and determine the policy of the organisation or department (eg General Manager, Finance Manager).
- **Professionals** perform analytical, conceptual or creative tasks with skills equivalent to a bachelor degree or higher (eg accountant, engineer, journalist, computer programmer).

% A1701

Technicians and associate professionals
Technicians and associate professionals perform complex technical or administrative tasks, often in support of professionals or managers (eg technical officer, building inspector, legal executive).

% A1702

Tradespersons and related workers (including apprentices)
Tradespersons and related workers perform tasks requiring trade specific technical knowledge. Include all apprentices and trade supervisors (eg electrician, mechanic, hairdresser, baker).

% A1703

All other occupations
Include:
- **Clerical, sales and service workers** who perform administrative, organisational, liaison, sales and clerical tasks and may provide support services in the fields of finance etc (eg secretary, receptionist, sales representative, waiter).
- **Production and transport workers** who operate vehicles or complex equipment (eg bulldozer operator, bus driver, storeperson).
- **Labourers and related workers** who perform routine tasks, either manually or using equipment (eg cleaner, factory hand, trades assistant).
- **All other occupations.**

% A1704

TOTAL STAFF 1 0 0 %

18 **Mark one oval for each item listed. Over the last financial year, to what extent did this business experience difficulty in recruiting new staff for any of the following occupational groups?**

Please mark ovals like this —

	no difficulty	moderate difficulty	severe difficulty	don't know	not applicable	
managers and professionals	1	2	3	4	5	A1801
technicians and associate professionals	1	2	3	4	5	A1802
tradespersons and related workers (including apprentices)	1	2	3	4	5	A1803
all other occupations	1	2	3	4	5	A1804

19 **As at the end of the last financial year, what percentage of this business's employees were covered by a collective employment agreement?** A1900

- 1 zero
- 2 10% or less
- 3 50% or less
- 4 90% or less
- 5 91% - 100%
- 6 don't know

Business performance

20 **Mark one oval for each item listed. How do you think this business compares to its major competitors on each of the following?**

	lower than competitors	on a par with competitors	higher than competitors	don't know	
profitability	1	2	3	4	A2001
productivity	1	2	3	4	A2002

21 **Mark one oval for each item listed. Over the last financial year, did the following items decrease, stay the same or increase for this business?**

	decrease	stay the same	increase	don't know	
total sales of goods and services	1	2	3	4	A2101
profitability	1	2	3	4	A2102
productivity	1	2	3	4	A2103
market share	1	2	3	4	A2104

22 **Over the last financial year, what percentage of goods or services from this business were provided to customers on time and to requirements?** A2200

- 1 50% or less
- 2 80% or less
- 3 90% or less
- 4 95% or less
- 5 96% - 100%
- 6 don't know

23 **Mark one oval for each item listed. How do you think this business compares to its major competitors on each of the following?**

	lower than competitors	on a par with competitors	higher than competitors	don't know	
costs	1	2	3	4	A2301
time taken to provide customers with goods or services	1	2	3	4	A2302
quality	1	2	3	4	A2303
flexibility / ability to make changes	1	2	3	4	A2304
customer satisfaction	1	2	3	4	A2305
employee satisfaction	1	2	3	4	A2306

24 **In the last financial year, did this business develop or introduce any new or significantly improved:** A2400

- **goods or services**
- **operational processes**
- **organisational / managerial processes**
- **marketing methods?**

1 yes
2 no
3 don't know

25 **Over the last financial year, did this business enter any new export markets?** A2500

1 yes
2 no
3 don't know

26 **Over the last financial year, to what degree did this business's technology change?** A2600

1 not at all
2 to a minor degree
3 to a major degree
4 completely
5 don't know

27 **How does this business's core equipment (that is used in the production of this business's main goods or services) compare with the best commonly available technology?** A2700

1 fully up to date
2 up to 4 years behind
3 up to 10 years behind
4 more than 10 years behind
5 don't know

Other business factors

28 **Regardless of changes in ownership, what calendar year did this business commence operations?** A2801

☐☐☐☐ year

29 **How would you describe this business's competition?** A2900

1 captive market / no effective competition
2 no more than one or two competitors
3 many competitors, several dominant
4 many competitors, none dominant
5 don't know

