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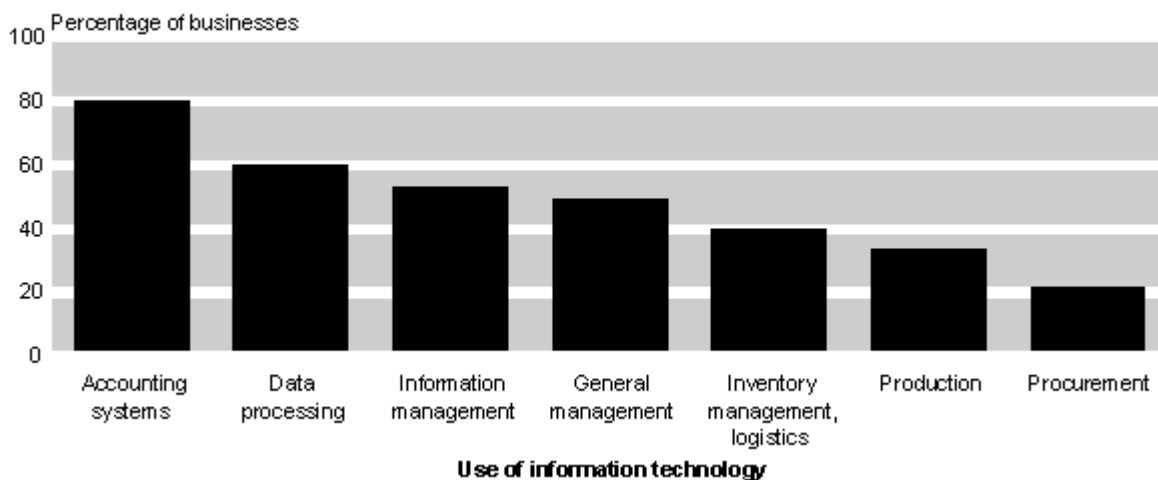
Embargoed until 3:00pm – 30 January 2002

Business Practices Survey 2001

Highlights

- **Thirty-six percent of New Zealand businesses have a website.** The level of sales generated through the Internet is estimated to be 0.3 percent of total operating income of New Zealand businesses.
- **Seventy-nine percent of businesses regularly use email.** The most common use of email is to communicate with customers and suppliers.
- **Eighty percent of businesses use information technology for accounting systems.**
- **Seventy-five percent of businesses have set procedures for dealing with customer complaints.**
- **Eighty percent of businesses have a formal system in place to manage the storage and retrieval of information.**
- **Sixty-two percent of businesses have in the last three years offered new or significantly improved products to their customers.**

Use of Information Technology in New Zealand Businesses
June 2001



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30 January 2002
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There is a companion Media Release published – [Business Practices Survey: 2001](#).

Commentary

Business Practices Survey

This is the first release of economy-wide business practice statistics in New Zealand. Business practices are defined as systems, processes and procedures adopted by a business to improve its performance. The survey was jointly sponsored by the Ministry of Economic Development (MED), the Ministry of Research Science and Technology (MoRST), and Statistics New Zealand.

The primary objective of the Business Practices Survey (BPS) was to gain an understanding of the wider state of business practice in New Zealand firms, including:

- (1) Commitment to the use of **information technology**.
- (2) Adoption of **management practices**.
- (3) Commitment to capability improvement and **innovation**.

Detailed reports and analysis of the BPS data will be published at a later date in cooperation with MED and MoRST.

