Research findings from a national survey of New Zealand businesses

An exploration of business experiences with information and communication technology and purchasing services from other businesses

Report prepared for: Productivity Commission

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Executive summary

Background and objectives

The Productivity Commission is presently conducting two inquiries.

1. The Commission is investigating ways it boost productivity in the New Zealand services sector.
2. The Commission is investigating how to make improvements in the design and operation of regulatory regimes in New Zealand.

To help inform its inquiries the Commission seeks to carry out a survey to better understand the views and experiences of businesses in relation to three key areas:

- Purchasing services from other business, with a focus on: what types of services firms make use of (as inputs to their production), how competitive the markets are for these services, and how firms make choices between, and switch between, providers
- Investing in, and making use of, information and communications technology (ICT), with a focus on the types of ICT that firms use and invest in, and barriers that they face in effectively making use of ICT
- The impact of regulations, with a focus on the main regulations that impact on business and the types of effect of these regulations.

NB: This report presents the results of the survey in the first two areas. The material relating to regulation will be released with the draft report on regulatory institutions and design in March 2014.

Research methodology

Colmar Brunton carried out an online survey of 1,526 senior decisions makers in New Zealand businesses, excluding sole traders and those working in the Public Administration and Safety Industries. Fieldwork was conducted from 15 October to 7 November, 2013.

Key findings – Competition in service industries

Survey respondents were asked a series of questions about the services they purchased from other firms for their business or organisational operations. All questions in this section were asked in relation to 12 types of services: banking, insurance, internet or telecommunications, real estate including rent of commercial premises, rent of equipment, legal, accounting, administrative support, recruitment/HR/Payroll, education or training, IT support, and freight.

Businesses purchase a wide range of services from other firms and most are aware of multiple providers of a service

- Internet/telecommunications (82%), insurance (80%), accounting (77%), and banking services (68%) are the services that businesses most commonly purchase.
- Large majorities of businesses are aware of multiple providers of a particular type of service (74% to 94% across all services). Some variation is evident by type of service, with businesses least likely to know multiple providers in real estate (74%), administrative support (75%), and education or training (77%).

Across all services, providers' efforts to retain or gain business are perceived to be quite low

- For each service a business had purchased in the last two years, they were asked how intense providers were in their efforts to gain or retain the business (using a scale of 1 to 5 where 1 is 'no effort' and 5 is ‘intense effort’). Proportions of only around a fifth to a quarter rate providers’ efforts a as a 4 or 5 on the intensity scale. Providers of legal services and freight services are perceived to put in the least effort.

Consideration of switching provider varies markedly by type of service

- Consideration of switching is most common for internet/telecommunications (68%), insurance (55%), and banking services (47%). Businesses are most likely to actually switch providers of internet or telecommunication services (25%). Businesses are most likely not to have considered switching providers for legal services and accounting services (71% and 67% respectively have not considered switching).

Loyalty to the existing provider is strong for many, but cost and information gaps are key barriers for some types of services

- Common barriers to switching are a reluctance to break the relationship with the business’s existing provider and a belief that their existing provider is best (these feature in the top two reasons for not switching for half or more of all types of services). The cost of switching is most likely to be a barrier for banking services (29%). Insufficient information to make an informed choice is a common barrier in regard to administrative support services (31%), IT support services (30%) and legal services (27%).
- Receiving a recommendation or advice from others was helping in choosing a provider for most of the service types. Contacting multiple providers for a quote, and the proactivity of the provider, were also helpful in selecting a provider for some service types.

Businesses primarily switch for financial advantage and while switching costs and disruption are perceived to be relatively low for most service types, there are some exceptions

- For most of the types of services, businesses that had switched providers most commonly expect that this will result in increased profitability and allow existing products or services to be produced at lower cost. The introduction of new products or services is most commonly anticipated with switching providers of education or training services, and improved product or service competitiveness is most commonly anticipated with switching providers of administrative support and IT support services. There is a high degree of uncertainty about the effect on business performance of switching providers of legal services.
- Businesses that had switched providers were asked how costly or disruptive the process was to their business. A scale of 1 to 5 was used where 1 means ‘switching costs were low and disruption was negligible’ and 5 means ‘switching costs were high and disruption was substantial’. For most service types, the majority of businesses rated the switching costs as small (a 1 or 2 on the 5-point scale). The costs of switching providers of real estate services and legal services are notably higher (30% and 18% respectively rated the cost of switching a 4 or 5 on the 5-point scale).
- The disruption and cost from switching providers tends to stem from additional administration and paperwork (especially from the new provider) and loss of functionality (especially that which affects internal business processes).

Information and communications technology

Larger businesses are more likely to invest in ICT, not only to improve their existing offer but in search of growth through new products, services and markets

- A small majority (59%) of businesses have made an investment in ICT in the past two years. Investment increases markedly with size of business (from 53% of businesses with 1-6 employees to 81% of businesses with 50+ employees).
- Reasons for investing in ICT most commonly relate to a need to improve the quality of existing products or services (61%) followed by the desire to maintain or repair existing systems (47%), improve communications with suppliers or customers (39%), support new products or services (33%), and support a new business model or entry into new markets (24%). The latter two reasons are notably more common reasons among larger businesses.

While many businesses do not invest in ICT because they feel they are ‘doing fine without it’, cost is also a barrier for some

- The most common reason for <u>not</u> investing in ICT is that the business is they are 'doing fine without it' (47% of businesses who have not invested in ICT in the past two years). However, cost is also a barrier with 25% indicating that the benefits would not outweigh the cost and 23% saying they would like to invest in ICT, but can't afford it.

Most businesses expect the ICT investment to deliver significant benefits to the business in time, but the costs of the investment have been higher than anticipated for a quarter and some are unsure about whether the costs will be offset in the long run

- Around seven in ten (69%) businesses that have made an ICT investment in the last two years either believe the costs have already been offset by the financial benefits <u>or</u> they will be in time. The remainder believe they won't or are unsure.
- Around two thirds (68%) of businesses that made an ICT investment feel the investment cost about the same as anticipated, 23% feel it cost more than anticipated, 4% feel it cost less than anticipated and 4% believe that is too early to tell.
- Around one half (52%) of businesses that have made an ICT investment in the last two years believe the investment has already delivered significant benefits, 41% expect them to come over time and 7% do not expect significant benefits to eventuate.
- The most commonly expected effects of the ICT investment on business performance are increased competitiveness (50% of businesses that made an ICT investment), profitability (44%), business revenue (43%) and opportunities to introduce new products or services (39%) and, to a lesser extent, the production of existing products or services at lower cost (22%).

A small majority of businesses use, or intend to use in the near future, cloud-computing technologies

- Six in ten (60%) businesses use, or intend to use in the near future, cloud-computing technologies. Consumer-oriented cloud applications are most commonly used (45%), followed by business-oriented cloud applications (23%) and cloud computing platforms (15%). Few (3%) use, or intend to use, cloud computing infrastructure.

Conclusions

Businesses' experiences when purchasing services from other businesses

Several of the research findings related to businesses' experiences when purchasing services from other firms point to the potential for greater competition in the services sector. In particular, across all service types, most businesses are aware of multiple providers but relatively few have considered switching. Those who have switched providers hold positive expectations about the financial benefits to their business, and the costs and disruption of switching do not appear to have been unduly high for most. Having said this, competition may be more limited in some markets, such as legal services and real estate/rental services, where switching costs are higher and efforts to attract and retain business is relatively low.

The research findings also point to barriers to the stimulation of greater competition in the services sector. There seems to be a fairly strong degree of inertia, with many businesses not having considered switching providers (across all service types) and many choosing a provider based on the recommendation or advice of others. There appears to be quite a strong degree of loyalty to existing providers.

The intensity of effort for securing business exerted by providers seems reasonably weak across most service sectors, and whilst this means there is limited effort being exerted to gain business, it also means the efforts to retain business are likely to be limited.

Finally, the research findings need to be interpreted within the context of specific service types (e.g. banking versus legal services) as a number of variations are evident (and highlighted in the body of the report).

Businesses' experience investing in, and making use of, information and communications technology

The research findings confirm that there is considerable variation in the uptake of ICT across the business sector, with only small majorities having made some kind of investment in ICT in the last two years and using – or intending to use in the near future – cloud-computer technologies. Further, investment in ICT is more prevalent among larger businesses, more established businesses and particular industry groups.

Businesses that have invested in ICT widely recognise the potential benefits of improved business performance resulting from greater competitiveness, sales and profitability. For some businesses, these benefits have already been realised. While the focus for most businesses is on using ICT to improve their current offering and systems, larger businesses in particular are also using ICT to chase new opportunities and to facilitate entry into new markets.

However, a number of barriers to investing in ICT are evident. Many businesses believing they are 'doing fine' without it, but cost is also an issue for a significant proportion of those who have chosen not to invest in recent times. There is also a significant amount of uncertainty among those who have invested in ICT about whether the financial benefits of the investment will outweigh the costs. Further, nearly a quarter of businesses that invested in ICT say it cost them more than they had anticipated.

Other barriers exist for significant numbers of businesses in particular pockets of the business sector. For example, small (low turnover) businesses are more likely to struggle with knowing how ICT can best be utilised in their business whereas mid-sized businesses (20-49 employees) are especially likely to lack people with the necessary skills to adapt to new technology.