30 **Mark one oval for each item listed. When thinking about the city, town or district in which this business operates, how would you rate the following factors?**

Note: if this business has more than one location, please answer in relation to the location where the largest share of the business's activities occur.

	bad	neither bad nor good	good	don't know	
transport infrastructure	1	2	3	4	A3001
information and communications technology infrastructure (eg broadband availability, mobile phone coverage)	1	2	3	4	A3002
water and waste infrastructure	1	2	3	4	A3003
local body planning and regulatory processes (eg building consents, Resource Management Act approvals)	1	2	3	4	A3004
skilled labour market	1	2	3	4	A3005
unskilled labour market	1	2	3	4	A3006
business networks (eg local business associations)	1	2	3	4	A3007

31 **Over the last financial year, did this business merge with or acquire a shareholding in any other New Zealand or overseas business?** A3100

1 yes
2 no
3 don't know

32 **Over the last financial year, did this business request any new or additional debt or equity finance?** A3200

- **Debt finance** is any finance that the business must repay (eg overdrafts, credit cards, convertible debt)
- **Equity finance** is any finance which is provided in exchange for a share in the ownership of this business

Include requests that were fully approved, partly approved, withdrawn or declined.

1 yes → go to 33
2 no → go to the start of **Section B** on page 10
3 don't know → go to the start of **Section B** on page 10

33 **Mark all that apply. When requesting new or additional debt finance over the last financial year, were funds:**

- available on acceptable terms A3301
- available, but not on acceptable terms A3302
- not available A3303
- don't know A3304
- did not request debt finance A3305

34 **Mark all that apply. When requesting new or additional equity finance over the last financial year, were funds:**

- available on acceptable terms A3401
- available, but not on acceptable terms A3402
- not available A3403
- don't know A3404
- did not request equity finance A3405

Section B: Innovation

1 Section B should be completed by the General Manager.

2 For the purpose of this survey innovation is broadly defined. It includes the development or introduction of any new or significantly improved activity for this business. This includes products, processes and methods that this business was the first to develop and those that have been adopted from other organisations.

New goods or services

3 **During the last 2 financial years, did this business introduce onto the market any new or significantly improved goods or services?** B0300

Don't include the selling of new goods or services wholly produced and developed by other businesses.

Please mark ovals like this —

- ○ 1 yes → go to **4**
- ○ 2 no → go to **7**

4 **Mark all that apply. Were any of those new or significantly improved goods or services:**

- ○ developed by this business B0401
- ○ developed by this business in partnership with others B0402
- ○ obtained from others and significant improvements were made by this business B0403
- ○ obtained from others and no significant improvements were made by this business B0404

5 **Mark one oval for each item listed. Were any of those new or significantly improved goods or services:**

	yes	no	don't know	
new to NZ	○ 1	○ 2	○ 3	B0501
new to the world	○ 1	○ 2	○ 3	B0502

6 **For the last financial year, please estimate the percentage of sales for this business that came from those new or significantly improved goods or services.** B0600

- ○ 1 zero
- ○ 2 10% or less
- ○ 3 20% or less
- ○ 4 30% or less
- ○ 5 40% or less
- ○ 6 41% - 100%
- ○ 7 don't know

New operational processes

7 **During the last 2 financial years, did this business implement any new or significantly improved operational processes (ie methods of producing or distributing goods or services)?** B0700

- 1 yes → go to **8**
- 2 no → go to **10**

8 **Mark all that apply. Were any of those new or significantly improved operational processes:**

- developed by this business B0801
- developed by this business in partnership with others B0802
- obtained from others and significant improvements were made by this business B0803
- obtained from others and no significant improvements were made by this business B0804

9 **Were any of those new or significantly improved operational processes required because of the introduction of new goods or services?** B0900

- 1 yes
- 2 no

New organisational / managerial processes

10 **During the last 2 financial years, did this business implement any new or significantly improved organisational / managerial processes (ie significant changes in this business's strategies, structures or routines)?** B1000

- 1 yes → go to **11**
- 2 no → go to **12**

11 **Mark all that apply. Were any of those new or significantly improved organisational / managerial processes:**