Information technology

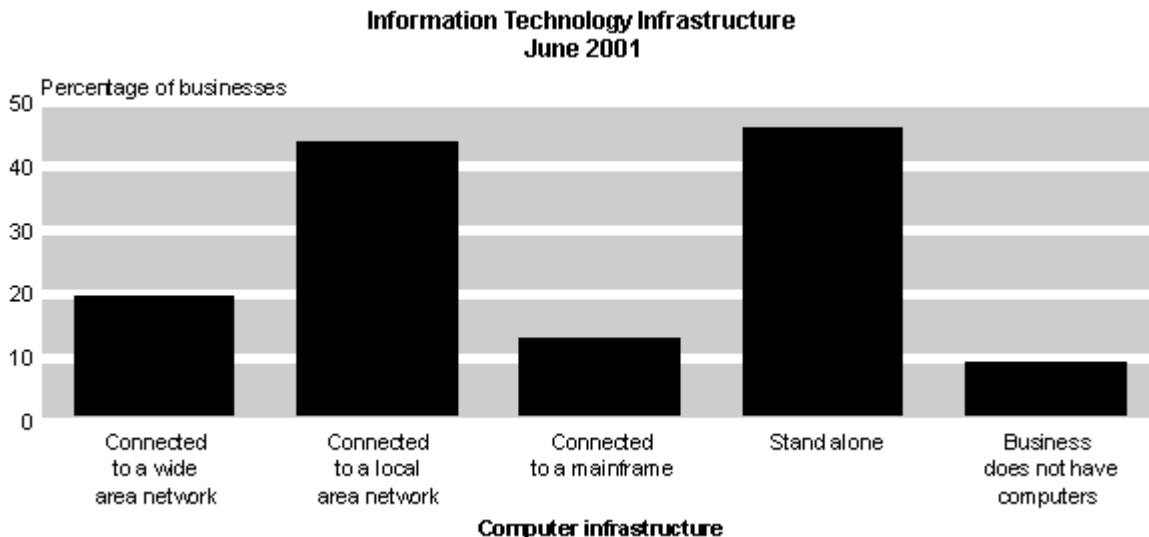
The BPS collected data on the use of information technology (IT) and its role in the operation of New Zealand businesses. This includes:

- (1) The development of **infrastructure** for IT systems by businesses.
- (2) The **use of IT** by businesses, and the impact of IT on business operation.
- (3) The use of the **Internet** by businesses, including use of email, and involvement in e-commerce.
- (4) **Barriers** to the use of the Internet by businesses.

Information technology infrastructure

The BPS asked respondents to provide information on the type of IT systems used and how intensively employees utilised the IT systems owned by the business.

Eighty-eight percent of New Zealand businesses regularly (at least once a week) use a PC, workstation, or terminal. Forty-six percent of businesses have computers which are stand alone, while 44 percent of businesses have computers which are connected to a local area network (LAN). Nine percent of businesses do not have computers.



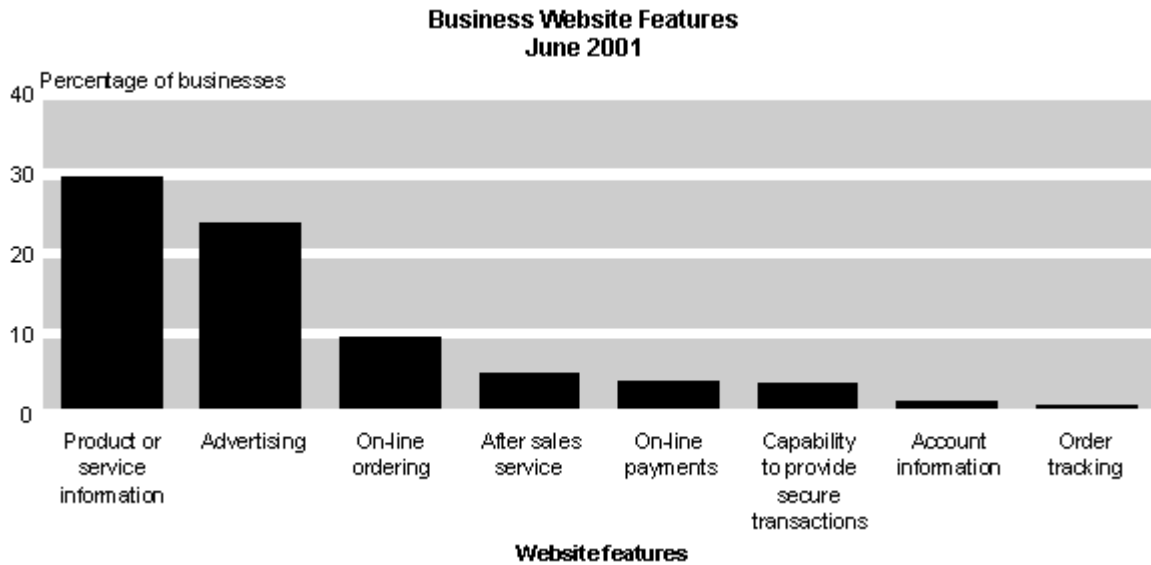
Use of information technology

The BPS asked respondents to provide information on their use of IT in the business environment. The categories in the survey are not mutually exclusive and respondents could indicate more than one type of use. The survey results show that the most common use of IT in New Zealand business is for accounting systems (80 percent), while over half use IT for other forms of data processing (60 percent) and for information management (53 percent).