Background and objectives

The New Zealand Productivity Commission (the Commission) was established in April 2011 to provide advice to the Government on improving productivity in New Zealand.

The Commission is presently conducting two inquiries.

1. The Commission is investigating ways to boost productivity in the New Zealand services sector.
2. The Commission is investigating how to make improvements in the design and operation of regulatory regimes in New Zealand.

To help inform its inquiries, the Commission has commissioned survey research to better understand the views and experiences of businesses in relation to three key areas:

- Purchasing services from other business, with a focus on what types of services firms make use of (as inputs to their production), how competitive the markets are for these services, and how firms make choices between, and switch between, providers
- Investing in, and making use of, information and communications technology (ICT), with a focus on the types of ICT that firms use and invest in, and barriers that they face in effectively making use of ICT
- The impact of regulations, with a focus on the main regulations that impact on business and the types of effect of these regulations. NB – to be released in March 2014.

This report presents the research findings of a national survey of New Zealand businesses to address these objectives.

Research methodology

Colmar Brunton carried out an online survey of 1,526 senior decisions makers in New Zealand businesses, excluding sole traders and those working in the Public Administration and Safety Industries. Fieldwork was conducted from 15 October to 7 November, 2013.

The average interview length was 13 minutes. The final questionnaire can be found in Appendix B.

The sample was sourced from Colmar Brunton's dedicated online panel of businesses. The sample was stratified by industry type and business size (number of employees). A disproportionate sampling scheme was used for the business size strata, where we under-selected smaller businesses (1-5 employees) and over-selected those with more employees. This has allowed more robust analyses for larger businesses. Prior to analyses, the data have been weighted (by business size and industry) so that the overall results are still representative of all businesses in the target population.

A profile of the sample on business demographic variables can be found in Appendix A.

The overall response rate to the survey was 44%.

Margins of error

The table below presents the maximum margins of error for the total sample size as well as sub-groups of businesses defined by their number of employees.

Maximum margins of error

Analysis group	Maximum margin of error*
Total sample size: 1,526	+/-2.5%
1-5 employees: 652	+/-3.8%
6-19 employees: 564	+/-4.1%
20-49 employees: 160	+/-7.7%
50+ employees: 150	+/-8.0%

*These maximum margins of error have been calculated at the 95% confidence level and assume simple random sampling.

Throughout this report, all sub-group differences noted are statistically significant differences at the 95% confidence level. Chi-square tests of difference were used for all subgroup analysis.

Additional notes to the reader

- For ease of reading the report, we refer to 'businesses' throughout this document. However, please note that the survey questions consistently referred to 'businesses or organisations'.
- Percentages in the tables and graphs may not add to 100% due to rounding or because respondents were able to give more than one answer to some questions.
- The base sizes shown in the tables and graphs use unweighted data (as the statistical reliability of results is determined by unweighted base sizes). The percentages in the tables and graphs use weighted data to ensure the survey results are representative of the population of interest.

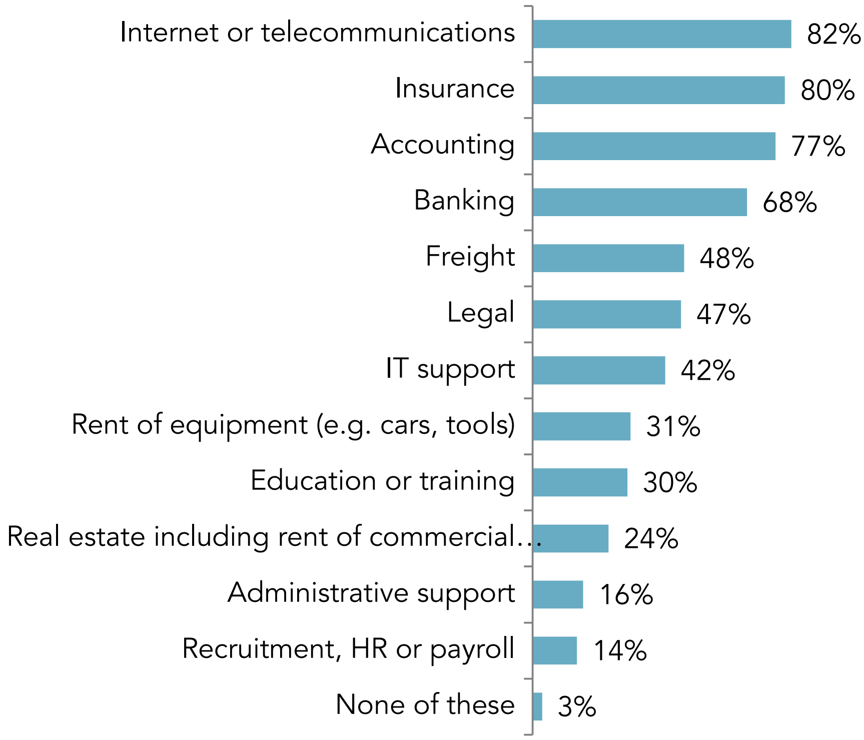
Competition in service industries

This section of the report looks at businesses' experiences with purchasing services from other business, with a focus on what types of services firms make use of (as inputs to their production), how competitive the markets are for these services, and how firms make choices between, and switch between, providers.

Services purchased in last two years

Businesses were asked which of the services listed in the chart below their business has purchased from other firms in the past two years.

Services purchased in last two years



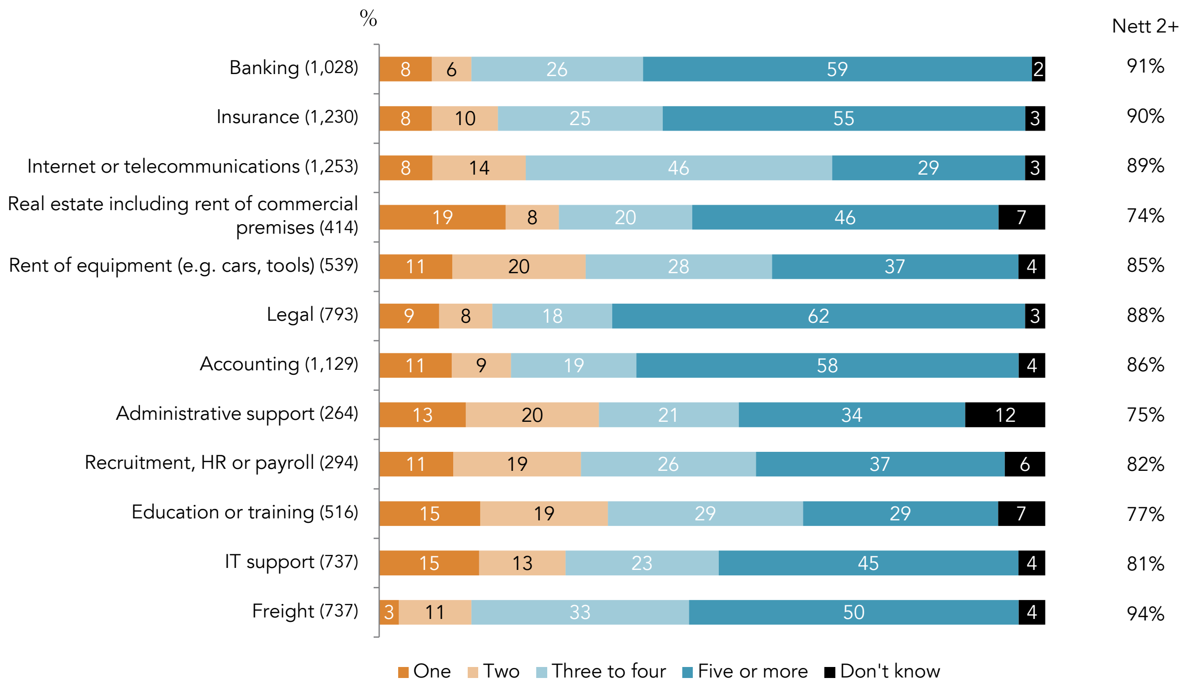
Base: All businesses (1,526)
Source: Q2a

A wide range of services are purchased by businesses, with internet/telecommunications (82%), insurance (80%), accounting (77%) and banking services (68%) being most common.

Awareness of number of providers

For each service the business had purchased in the last two years, they were asked how many service providers they are aware of that could have provided the service. It was further explained that by this we meant firms that are suitably located and capable of providing the service the business requires. Results are presented below.