- developed by this business B1101
- developed by this business in partnership with others B1102
- obtained from others and significant improvements were made by this business B1103
- obtained from others and no significant improvements were made by this business B1104

New marketing methods

12 **During the last 2 financial years, did this business implement any new or significantly improved sales or marketing methods which were intended:** B1200

- **to increase the appeal of goods or services for specific market segments**
- **to gain entry to new markets**

- 1 yes → go to **13**
- 2 no → go to **14**

13 **Mark all that apply. Were any of those new or significantly improved sales or marketing methods:**

- developed by this business B1301
- developed by this business in partnership with others B1302
- obtained from others and significant improvements were made by this business B1303
- obtained from others and no significant improvements were made by this business B1304

Activities to support innovation

14 **Mark all that apply for each item listed. During the last 2 financial years, did this business do any of the following?**

Note:
- To innovate means to develop or introduce new or significantly improved: goods or services; operational processes; organisational / managerial processes or marketing methods.
- It is acceptable to mark both 'done to support innovation' and 'done, though not to support innovation', if applicable

	done to support innovation	done, though not to support innovation	not done	don't know
acquisition of machinery and equipment	B1401	B1402	B1403	B1404
acquisition of computer hardware and software	B1411	B1412	B1413	B1414
acquisition of other knowledge (eg licences, patents or other intellectual property)	B1421	B1422	B1423	B1424
implementing new business strategies or management techniques	B1431	B1432	B1433	B1434
organisational restructuring	B1441	B1442	B1443	B1444
design (eg industrial, graphic or fashion design)	B1451	B1452	B1453	B1454
marketing the introduction of new goods or services	B1461	B1462	B1463	B1464
market research	B1471	B1472	B1473	B1474
significant changes to marketing strategies	B1481	B1482	B1483	B1484
employee training	B1491	B1492	B1493	B1494

15 **For the last financial year, please estimate this business's combined expenditure on product development and related activities:**

If any answers are 'zero' please write ***0***

research & development (copy any answer from question **11** in Section A)	$, , , B1501
design	$, , , B1502
marketing and market research	$, , , B1503
other (eg prototyping, trials, commercialisation)	$, , , B1504
TOTAL product development and related activities	$, , , B1505

Abandoned or not yet completed activities

16 **Mark one oval for each item listed. During the last 2 financial years, did this business abandon any activity that was intended to result in the development or introduction of new or significantly improved:**

	yes	no	don't know	
goods or services	1	2	3	B1601
operational processes	1	2	3	B1602
organisational / managerial processes	1	2	3	B1603
marketing methods	1	2	3	B1604

17 **Mark one oval for each item listed. During the last 2 financial years, did this business start but not yet complete any activities to develop or introduce any new or significantly improved:**

	yes	no	don't know	
goods or services	1	2	3	B1701
operational processes	1	2	3	B1702
organisational / managerial processes	1	2	3	B1703
marketing methods	1	2	3	B1704

18 **Where to next?**

	yes	no
Did you answer 'yes' to **3**?		
Did you answer 'yes' to **7**?		
Did you answer 'yes' to **10**?		
Did you answer 'yes' to **12**?		
Did you answer 'done to support innovation' to any part of **14**?		
Did you answer 'yes' to any part of **16** or **17**?		

If you answered 'no' to all of the questions above, go to question 26 on page 17. Otherwise continue to the next page (page 14).

Reasons

19 **Mark one oval for each item listed. During the last 2 financial years, what were the reasons that this business tried to innovate?**

Note: to innovate means to develop or introduce new or significantly improved: goods or services; operational processes; organisational / managerial processes or marketing methods.

	yes	no	don't know	
to improve productivity	1	2	3	B1901
to increase revenue	1	2	3	B1902
to reduce costs	1	2	3	B1903
to increase responsiveness to customers	1	2	3	B1904
to increase market share	1	2	3	B1905
to establish / exploit new market opportunities	1	2	3	B1906
to improve work safety standards	1	2	3	B1907
to reduce energy consumption	1	2	3	B1908
to reduce environmental impact	1	2	3	B1909
to replace goods or services being phased out	1	2	3	B1910