Internet use

The emergence of e-commerce has presented new opportunities for New Zealand businesses, including potentially larger markets in which to sell goods and services, and improved communication with customers and suppliers. The survey reveals that 79 percent of New Zealand businesses regularly use the Internet.

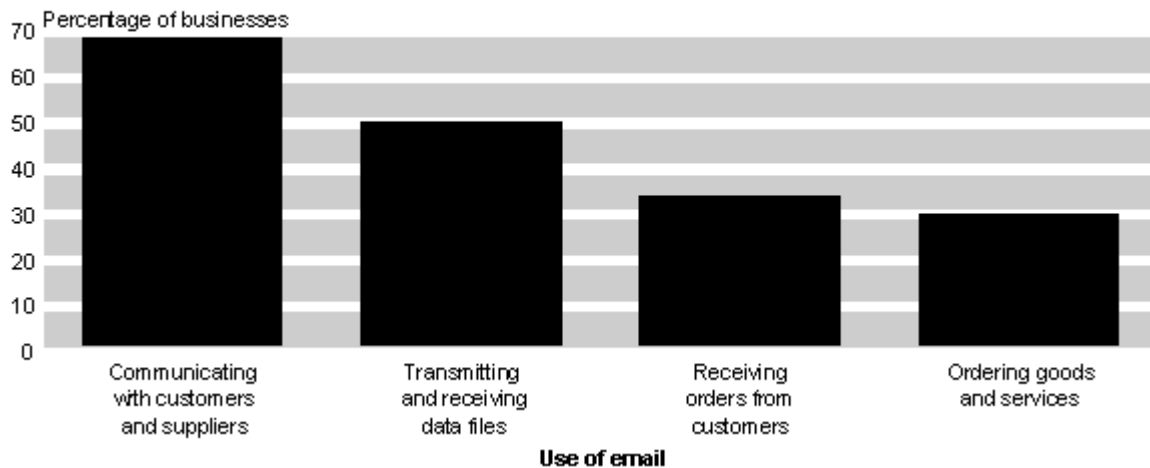
Thirty-six percent of New Zealand businesses operate a website. Total sales generated through the Internet are estimated to be \$523 million in the year ended June 2001. This represents 0.3 percent of total operating income reported by businesses. The value of Internet sales is difficult to measure as many businesses do not record sales over the Internet separately. If an Internet sales figure could not be provided, respondents were asked to provide an estimate of Internet sales as a percentage of operating income. Ten percent of businesses have a facility for receiving on-line orders for goods and services on their website.



Use of email

Seventy-nine percent of New Zealand businesses regularly use email. The most common uses of email are communicating with customers and suppliers (69 percent); and transmitting and receiving data files (50 percent).

Use of Email June 2001

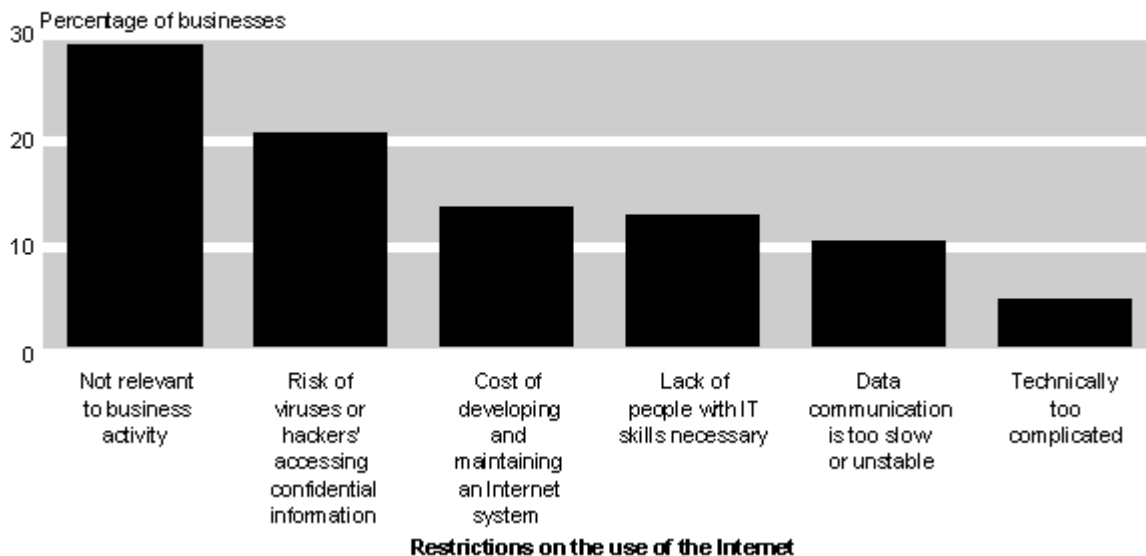


Restrictions on the use of the Internet

The BPS asked respondents to indicate the factors that restrict their use of the Internet.