Awareness of number of providers



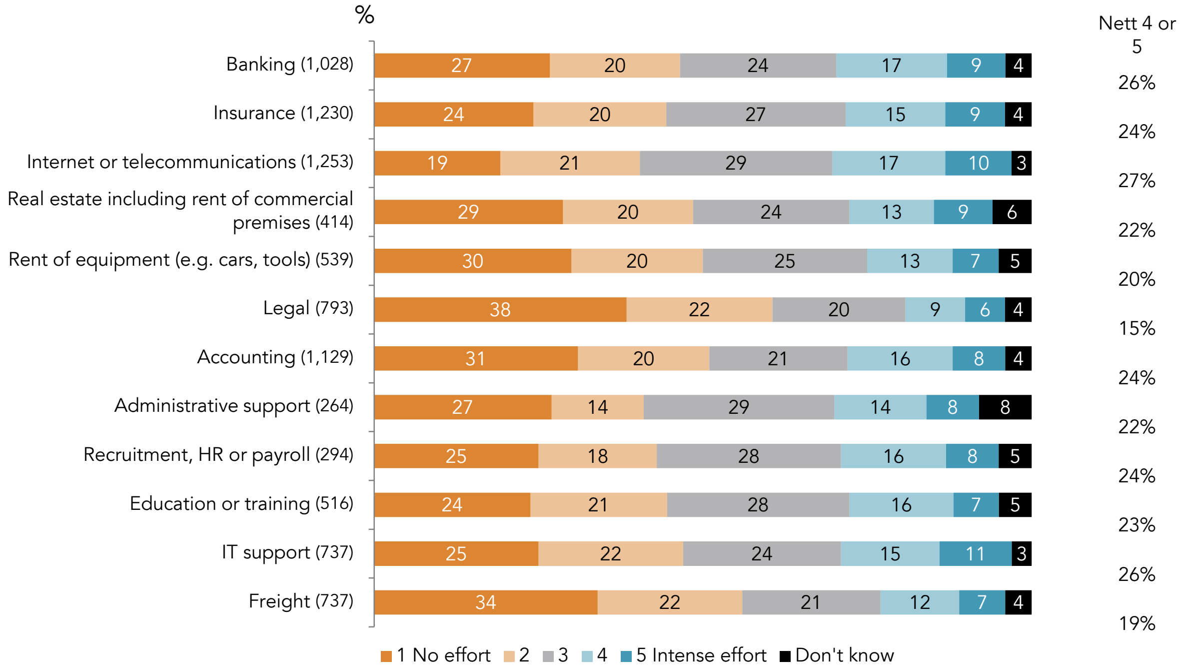
Base: Businesses that have purchased particular service in last 2 years
Source: Q2b

Across all services, a large majority of businesses are aware of multiple providers (as indicated in the right hand column in the chart). Some variation is evident by type of service, with businesses least likely to know multiple providers in real estate (74%), administrative support (75%), and education or training (77%).

Perceived intensity of effort

For each service the business had purchased in the last two years, they were then asked how intense providers were in their efforts to gain or retain the business. A five point scale was used where 1 means ‘no effort’ and 5 means ‘intense effort’. Results are presented in the chart below.

Perceived intensity of effort



Base: Businesses that have purchased particular service in last 2 years
Source: Q2c

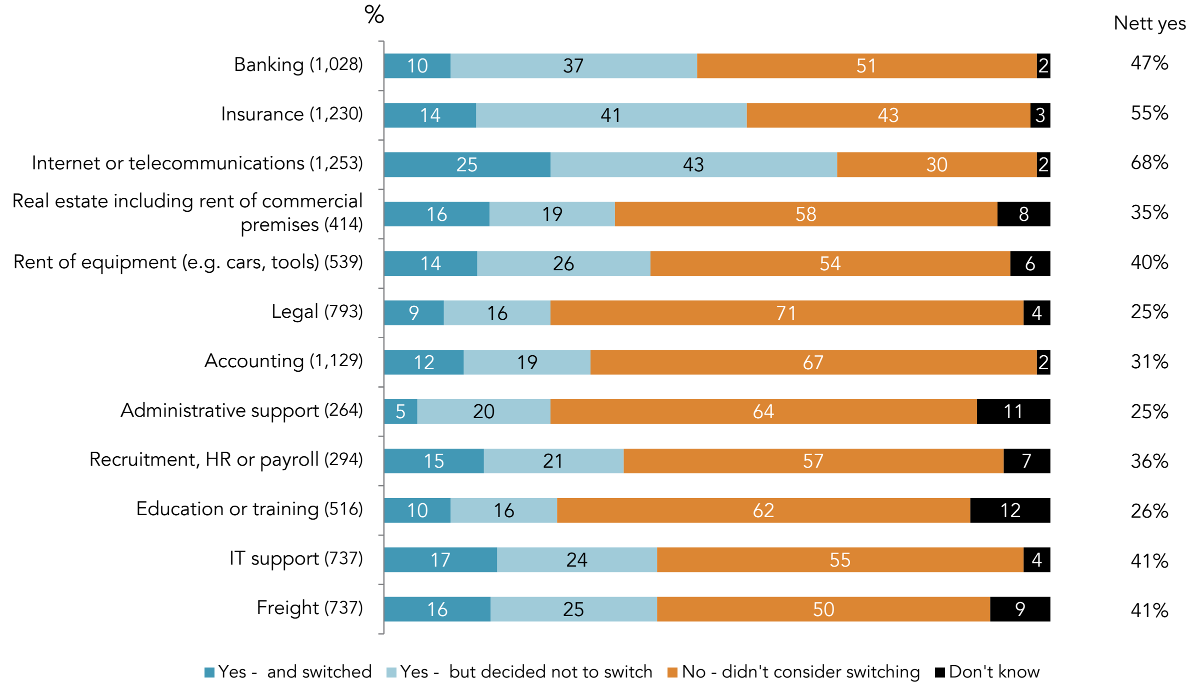
Across all services, perceptions of how much effort providers exert in retaining or gaining business are somewhat polarised. With the exception of legal services, proportions of around a fifth to a quarter rate providers’ efforts a as a 4 or 5 on the intensity scale. Likewise, with the exception of legal services, proportions of around a fifth to a third consider the providers put in ‘no effort’.

Providers of legal and freight services are perceived to put in the least effort. Conversely, providers of banking services, internet or telecommunications, and IT support services are perceived to put in the most intense efforts (although the margins between these three types of providers and a number of the other providers are small).

Consideration of switching

For each service the business had purchased in the last two years, they were then asked whether their business considered switching provider in the past two years. They were asked to answer this question for their main provider if they used multiple service providers. Results are presented in the chart below.

Consideration of switching



Base: Businesses that have purchased particular service in last 2 years
Source: Q2d

Consideration of switching provider varies somewhat by type of service. Consideration of switching is most common for internet/telecommunications (68%), insurance (55%), and banking services (47%). Businesses are most likely to actually switch providers of internet or telecommunication services (25%).

Businesses are most likely not to have considered switching providers of legal and accounting services (71% and 67% respectively).

Barriers to switching

For each type of service for which the business had considered switching providers, but decided not to, the business was asked what factors caused them not to switch. They were prompted with a list of possible factors. These factors, along with the results, are shown in the table overleaf. The top two reasons for each type of service are highlighted in orange.

Barriers to switching

Reason	Service											
	Banking (371)	Insurance (478)	Internet or telecomm-unications (520)	Real estate including rent of commercial premises (81)	Rent of equipment (e.g. cars, tools) (147)	Legal (126)	Accounting (216)	Administrative support (52)	Recruitment, HR or payroll (66)	Education or training (92)	IT support (183)	Freight (184)
Didn't want to break relationship with existing provider	**37**	**25**	15	18	**21**	**29**	**39**	**26**	18	17	**25**	**25**
Too time consuming or costly (other than contract termination fees)	**29**	16	**19**	15	10	14	16	8	16	**22**	15	8
Existing provider was best	17	**29**	**26**	**18**	**31**	22	12	23	**28**	20	19	**31**
I could not find a new provider that met my needs	14	19	19	**25**	20	16	**18**	18	**24**	**30**	20	23
Insufficient information to make informed choice	11	18	15	8	14	**27**	18	**31**	19	16	**30**	16
Switching would result in inconvenience for my customers	8	2	12	11	2	2	1	3	5	1	5	9
Contract termination fees	6	4	16	3	18	3	2	3	4	1	5	0
Other	5	3	3	13	2	3	6	3	4	7	3	2

Base: Businesses that considered switching providers, but chose not to switch (see column headings for base sizes)
Source: Q2e

Reasons vary somewhat by type of service. However, a reluctance to break the relationship with their existing provider, and a belief that their existing provider was best, feature in the top two reasons for half or more of all types of services. The cost of switching is most likely to be a barrier for banking services and to a lesser extent education/training services and internet/tele-communications services. Insufficient information to make an informed choice is a common barrier in regard to administrative support services, IT support services, and legal services.

Factors that helped select provider

For each type of service for which the business switched providers, the business was asked what factors helped them select their new provider. They were prompted with a list of possible factors. These factors, along with the results, are shown in the table below.

Factors that helped select provider

Reason	Service										
	Banking (112)	Insurance (177)	Internet or telecomm-unications (339)	Real estate including rent of commercial premises (63)	Rent of equipment (e.g. cars, tools) (82)	Legal (73)	Accounting (128)	Administrative support (17)*	Recruitment, HR or payroll (48)	Education or training (57)	IT support (134)	Freight (139)
Recommendation or advice	40	36	24	36	20	71	62	53	39	52	53	20
Contacted multiple providers for a quote	19	37	31	37	30	11	10	7	18	18	22	44
Approached by new service provider	19	22	32	21	33	6	7	9	20	31	23	26
Advertising	5	4	17	11	5	0	4	0	9	17	6	3
Used online comparison tool or ranking system	7	8	10	2	15	1	3	10	11	4	6	3
Other	24	12	9	10	16	13	18	13	13	16	10	17
Can't say or don't know	6	1	1	0	1	2	4	15	6	1	1	2

Base: Businesses that switched providers (see column headings for base sizes)
Source: Q2f
*Caution: small sample size

Receiving a recommendation or advice from others was helpful in choosing providers for most of the service types, with this being an especially important factor in selecting providers of legal services. For five of the service types, contacting multiple providers for a quote was deemed helpful by at least three in ten businesses. Likewise, for three of the service types, the proactivity of the provider in approaching the business was deemed helpful by at least three in ten businesses.