Sources of ideas or information

20 **Mark one oval for each item listed. During the last 2 financial years, did this business find any of the following important as a source of ideas or information for innovation?**

Note: to innovate means to develop or introduce new or significantly improved: goods or services; operational processes; organisational / managerial processes or marketing methods.

	yes	no	don't know	
new staff (those appointed in the last 2 years)	1	2	3	B2001
existing staff	1	2	3	B2002
other businesses within the business group (eg subsidiaries or parent companies)	1	2	3	B2003
customers	1	2	3	B2004
suppliers	1	2	3	B2005
competitors and other businesses from the same industry	1	2	3	B2006
businesses from other industries (not including customers or suppliers)	1	2	3	B2007
professional advisors, consultants, banks or accountants	1	2	3	B2008
books, journals, patent disclosures or Internet	1	2	3	B2009
conferences, trade shows or exhibitions	1	2	3	B2010
industry or employer organisations	1	2	3	B2011
universities or polytechnics	1	2	3	B2012
Crown Research Institutes, other research institutes, or research associations	1	2	3	B2013
government agencies	1	2	3	B2014

Co-operative arrangements

21 In the following questions **co-operative arrangements** mean actively participating with another organisation or individual, in activities for the purpose of **innovation.**

Note:
- this includes collaborative arrangements for the purpose of innovation
- each party should bring its own knowledge or expertise to the co-operation
- partners do not necessarily derive immediate commerical benefit from the co-operation

Don't include: any arrangement where development work is contracted out without this business taking any active part in it.

22 **During the last 2 financial years, did this business have any co-operative arrangements for the purpose of innovation?** B2200

Note: to innovate means to develop or introduce new or significantly improved: goods or services; operational processes; organisational / managerial processes or marketing methods.

- 1 yes → go to **23**
- 2 no → go to **26**

23 **Mark all that apply for each item listed. During the last 2 financial years, with what types of businesses or institutions did this business have those co-operative arrangements?**

	NZ	overseas	no co-operation
customers	B2301	B2302	B2303
suppliers	B2311	B2312	B2313
businesses from other industries (not including customers or suppliers)	B2321	B2322	B2323
competitors and other businesses from the same industry	B2331	B2332	B2333
other businesses within the business group (eg subsidiaries or parent companies)	B2341	B2342	B2343
universities or polytechnics	B2351	B2352	B2353
Crown Research Institutes, other research institutes, or research associations	B2361	B2362	B2363

24 **Mark all that apply. During the last 2 financial years, in which activities did this business engage in co-operative arrangements, as defined in question 21 to 23?**

- joint marketing or distribution B2401
- joint production B2402
- joint R&D B2403
- joint prototype development B2404
- joint training B2405
- other B2406

25 **Mark all that apply. During the last 2 financial years, for what reasons did this business engage in co-operative arrangements, as defined in question 21 to 23?**

- sharing costs B2501
- spreading risk B2502
- access to R&D B2503
- access to production processes B2504
- access to management skills B2505
- access to new distribution channels B2506
- access to work practices B2507
- access to financial resources B2508
- access to new markets B2509
- access to new suppliers B2510
- other B2511

Other factors

26 **Mark all that apply. Which of the following does this business or the parent company use to protect intellectual property?**

Note: intellectual property refers to the ownership of ideas and control over the use of those ideas.

- patents B2601
- copyrights B2602
- trademarks B2603
- registration of design B2604
- secrecy B2605
- confidentiality agreement B2606
- reaching the market first B2607
- goods, services or processes too complex to copy B2608
- none of the above B2609

27 **Mark one oval for each item listed. During the last 2 financial years, to what degree did the following factors hamper this business's ability to innovate?**

Note: to innovate means to develop or introduce new or significantly improved: goods or services; operational processes; organisational / managerial processes or marketing methods.

	hampered innovation to a: high degree	medium degree	low degree	did not hamper	
costs to develop or introduce	1	2	3	4	B2701
lack of information	1	2	3	4	B2702
lack of marketing expertise	1	2	3	4	B2703
lack of co-operation with other businesses	1	2	3	4	B2704
access to intellectual property rights (eg licensing of patents or copyrights)	1	2	3	4	B2705
lack of appropriate personnel	1	2	3	4	B2706
lack of management resources (eg time)	1	2	3	4	B2707
government regulation	1	2	3	4	B2708