Twenty-nine percent of New Zealand businesses stated that the Internet was not relevant to their businesses activity, while 21 percent said the risk of viruses or hackers' accessing confidential information restricts their use of the Internet.

Restrictions on the Use of the Internet June 2001



Management practices

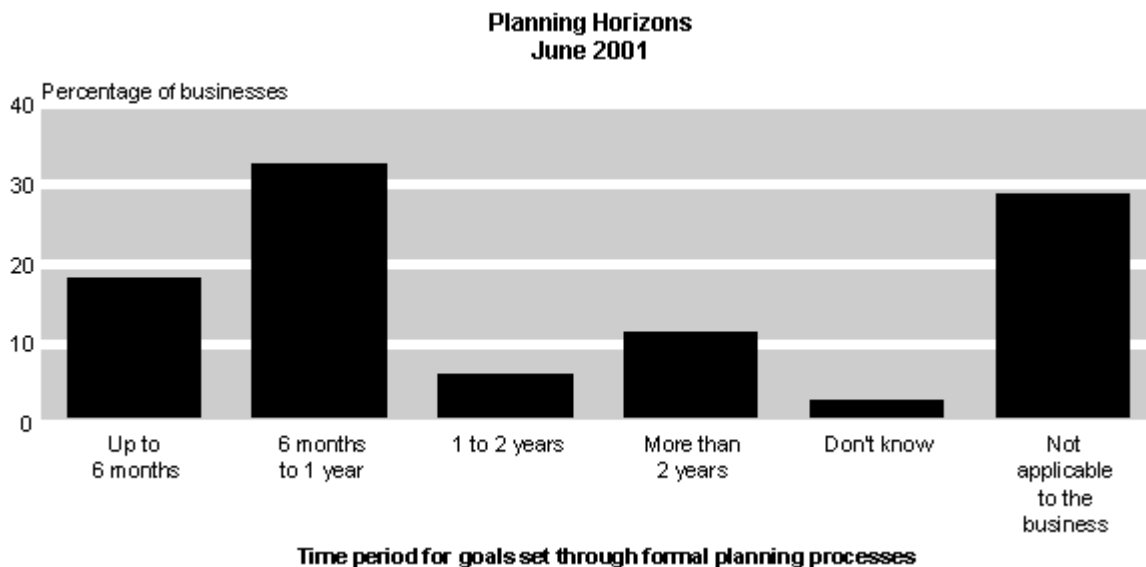
The BPS collected information on the adoption by New Zealand businesses of various management practices that are considered to lead to an improvement in business performance. The areas in which information was collected by the survey included:

- (1) Leadership and planning.
- (2) Customer management.
- (3) Supplier management.
- (4) Quality management.
- (5) Information management and benchmarking.
- (6) Market focus.

Leadership and planning

Leadership and planning practices attempt to develop a vision for the future, and to align the organisation's stakeholders with the same values and vision.

The survey shows that 68 percent of New Zealand businesses have a formal planning process. Eighteen percent of businesses set goals for up to six months, while 33 percent set goals for between six months and one year.



Customer management

Customer management practices aim to provide businesses with an understanding of the current and future requirements of their customers. This includes staying informed about customer preferences and obtaining feedback from customers.