Expected effect of switching provider on business performance

For each type of service for which the business switched providers, the business was asked how they expect that switching provider will affect the performance of their business in the medium to long term. They were prompted with a list of possible ways. These, along with the results, are shown in the table below. The top two reasons for each type of service are highlighted in orange.

Expected effect of switching provider on business performance

Reason	Service											
	Banking (112)	Insurance (177)	Internet or telecomm-unications (339)	Real estate including rent of commercial premises (63)	Rent of equipment (e.g. cars, tools) (82)	Legal (73)	Accounting (128)	Administrative support (17)*	Recruitment, HR or payroll (48)	Education or training (57)	IT support (134)	Freight (139)
Increase profitability	**43**	**34**	**34**	**32**	**45**	18	**55**	28	**43**	**53**	**48**	**47**
Allow existing products/services to be produced at lower cost	**42**	**32**	**52**	27	**47**	**24**	**30**	**50**	**32**	20	34	**33**
Allow the introduction of new products or services	30	11	31	**27**	12	18	13	29	12	**41**	45	8
Increase product or service competitiveness	20	11	30	24	25	18	19	**47**	15	39	**47**	31
Increase sales numbers or revenue	15	2	14	27	11	7	12	13	12	34	22	5
Increase costs	8	8	3	12	2	12	4	13	4	10	10	1
Decrease profitability	4	3	1	1	0	3	1	0	1	0	0	2
Reduce sales	1	1	0	0	3	0	0	0	1	0	1	1
Can't say or don't know	19	31	15	21	16	**42**	14	9	28	12	13	12

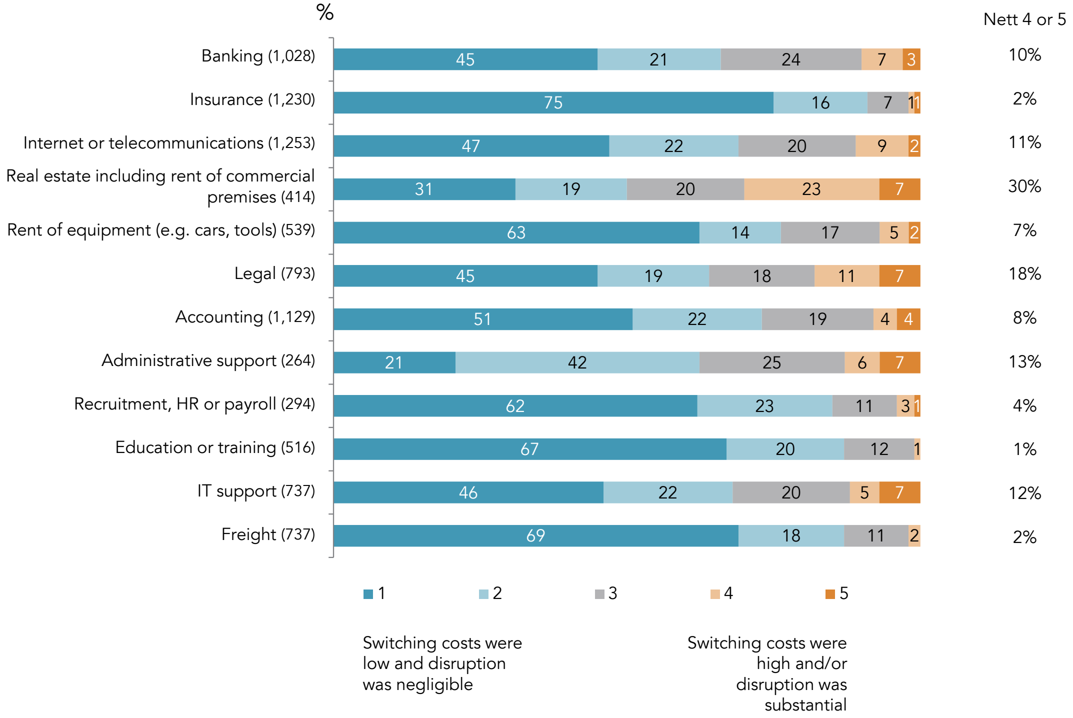
Base: Businesses that switched providers (see column headings for base sizes)
Source: Q2g
*Caution: small sample size

For most of the types of services, businesses most commonly expect that switching provider will result in increased profitability and allow existing products or services to be produced at lower cost. The introduction of new products or services is most commonly anticipated with switching providers of education or training services, and improved product or service competitiveness is most commonly anticipated with switching providers of administrative support and IT support services. There is a high degree of uncertainty about the effect on business performance of switching providers of legal services.

Perceptions of how costly or disruptive switching was

For each type of service for which the business switched providers, the business was asked how costly or disruptive the process was to their business. A five point scale was used where 1 means 'switching costs were low and disruption was negligible' and 5 means 'switching costs were high and/or disruptions was substantial'. Results are presented in the chart below.

Perceptions of how costly or disruptive switching was



Base: Businesses that switched services
Source: Q2h

For most service types, the costs of switching providers is considered to be small (a 1 or 2 on the 5-point scale). The costs of switching providers of real estate services and legal services are notably higher (30% and 18% respectively rated the cost of switching a 4 or 5 on the 5-point scale).

Causes of costly or disruptive instances

For each type of service for which the business experienced significant disruption and cost in switching providers (a rating of 3-5 out of 5 in the previous question), businesses were asked about the causes of the disruption/cost. They were prompted with a list of possible reasons. These are listed in the table below along with the survey results. The top two reasons for each type of service are highlighted in orange. Caution should be taken in interpreting the results due to small sample sizes for a number of the service types.

Causes of costly or disruptive instances

Reason	Service										
	Banking (36)	Insurance (16)*	Internet or telecomm-unications (117)	Real estate including rent of commercial premises (34)	Rent of equipment (e.g. cars, tools) (18)*	Legal (24)*	Accounting (35)	Administrative support (7)*	Recruitment, HR or payroll (7)*	Education or training (6)*	IT support (47)	Freight (18)*
Administration, process or paperwork required by new provider	**62**	27	22	27	9	**42**	**51**	43	**43**	0	24	**58**
Loss of functionality which affected internal business processes	**38**	**32**	**50**	**38**	**45**	3	29	**49**	**24**	**58**	**48**	29
Administration, process or paperwork required by old provider	36	**30**	22	9	20	17	**30**	0	0	0	11	**34**
Other additional expenses	32	21	23	**52**	**34**	**34**	23	**48**	21	**34**	**50**	22
Loss of functionality which directly affected customers	20	0	**40**	14	0	19	6	0	14	30	32	20
Other	15	15	9	15	18	3	2	0	10	0	16	10
Don't know/Can't say	7	13	2	5	6	16	2	9	35	8	2	11

Base: Businesses that experienced significant disruption and cost in switching providers (see column headings for base sizes)
Source: Q2i
*Caution: small sample size

The disruption and cost from switching providers tend to stem from additional administration and paperwork (especially from the new provider) and loss of functionality (especially that which affects internal business processes).

Information and communications technology

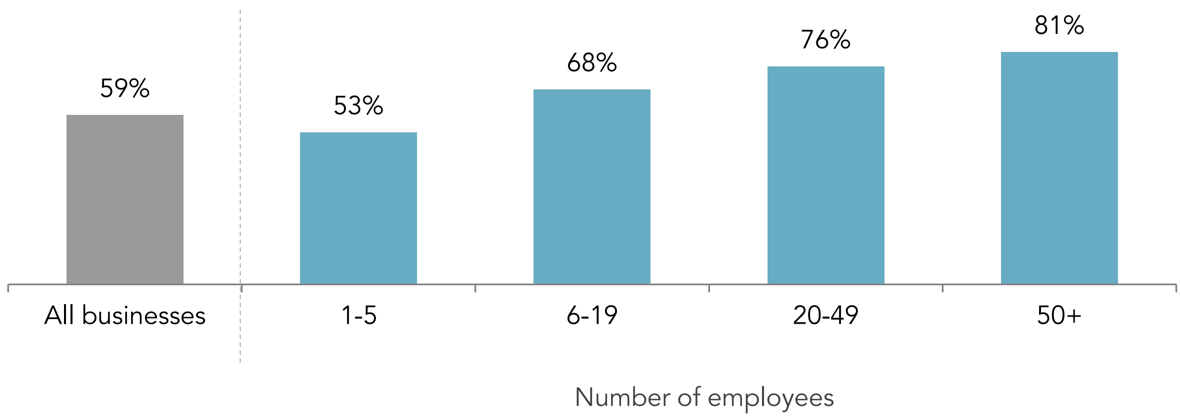
This section of the report covers businesses' experiences in investing in, and making use of, information and communications technology (ICT). Before answering questions related to ICT, respondents were given the following definition:

> *"ICT includes computers, software, website development, communications equipment and mobile technology. It does not include mechanical equipment such as electrical tools or heavy machinery."*

Investment in ICT in last two years

Respondents were first asked whether they have made a significant investment (e.g. time, expenses, staff or capital) in ICT in the past two years. Results are presented below.

Proportion of businesses that have made an ICT investment in last two years



Base: All businesses (1,526), 1-5 employees (652), 6-19 employees (564), 20-49 employees (160) and 50+ employees (150)
Source: Q1a

A small majority (59%) of businesses have made an investment in ICT in the past two years. As shown in the graph, investment in ICT increases markedly with business size.