Section C: Business Practices

1 Section B should be completed by the General Manager.

Strategy, goals and planning

2 **Mark one oval for each item listed. How important are the following to the strategies of this business?**

Please mark ovals like this —

	not at all important	a little important	moderately important	very important	don't know	
pricing of goods and services sold by this business	1	2	3	4	5	C0201
quality of goods and services produced by this business	1	2	3	4	5	C0202
flexibility / ability to make changes	1	2	3	4	5	C0203
delivery of goods and services to customers	1	2	3	4	5	C0204
innovation (improvements to goods, services and processes)	1	2	3	4	5	C0205

3 **Mark one oval for each item listed. During the last 2 financial years, to what extent did this business focus on the following?**

	not at all	a little amount	a moderate amount	a great deal	don't know	
existing domestic markets	1	2	3	4	5	C0301
existing export markets	1	2	3	4	5	C0302
new domestic markets	1	2	3	4	5	C0303
new export markets	1	2	3	4	5	C0304

4 **Thinking about the goals set for this business, how far ahead does this business plan?** C0400

1 up to 6 months
2 up to a year
3 up to 2 years
4 more than 2 years
5 don't know
6 no goals set for this business → go to **7**

5 **Are those goals mainly developed through:**

formal processes C0501
informal processes C0502

6 **Mark one oval for each item listed. In developing goals, how often does this business incorporate the requirements of:**

	never	sometimes	frequently	always	don't know	
customers	1	2	3	4	5	C0601
suppliers	1	2	3	4	5	C0602
employees	1	2	3	4	5	C0603

7 **Does this business have a clear vision or mission for the future (eg a vision statement)?** C0700

1 yes
2 no

8 **To what extent does this business promote a set of company values to its employees?** C0800

1 not at all
2 a little amount
3 a moderate amount
4 a great deal
5 don't know

9 **Mark one oval for each item listed. Are employees in this business regularly communicated with regarding:**

	yes	no	don't know	not applicable	
plans	1	2	3	4	C0901
goals	1	2	3	4	C0902
major changes	1	2	3	4	C0903
potential improvements	1	2	3	4	C0904

Customers

10 **Does this business have set procedures (consistent methods that staff know and adhere to) for dealing with customer complaints?** C1000

1 yes
2 no

11 **To what extent do staff, other than sales and marketing staff, have contact with major customers?** C1100

1 not at all
2 a little amount
3 a moderate amount
4 a great deal
5 don't know

12 **How often does this business systematically measure customer satisfaction?** C1200

1 not at all
2 less often than once a year
3 once a year
4 twice a year
5 more often than twice a year
6 don't know

13 **How closely does this business work with customers to develop or improve products or services?** C1300

1 not at all
2 not closely
3 quite closely
4 very closely
5 don't know

Suppliers

14 **For how many suppliers does this business have systems in place for measuring the quality of materials, goods or services?** C1400

1 no suppliers
2 some suppliers
3 most suppliers
4 all suppliers
5 don't know

15 **How closely does this business work with suppliers to improve each other's processes?** C1500

1 not at all
2 not closely
3 quite closely
4 very closely
5 don't know

16 **To what extent do non-managerial staff have contact with this business's major suppliers?** C1600

1 not at all
2 a little amount
3 a moderate amount
4 a great deal
5 don't know

17 **When supply problems arise, do this business's non-managerial staff have the authority to contact external suppliers?** C1700

1 never
2 sometimes
3 always
4 don't know

Information and benchmarking

18 **Does this business have a formal system in place to manage the storing and retrieval of information?** C1800

1 yes
2 no

19 **Is it part of the regular work of one or more people (either staff or outside contractors) to assess whether this business is achieving its goals?** C1900