Consistent with the above finding relating to business size, the following sub-groups are more likely to have invested in ICT in the past two years:

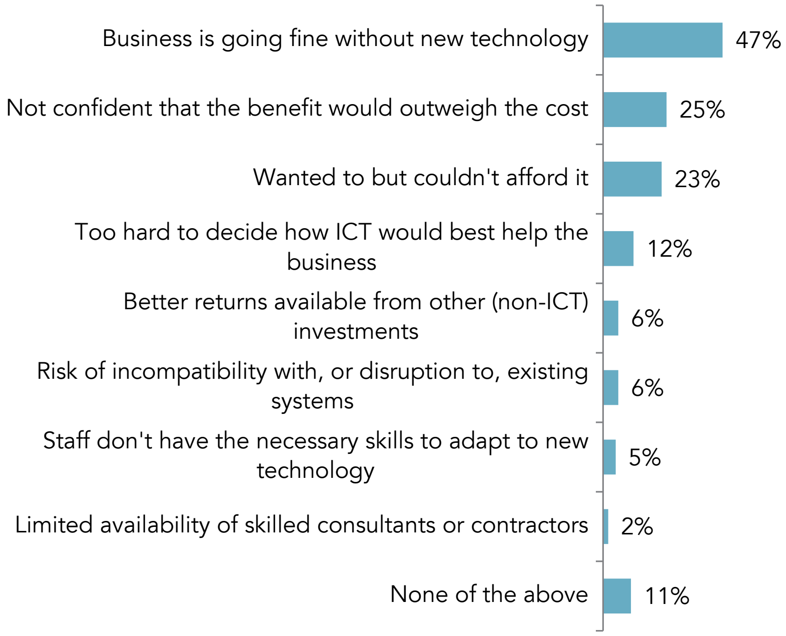
- Exporters (72% versus 56% of businesses that do not export)
- Businesses with higher annual turnovers (up to $500,000 = 54%, over $500,000 and up to $1 million = 60%, over $1 million and up to $10 million = 73%, over $10 million = 80%)
- Businesses with office or operations in two or more locations (72% versus 55% of businesses with one location)
- Businesses with a main office in a city (63% versus 52% in towns and 49% in rural areas).

Investment also varies by industry group. Investment in ICT is especially high among businesses in professional, scientific and technical services (72%), education and training (72%), and health care and social assistance (69%), and is especially low among businesses in agriculture, forestry and fishing (45%) and the construction sector (43%).

Reasons for not investing in ICT

Businesses that have not invested in ICT in the last two years were asked for their reasons for not investing. Responses are shown below.

Reasons for not investing in ICT



Base: Businesses that have not invested in ICT in last 2 years (505)
Source: Q1b

A belief that the business is doing fine without new technology is the most common reason given (47%). Reasons relating to cost also receive significant mention, with 25% indicating that the benefits would not outweigh the costs and 23% citing affordability issues.

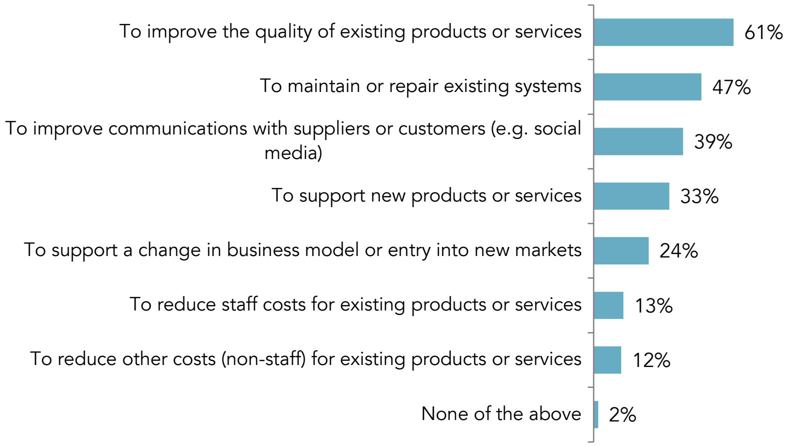
A small number of sub-group differences exist:

- Younger businesses are more likely to say they 'wanted to, but couldn't afford it' (39% of businesses up to two years in age versus 21% of businesses more than two years in age)
- Businesses with up to $100,000 in annual turnover are more likely to say it was 'too hard to decide how ICT would best help the business' (21% versus 10% of businesses with an annual turnover of more than $100,000)
- Larger businesses are more likely to note the 'risk of incompatibility with, or disruption to, existing systems' (21% of businesses with 50 or more employees compared to 6% of businesses with less than 50 employees)
- Not having staff with the necessary skills to adapt to new technology is a barrier more commonly mentioned among businesses in the healthcare and social assistance sector (25%) and businesses with 20-49 employees (23%).

Rationale for ICT investment

Businesses that have made an investment in ICT in the last two years were asked for their rationale for the investment. Responses are shown below.

Rationale for ICT investment



Base: Businesses that have made an investment in ICT in last 2 years (977)
Source: Q1c

Reasons for investing in ICT most commonly relate to a need to improve the quality of existing products or services (61%) followed by the desire to maintain or repair existing systems (47%), improve communications with suppliers or customers (39%), and support new products or services (33%).

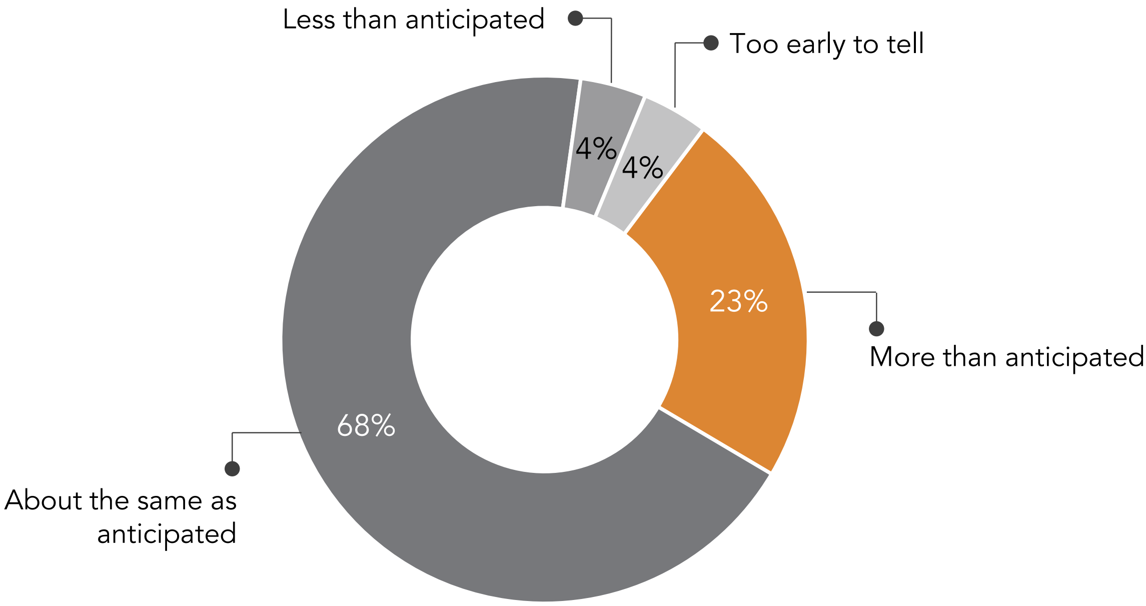
A number of sub-group differences exist:

- ‘Improving the quality of existing products or services’ is an especially common rationale among businesses with an annual turnover of more than $10 million (75%), businesses with 50+ employees (71%) and organisations in the education and training sector (74%).
- The need ‘to maintain or repair existing systems’ is an especially common rationale among more established businesses (48% of businesses that are more than two years old compared to 27% of businesses that are up to two years old), as well as businesses in the professional, scientific and technical services sector (61%).
- The need ‘to improve communications with suppliers or customers’ is especially common among businesses in the accommodation and food services sector (59%).
- The need ‘to support new products or services’ is especially common among businesses with a turnover of more than $10 million (43%).
- A desire ‘to support a change in business model or entry into new markets’ is more common among businesses with a turnover of more than $10 million (33%)
- The need ‘to reduce staff costs for existing products or services’ is especially common among businesses with 50+ employees (22%) and businesses in the transport, postal and warehousing sector (26%)
- The desire ‘to reduce other costs (non-staff) for existing products or services’ is more common among larger businesses (20% of businesses with 50+ employees and 19% of businesses with an annual turnover of more than $10 million).

Cost of ICT investment

Businesses that have made an investment in ICT in the last two years were asked whether the ICT investment cost more or less than anticipated.

Cost of ICT investment



Base: Businesses that have made an investment in ICT in last 2 years (977)
Source: Q1d

Around two thirds (68%) of businesses that made an ICT investment feel the investment cost about the same as anticipated. Nearly one quarter (23%) feel it cost more than anticipated. Small proportions feel it cost less than anticipated (4%) or that it is too early to tell (4%).

Businesses that are especially likely to feel the investment cost more than anticipated are:

- Businesses with 20-49 employees (34% versus 22% of businesses with under 20 employees and 27% of businesses with 50 or more employees)
- Organisations in the education and training sector (35%).

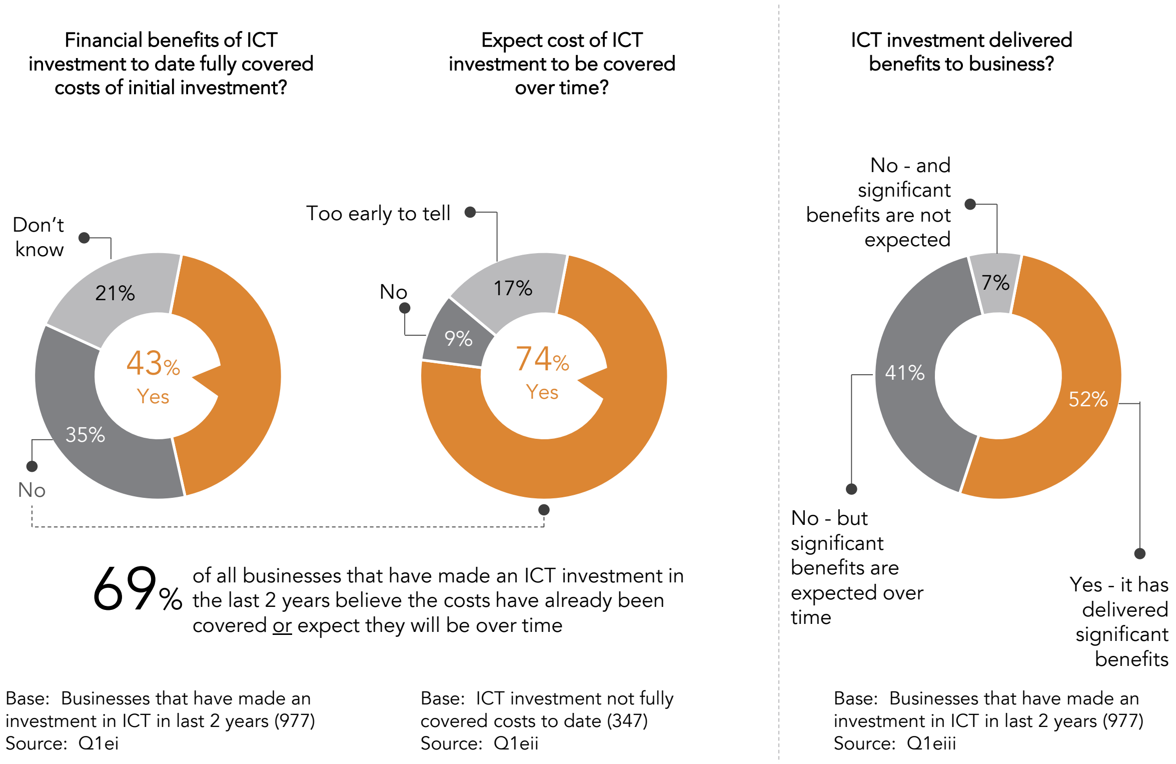
Financial benefits of ICT investment

Businesses that have made an ICT investment in the last two years were asked whether the financial benefits of the ICT investment to date fully covered the costs of the initial ICT investment. Those who felt it had not were then asked whether they expect the costs of the ICT investment to be covered over time.

All businesses that have made an ICT investment in the last two years were then asked whether the ICT investment delivered significant benefits to their business.

Responses to these three questions are shown in the chart below.

Financial benefits of ICT investment



Around four in ten (43%) businesses that have made an ICT investment in the last two years believe that the financial benefits of the investment to date have fully covered the costs of the initial investment. Nearly three quarters (74%) of those who felt the financial benefits have yet to fully cover the costs of the initial investment believe the costs will eventually be covered over time.

In total then, 69% of businesses that have made an ICT investment in the last two years either believe the costs have already been offset the by the financial benefits or they will be in time.

Businesses are somewhat divided on whether the ICT investment has already delivered significant benefits to the business, with 52% indicating it has and the remainder believing it has not. However, most businesses in the latter category believe the financial benefits will eventually be realised.

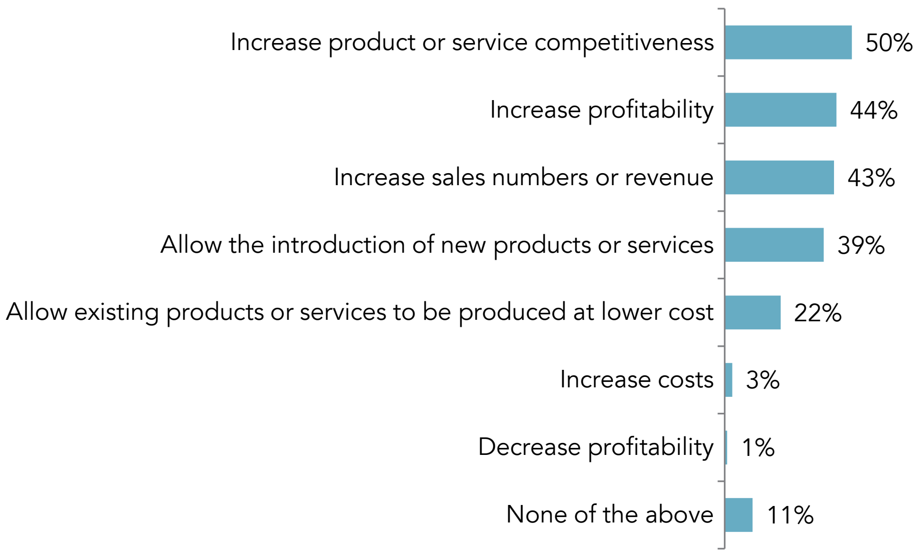
Sub-group analysis reveals the following patterns:

- Businesses with 50 or more employees are more likely to be uncertain about whether the financial benefits of their investment to date have fully covered the costs of the initial investment (33% versus 21% of businesses with less than 50 employees that have made an ICT investment)
- Businesses in the accommodation and food sector are less likely to be certain that the costs of the ICT investment have already been offset or will be in the future (57% compared to 69% of all businesses that have made an ICT investment).
- Businesses in the professional, scientific and technical services sector are especially likely to believe that the investment has delivered significant benefits to their business (67% compared to 52% of all businesses that have made an ICT investment).
- Businesses in the construction sector are especially likely to believe the investment has not yet delivered significant benefits to their business, but will do so over time (56% compared to 41% of all businesses that have made an ICT investment).

Effects of ICT investment on the business in the medium to long term

Businesses that have made an investment in ICT in the last two years were asked how they expect the investment will affect the performance of their business in the medium to long term. Results are shown below.

Effects of ICT investment on the business in the medium to long term



Base: Businesses that have made an investment in ICT in last 2 years (977)
Source: Q1f

Increased competitiveness (50%), profitability (44%), and business revenue (43%) as well as opportunities to introduce new products or services (39%) are the most commonly expected effects. A notable number of businesses (22%) also expect that existing products or services can be produced at lower cost.

A number of sub-group differences exist. These are summarised in the following table.

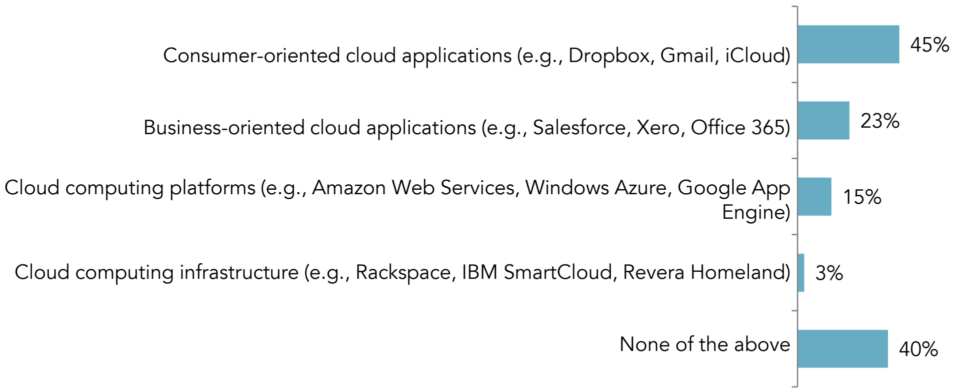
Sub-group differences in effects of ICT investment on the business in the medium to long term

Effect	Sub-group displaying high result
Increase product or service competitiveness (50%)	Wholesale trade (67%)
Increase profitability (44%)	Rental, hiring and real estate services (60%) Retail trade (55%) Businesses with offices/operations in 5+ locations (55%)
Increase sales numbers or revenue (43%)	New businesses (up to 2 years = 61%) Retail trade (71%) Wholesale trade (58%) Businesses with main offices located in towns (58%)
Allow the introduction of new products or services (39%)	Manufacturing sector (51%) Businesses with annual turnover of more than $10 million (50%) Businesses with offices/operations in 2-4 locations (51%) Businesses with 50+ employees (49%)
Allow existing products or services to be produced at lower cost (22%)	Professional, scientific and technical services (34%) Businesses with 50+ employees (30%) Businesses with offices/operations in 5+ locations (32%)
Increase costs (3%)	Construction sector (9%)

Use of cloud-computing technologies

All businesses were asked what cloud-computing technologies, if any, their business uses or intends to use in the near future. Responses are shown below.