1 yes
2 no
3 not applicable

20 **Mark one oval for each item listed. During the last 2 financial years, to what extent did this business focus on the following when assessing performance?**

	not at all	a little amount	a moderate amount	a great deal	don't know	
financial measures (eg profits, returns on investment, sales growth)	1	2	3	4	5	C2001
cost measures (eg on budget, cost per unit of output, inventory cost)	1	2	3	4	5	C2002
operational measures (eg asset utilisation, on-time delivery)	1	2	3	4	5	C2003
quality measures (eg defect rates, customer complaints)	1	2	3	4	5	C2004
innovation measures (eg process innovations, new value added services)	1	2	3	4	5	C2005
human resources (eg job satisfaction, skills development)	1	2	3	4	5	C2006

21 **Mark all that apply. During the last 2 financial years, has the performance or processes of this business been compared in a systematic way with:**

- businesses in New Zealand and in the same industry C2101
- businesses outside New Zealand and in the same industry C2102
- businesses in New Zealand and in a different industry C2103
- businesses outside New Zealand and in a different industry C2104
- none of the above C2105

22 **How closely does this business monitor competitors' goods or services?** C2200

1. not at all
2. not closely
3. quite closely
4. very closely
5. don't know

23 **Mark one oval for each item listed. To what extent does this business attempt to identify risks or opportunities arising from changes in:**

	not at all	a little amount	a moderate amount	a great deal	don't know	
technology	1	2	3	4	5	C2301
market conditions	1	2	3	4	5	C2302
skill availability	1	2	3	4	5	C2303
competitors	1	2	3	4	5	C2304
regulations	1	2	3	4	5	C2305

Employee practices

24 ***Note:*** for the following questions, employees includes managerial and executive staff and full-time, part-time or casual employees.

Don't include:
- contractors
- working proprietors

25 **Over the last financial year, what percentage of employees in this business had their job satisfaction formally assessed?** C2500

zero	15% or less	30% or less	50% or less	51% - 99%	100%	don't know
1	2	3	4	5	6	7

26 **Over the last financial year, what percentage of employees in this business had formal performance reviews (consistent methods that are recognised and regularly used)?** C2600

zero	15% or less	30% or less	50% or less	51% - 99%	100%	don't know
1	2	3	4	5	6	7

27 **What percentage of employees in this business are on "pay for performance" schemes (eg productivity based incentives, profit sharing, bonuses, etc)?** C2700

zero	15% or less	30% or less	50% or less	51% - 99%	100%	don't know
1	2	3	4	5	6	7

28 **Over the last financial year, please estimate the percentage of employees in this business who participated in training.** C2800

1. zero → go to **30**
2. 25% or less
3. 50% or less
4. 75% or less
5. 76% - 100%
6. don't know

29 **Mark one oval for each item listed. Over the last financial year, please estimate the percentage of employees in this business who participated in the following types of training.**

	zero	25% or less	50% or less	75% or less	76% - 100%	don't know	
professional / technical skills	1	2	3	4	5	6	C2901
trade related skills	1	2	3	4	5	6	C2902
management / supervisory skills	1	2	3	4	5	6	C2903
customer service / sales skills	1	2	3	4	5	6	C2904
computer skills	1	2	3	4	5	6	C2905
other job related skills	1	2	3	4	5	6	C2906

30 **Does this business undertake systematic assessments of the skill gaps and training needs of its individual employees?** C3000

1. yes
2. no

31 **Does this business have processes in place to manage health and safety (eg inspections, provision of information to staff)?** C3100

1. yes
2. no

Quality and process

32 **To what extent does this business assess the quality of goods or services before they are delivered to customers?** C3200

1. not at all
2. a little amount
3. a moderate amount
4. a great deal
5. don't know

33 **Are non-managerial staff actively encouraged to identify problems in goods, services or processes?** C3300

1. not at all
2. a little amount
3. a moderate amount
4. a great deal
5. don't know

34 **Are non-managerial staff actively encouraged to suggest improvements to goods, services or processes?** C3400

1. not at all
2. a little amount
3. a moderate amount
4. a great deal
5. don't know

35 **Does this business have quality management systems certification (eg industry accreditation, Baldrige quality programme, ISO9000)?** C3500

1. yes
2. no

36 **Does this business document its operating processes / systems?** C3600

1. yes
2. no
3. don't know

37 **Does this business have measures in place to reduce the environmental impact of this business (eg recycling, triple bottom line reporting, environmental certification, ISO14000)?** C3700