Use of cloud-computing technologies



Base: All businesses (1,526)
Source: Q1g

Six in ten (60%) businesses use, or intend to use in the near future, at least one of these types of cloud-computing technologies. Consumer-oriented cloud applications are most commonly used (45%), followed by business-oriented cloud applications (23%) and cloud computing platforms (15%). Few (3%) use, or intend to use, cloud computing infrastructure.

The table overleaf presents sub-group differences in these results.

Sub-group differences in use of cloud-computing technologies

Technology	Sub-group displaying high result
Consumer-oriented cloud applications (eg, Dropbox, Gmail, iCloud) (45%)	Education and training organisations (67%)
	Arts and recreation services (63%)
	Professional, scientific and technical services (59%)
	Businesses of 6-10 years of age (55%)
	Exporters (53%)
	Businesses in cities (52%)
Business-oriented cloud applications (eg, Salesforce, Xero, Office 365) (23%)	Financial and insurance services (45%)
	Businesses up to 5 years of age (32%)
	Professional, scientific and technical services (31%)
	Businesses with 6-49 employees (31%)
	Businesses with offices/operations in 2-4 locations (31%)
	Businesses with an annual turnover of more than $100,000 (27% versus 16% of businesses with up to $100,000)

Cloud computing platforms (eg, Amazon Web Services, Windows Azure, Google App Engine) (15%)	Information media and telecommunications (28%) Education and training (25%)
Cloud computing infrastructure (eg, Rackspace, IBM SmartCloud, Revera Homeland) (3%)	Businesses with an annual turnover of more than $10 million (13%) Businesses with 20+ employees (9%) Professional, scientific and technical services (9%)
None of the above (40%)	Construction (51%) Rural businesses (52%) Non-exporters (41% versus 34% of exporters)

Appendix A: Sample profile

Sample profile of respondents

Characteristic	n (weighted)	% (weighted)
Size of business (number of employees)		
1-5 employees	1018	67
6-19 employees	372	24
20-49 employees	71	5
50-99 employees	33	2
100+ employees	32	2
Size of business (annual turnover)		
$30,000 or less	78	5
$30,001 to $100,000	255	17
$100,001 to $500,000	487	32
$500,001 to $1 million	237	16
More than $1 million up to $10 million	257	17
More than $10 million up to $100 million	50	3
More than $100 million	20	1
Don't know	143	9
Industry		
Agriculture, forestry and fishing	218	14
Mining	2	0
Manufacturing	113	7
Electricity, gas, water and waste	18	1
Construction	173	11
Wholesale trade	69	5
Retail trade	155	10
Accommodation and food services	141	9
Transport, postal and warehousing	56	4
Information media and telecommunications	45	3
Financial and insurance services	36	2
Rental, hiring and real estate services	46	3
Professional, scientific and technical services	200	13
Administrative and support services	41	3
Public administration and safety	0	0
Education and training	61	4
Health care and social assistance	98	6
Arts and recreation services	53	3
Age of business		
Less than 1 year	32	2
1-2 years	80	5
3-5 years	248	16
6-10 years	293	19
Over 10 years	873	57

Characteristic	n (weighted)	% (weighted)
Location of main office		
Greater Auckland	454	30
Christchurch or Wellington (including Porirua, Hutt Valley and Kapiti Coast)	229	15
Other city (e.g. Hamilton, Napier-Hastings, Tauranga or Dunedin)	328	22
Town (e.g. Blenheim, Timaru, Pukekoe or Taupo)	229	15
Rural area	286	19
Number of locations (business' offices or operations)		
1 location	1172	77
2-4 locations	271	18
5-9 locations	33	2
10 or more locations	50	3
Exporter status		
Yes, exports goods or services overseas	290	19
No, does not export goods or services overseas	1236	81
Not-for-profit status		
Yes – not-for-profit organisation	108	7
No, not a not-for-profit organisation	1418	93
Overseas ownership/shareholding		
Yes – 50% or more is overseas owned	42	3
Yes – less than 50% is overseas owned	23	1
No – none of the business is overseas owned	1319	86
Don't know	34	2
Not relevant – not-for-profit organisation	108	7
Respondent's role in business		
Business owner	865	57
Chief Executive	31	2
Managing Director	80	5
Other Director, such as H.R. Director, Finance Director, Operations Director or other Executive Director	60	4
Partner or Principal Shareholder	212	14
Chairman, Non-Executive Director, Board member or Company Secretary	6	0
Finance Controller or Head of Accounts	99	6
Procurement Manager	16	1
Other member of the Executive/Senior Leadership Team (not described above)	157	10

Base: All respondents (1,526)
Source: S1, S2, S3, S4, S5, S6, S7, S8, S9, S10

Appendix B: Survey questions

Screening questions

S1 Which of these best describes your role in your business or organisation? If you work in more than one organisation, please think about the one you spend most of your time working in.

Please select one only.

Business owner	1	
Chief Executive	2	
Managing Director	3	
Other Director, such as H.R. Director, Finance Director, Operations Director or other Executive Director	4	
Partner or Principal Shareholder	5	
Chairman, Non-Executive Director, Board member or Company Secretary	6	
Finance Controller or Head of Accounts	7	
Procurement Manager	8	
Other member of the Executive/Senior Leadership Team (not described above)	9	
Other	10	CLOSE
None, I'm not employed or self-employed	11	CLOSE

S2 Not including the owner, how many people are usually employed in your business or organisation?
Please select one only.

None (no employees other than the owner)	1	CLOSE
1 to 5 employees	2	
6 to 19 employees	3	
20 to 49 employees	4	
50 to 99 employees	5	
100 or more employees	6	

S3 Which of the following best describes the industry your business or organisation operates in?
Please select one only

Agriculture, forestry and fishing	1	
Mining	2	
Manufacturing	3	
Electricity, gas, water and waste	4	
Construction	5	
Wholesale trade	6	
Retail trade	7	
Accommodation and food services	8	
Transport, postal and warehousing	9	
Information media and telecommunications	10	
Financial and insurance services	11	
Rental, hiring and real estate services	12	
Professional, scientific and technical services	13	
Administrative and support services	14	
Public administration and safety	15	CLOSE
Education and training	16	
Health care and social assistance	17	
Arts and recreation services	18	

Please click on the 'next arrow' to go to the first question.

Competition in service industries

Q2a This section of the survey is about the services that you purchase from other firms for your business or organisational operations. The following are <u>not</u> services: goods, construction, electricity gas and water.

Which of the following services has your business or organisation purchased from other firms in the past 2 years?

Please select all that apply.

1) Banking	1
2) Insurance	2
3) Internet or telecommunications	3
4) Real estate including rent of commercial premises	4
5) Rent of equipment (e.g., cars, tools)	5
6) Legal	6
7) Accounting	7
8) Administrative support	8
9) Recruitment, HR or payroll	9
10) Education or training	10
11) IT support	11
12) Freight	12
None of these	

Q2b For each of the services your business or organisation purchased, how many service providers are you aware of that could have provided the service? (i.e. firms that are suitably located and capable of providing the service that you require)

Please select one answer for each service.

Please <u>include your existing provider</u> and any competing providers in your answer.

	One	Two	Three to four	Five or more	Don't know
1) Banking	1	2	3	4	5
2) Insurance	1	2	3	4	5
3) Internet or telecommunications	1	2	3	4	5
4) Real estate including rent of commercial premises	1	2	3	4	5
5) Rent of equipment (e.g., cars, tools)	1	2	3	4	5
6) Legal	1	2	3	4	5
7) Accounting	1	2	3	4	5
8) Administrative support	1	2	3	4	5
9) Recruitment, HR or payroll	1	2	3	4	5
10) Education or training	1	2	3	4	5
11) IT support	1	2	3	4	5
12) Freight	1	2	3	4	5

Q2c Of the service providers that did, or could have, provided these services, how intense was their effort to gain or retain your business (on a scale of 1-5)?

Please select one answer for each service.

	1 – no effort	2	3	4	5 – intense effort	Don't know
1) Banking	1	2	3	4	5	6
2) Insurance	1	2	3	4	5	6
3) Internet or telecommunications	1	2	3	4	5	6
4) Real estate including rent of commercial premises	1	2	3	4	5	6
5) Rent of equipment (e.g., cars, tools)	1	2	3	4	5	6
6) Legal	1	2	3	4	5	6
7) Accounting	1	2	3	4	5	6
8) Administrative support	1	2	3	4	5	6
9) Recruitment, HR or payroll	1	2	3	4	5	6
10) Education or training	1	2	3	4	5	6
11) IT support	1	2	3	4	5	6
12) Freight	1	2	3	4	5	6

Q2d For each of the services you purchased, did your business or organisation consider switching provider in the past two years? (If you use multiple service providers, please answer the question for your *main* provider of that service.)

Please select one answer for each service.

	Yes – considered and switched	Yes – considered but decided not to switch	No – didn't consider switching	Don't know
1) Banking	1	2	3	4
2) Insurance	1	2	3	4
3) Internet or telecommunications	1	2	3	4
4) Real estate including rent of commercial premises	1	2	3	4
5) Rent of equipment (e.g., cars, tools)	1	2	3	4
6) Legal	1	2	3	4
7) Accounting	1	2	3	4
8) Administrative support	1	2	3	4
9) Recruitment, HR or payroll	1	2	3	4
10) Education or training	1	2	3	4
11) IT support	1	2	3	4
12) Freight	1	2	3	4

Q2e For those services where you considered switching, but decided not to, what factors caused you not to switch?