1. yes
2. no

Recent financing arrangements

38 **Mark all that apply. As at the end of the last financial year, which of the following types of outstanding debt did this business have?**

- bank overdrafts C3801
- loans with terms of less than one year (including lines of credit) C3802
- trade creditors or suppliers C3803
- capital / financing leases and hire purchase agreements C3804
- credit cards C3805
- mortgage loans C3806
- loans with terms of more than one year C3807
- shareholders' current account C3808
- other C3809

39 **Mark one oval for each item listed. As at the end of the last financial year did this business have any of the following being used as collateral for financing?**

Note: collateral is property (eg buildings, equipment) used to secure the repayment of a loan

	yes	no	
business assets	1	2	C3901
personal assets	1	2	C3902

40 **Mark one oval for each item listed. Over the last financial year, how have this business's existing credit facilities changed?**

	decreased	stayed the same	increased	
overdraft / credit limits	1	2	3	C4001
interest rates / fees	1	2	3	C4002
security / collateral requirements	1	2	3	C4003

41 **Mark one oval. Over the last financial year, did this business request any new or additional finance?** C4100

- **Debt finance** is any finance which the business must repay (eg overdrafts, credit cards, convertible debt)
- **Equity finance** is any finance which is provided in exchange for a share in the ownership of this business

Include requests that were fully approved, partly approved, withdrawn or declined.

1. neither debt nor equity finance
2. equity finance only → go to **42**
3. both debt and equity finance → go to **43**
4. debt finance only → go to **44**

42 **Mark all that apply. Why has this business not requested debt finance?**

- the owner(s) felt the request would be turned down C4201
- applying for debt finance is too difficult and time consuming C4202
- the cost of debt financing is too high C4203
- this business is already approaching / breaching borrowing limits C4204
- this business or its owners don't like to be in debt C4205
- new or additional debt financing was not needed C4206
- other C4207

If no debt finance was requested, go to question 47 on page 28.

Debt financing experiences

43 **Mark one oval. Where both debt and equity finance were requested, which request was made first?** C4300

Note: only answer this question if you indicated in question **41** that both debt and equity finance were requested.

- 1 debt finance request
- 2 equity finance request
- 3 both were requested around the same time

44 **Mark one oval. For this business's most recent debt request, was any finance received?** C4400

- 1 all of the requested amount was received → go to **47**
- 2 some of the requested amount was received → go to **45**
- 3 none of the requested amount was received → go to **45**

45 **Mark all that apply. What were the reasons given for not receiving the full amount of debt finance requested?**

- insufficient income or cashflow to service financing C4501
- insufficient collateral or security C4502
- poor credit experience or history C4503
- insufficient business or management experience C4504
- no business plan, or the business plan was not acceptable C4505
- no one was willing to personally guarantee the financing C4506
- the business chose to withdraw the request C4507
- the request is still under review C4508
- other reasons C4509
- no reasons were given C4510

46 **Mark all that apply. How has not receiving the full amount of debt finance requested affected this business?**

- availability of finance has not affected this business C4601
- expansion or investment plans put on hold C4602
- no longer able to pay all bills C4603
- laying off staff C4604
- reducing working hours C4605
- hiring freeze C4606
- reducing output C4607
- owners' personal assets (eg house) need to be sold C4608
- business assets need to be sold C4609
- planning to sell business C4610
- planning to close business C4611
- other effects C4612

Other details

47 **How long did it take to complete this questionnaire?** C4701

Include:

- The time spent reading the instructions, working on questions and obtaining information
- The time spent by all employees in collecting and providing this information

hrs mins

48 **Please make any comments that would help Statistics New Zealand interpret the information that you have given.** C4800

49 **Who should we contact if we have any queries about the information you have given? If necessary, please correct errors or provide details in the white boxes below each item.**

Name C4901

Position C4902

Email C4903

Phone C4904

Fax C4905

Cellphone C4906

I declare that this questionnaire has been completed to the best of my knowledge.

Signature Date C4907

Day Month Year

07/2009

Thank you for your time and effort.

Office use: A B C

The main results of all our surveys are available at www.stats.govt.nz

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