Please select all the answers which apply for each service.

	Existing provider was best	I could not find a new provider that met my needs	Insufficient information to make informed choice	Didn't want to break relationship with existing provider	Contract termination fees	Too time consuming or costly (other than contract termination fees)	Switching would result in inconvenience for my customers	Other
1) Banking	1	2	3	4	5	6	7	9
2) Insurance	1	2	3	4	5	6	7	9
3) Internet or telecommunications	1	2	3	4	5	6	7	9
4) Real estate including rent of commercial premises	1	2	3	4	5	6	7	9
5) Rent of equipment (e.g., cars, tools)	1	2	3	4	5	6	7	9
6) Legal	1	2	3	4	5	6	7	9
7) Accounting	1	2	3	4	5	6	7	9
8) Administrative support	1	2	3	4	5	6	7	9
9) Recruitment, HR or payroll	1	2	3	4	5	6	7	9
10) Education or training	1	2	3	4	5	6	7	9
11) IT support	1	2	3	4	5	6	7	9
12) Freight	1	2	3	4	5	6	7	9

Q2f For those services where you did switch provider, what factors helped you to select your new provider?

Please select all the answers which apply for each service.

	Advertising	Approached by new service provider	Recommendation or advice	Contacted multiple providers for a quote	Used online comparison tool or ranking system	Other	Can't say or don't know
1) Banking	1	2	3	4	5	6	7
2) Insurance	1	2	3	4	5	6	7
3) Internet or telecommunications	1	2	3	4	5	6	7
4) Real estate including rent of commercial premises	1	2	3	4	5	6	7
5) Rent of equipment (e.g., cars, tools)	1	2	3	4	5	6	7
6) Legal	1	2	3	4	5	6	7
7) Accounting	1	2	3	4	5	6	7
8) Administrative support	1	2	3	4	5	6	7
9) Recruitment, HR or payroll	1	2	3	4	5	6	7
10) Education or training	1	2	3	4	5	6	7
11) IT support	1	2	3	4	5	6	7
12) Freight	1	2	3	4	5	6	7

Please note for 'ease of reading' at Q2g (overleaf), the services were transformed into the following text (for Q2g only):

Banking	banking
Insurance	insurance
Internet or telecommunications	internet or telecommunications
Real estate including rent of commercial premises	real estate
Rent of equipment (e.g., cars, tools)	equipment rental (e.g., cars, tools)
Legal	legal
Accounting	accounting
Administrative support	administrative support
Recruitment, HR or payroll	recruitment, HR or payroll
Education or training	education or training
IT support	IT support
Freight	freight

Q2g How do you expect that switching your service provider will affect the performance of your business or organisation in the medium to long term?

Please select all that apply.

Allow existing products or services to be produced at lower cost	1
Allow the introduction of new products or services	2
Increase product or service competitiveness	3
Increase sales numbers or revenue	4
Increase profitability	5
Increase costs	6
Reduce sales	7
Decrease profitability	8
Can't say or don't know	9

Q2h For those services where you did switch provider, how costly or disruptive was the process to your business or organisation (on a scale of 1-5)?

Please select one answer for each service.

	1 – Switching costs were low and disruption was negligible	2	3	4	5 – Switching costs were high and/or disruption was substantial.
1) Banking	1	2	3	4	5
2) Insurance	1	2	3	4	5
3) Internet or telecommunications	1	2	3	4	5
4) Real estate including rent of commercial premises	1	2	3	4	5
5) Rent of equipment (e.g., cars, tools)	1	2	3	4	5
6) Legal	1	2	3	4	5
7) Accounting	1	2	3	4	5
8) Administrative support	1	2	3	4	5
9) Recruitment, HR or payroll	1	2	3	4	5
10) Education or training	1	2	3	4	5
11) IT support	1	2	3	4	5
12) Freight	1	2	3	4	5

Q2i In those instances where switching was disruptive or costly, what were the causes of the disruption / cost?

Please select all the answers which apply for each service.

	Administration, process or paperwork required by old provider	Administration, process or paperwork required by new provider	Other additional expenses	Loss of functionality which directly affected customers	Loss of functionality which affected internal business processes	Other	Don't know / can't say
1) Banking	1	2	3	4	5	6	7
2) Insurance	1	2	3	4	5	6	7
3) Internet or telecommunications	1	2	3	4	5	6	7
4) Real estate including rent of commercial premises	1	2	3	4	5	6	7
5) Rent of equipment (e.g., cars, tools)	1	2	3	4	5	6	7
6) Legal	1	2	3	4	5	6	7
7) Accounting	1	2	3	4	5	6	7
8) Administrative support	1	2	3	4	5	6	7
9) Recruitment, HR or payroll	1	2	3	4	5	6	7
10) Education or training	1	2	3	4	5	6	7
11) IT support	1	2	3	4	5	6	7
12) Freight	1	2	3	4	5	6	7

Information and communications technology (ICT)

Q1a This section of the survey is about the ICT (information and communications technology) investment decisions made by your business or organisation. ICT includes computers, software, website development, communications equipment and mobile technology. It does <u>not</u> include mechanical equipment such as electrical tools or heavy machinery.

Has your business or organisation made a significant investment (e.g. time, expenses, staff or capital) in ICT in the past two years?

Please select one only. Yes	1
No	2
Don't know	3

Q1b For what reasons have you <u>not</u> made a significant investment in ICT?

Please select all that apply.

Wanted to but couldn't afford it	1
Too hard to decide how ICT would best help the business	2
Not confident that the benefit would outweigh the cost	3
Better returns available from other (non-ICT) investments	4
Business is going fine without new technology	5
Risk of incompatibility with, or disruption to, existing systems	6
Staff don't have the necessary skills to adapt to new technology	7
Limited availability of skilled consultants or contractors	8
None of the above	9

Q1c What was your business or organisation's rationale for that ICT investment?

Please select all that apply.

To maintain or repair existing systems	1
To reduce staff costs for existing products or services	2
To reduce other costs (non-staff) for existing products or services	3
To improve the quality of existing products or services	4
To support new products or services	5
To support a change in business model or entry into new markets	6
To improve communications with suppliers or customers (e.g. social media)	7
None of the above	8

Q1d Did that ICT investment cost more or less than anticipated?

Please select one only.

More than anticipated	1
About the same as anticipated	2
Less than anticipated	3
Too early to tell	4
Don't know	5

Q1ei Have the financial benefits of the ICT investment to date fully covered the costs of the initial ICT investment?

Please select one only.

Yes	1	GOTO Q1eiii
No	2	GOTO Q1eii
Don’t know	3	GOTO Q1eiii

Q1eii Do you expect the costs of the ICT investment to be covered over time?

Yes	1
No	2
Too early to tell	3

Q1eiii Has the ICT investment delivered significant benefits to your business or organisation?

Yes – it has delivered significant benefits	1
No – but significant benefits are expected over time	2
No – and significant benefits are not expected	3

Q1f How do you expect that ICT investment will affect the performance of your business or organisation in the medium to long term?

Please select all that apply.

Allow existing products or services to be produced at lower cost	1
Allow the introduction of new products or services	2
Increase product or service competitiveness	3
Increase sales numbers or revenue	4
Increase profitability	5
Increase costs	6
Reduce sales	7
Decrease profitability	8
None of the above	9

Q1g Which of these cloud-computing technologies, if any, does your business or organisation use, or intend to use in the near future?

Please select all that apply.

Consumer-oriented cloud applications (eg, Dropbox, Gmail, iCloud)	1
Business-oriented cloud applications (eg, Salesforce, Xero, Office 365)	2
Cloud computing platforms (eg, Amazon Web Services, Windows Azure, Google App Engine)	3
Cloud computing infrastructure (eg, Rackspace, IBM SmartCloud, Revera Homeland)	4
None of the above	5

Classifications

S4 First of all, can we ask where your main office is located? (If your main office is overseas, please select the location of your main New Zealand office)

Please select one only.

Greater Auckland	1
Christchurch or Wellington (including Porirua, Hutt Valley and Kapiti Coast)	2
Other city (e.g. Hamilton, Napier-Hastings, Tauranga or Dunedin)	3
Town (e.g. Blenheim, Timaru, Pukekoe or Taupo)	4
Rural area	5

S5 At how many locations does your business or organisation have offices or operations within New Zealand?

Please select one only.

One location	1
2-4 locations	2
5-9 locations	3
10 or more locations	4

S6 Does your business or organisation export goods or services overseas?

Please select one only.

Yes	1
No	2

S7 Is your organisation a not-for-profit organisation?

Please select one only.

Yes	1
No	2

S8 Does any individual or business located overseas hold an ownership interest or shareholding in your business?

Please select one only.

Yes – 50% or more is overseas owned	1
Yes – less than 50% is overseas owned	2
No – none of the business is overseas owned	3
Don’t know	4

S9 For how many years has your business or organisation been operating?

Please select one only.

Less than one year	1
1-2 years	2
3-5 years	3

6-10 years	4
Over 10 years	5

S10 What was your business or organisation's total turnover (revenue) last year? Just your best estimate is fine.
Please select one only.

$30,000 or less	1
$30,001 to $100,000	2
$100,001 to $500,000	3
$500,001 to $1 million	4
More than $1 million up to $10 million	5
More than $10 million up to $100 million	6
More than $100 million	7
Don't know	8