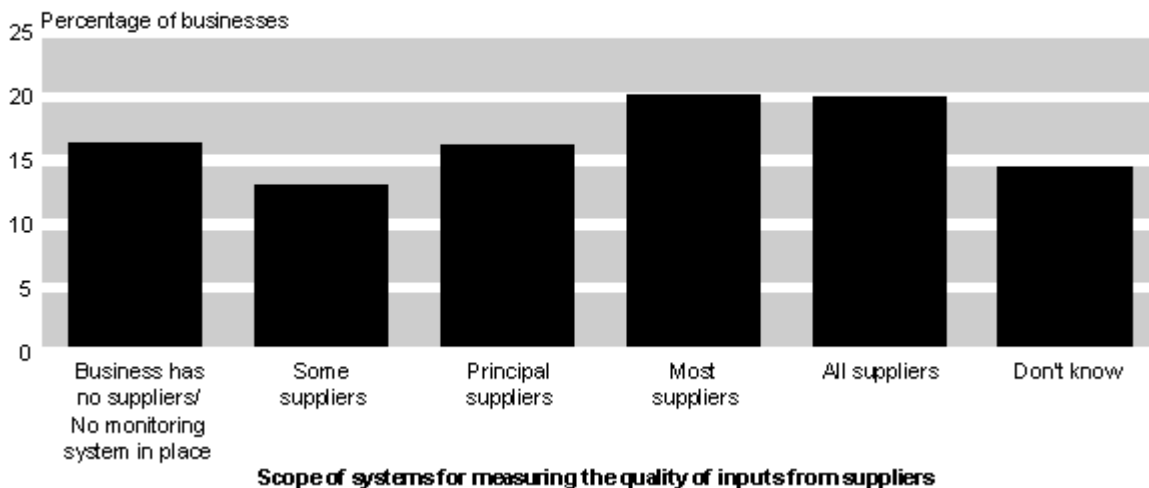
Seventy-five percent of New Zealand businesses reported they have set procedures for dealing with customer complaints. Fifteen percent of businesses have focused on new export markets in the last three years.

Supplier management

Supplier management practices concentrate on building relationships between businesses and their suppliers. This includes effective purchasing and distribution networks and a focus on developing partnerships.

Sixty-nine percent of businesses report they have systems for monitoring the quality of suppliers' products. Of these businesses, 58 percent monitor most or all of their suppliers' products.

Supplier Management June 2001



Quality management

Quality management practices refer to systems developed to provide quality products that meet or exceed customer requirements. Quality management systems certification are methods which businesses use as a benchmark to assess the adequacy of their quality programme (eg ISO9000).

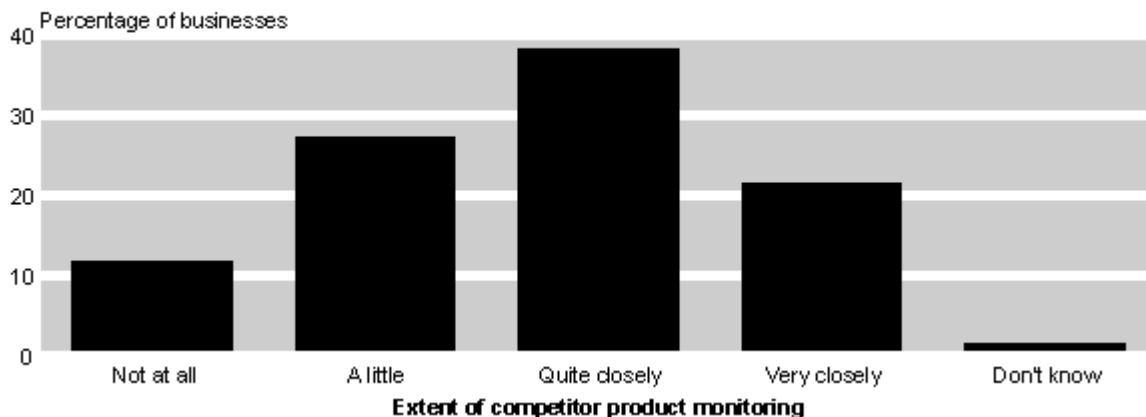
Twenty-six percent of New Zealand businesses have, or are planning to implement, systems to gain quality management systems certification.

Information management and benchmarking

Information management and benchmarking practices involve searching for, gathering and using information to identify risks and opportunities, measure performance against goals, and compare performance of the business against the products, practices and processes of competitors.

Eighty percent of New Zealand businesses reported having a formal system in place to manage the storage and retrieval of information. Sixty percent of businesses monitor competitors' products either quite closely or very closely.

Monitoring Competitors June 2001



Innovation

An innovation is defined as the introduction into the market by a business of a new or significantly improved product (good or service) and/or the introduction within a business of a new or significantly improved process. An innovation is the result of new or recent developments or applications in science, technology, or other knowledge areas, or the result of new combinations of existing technology. Although an innovation should be new to the business, it does not have to be new to the market.

The BPS examined the intensity and characteristics of innovative behaviour by firms, and how innovation fits into the operation of the business. This includes:

- (1) The rate at which each industry group introduced new or significantly improved products or production processes.
- (2) The type of innovation activities carried out by business relating to the introduction of new or significantly improved products and processes.
- (3) The extent to which business have invested in innovation activities.

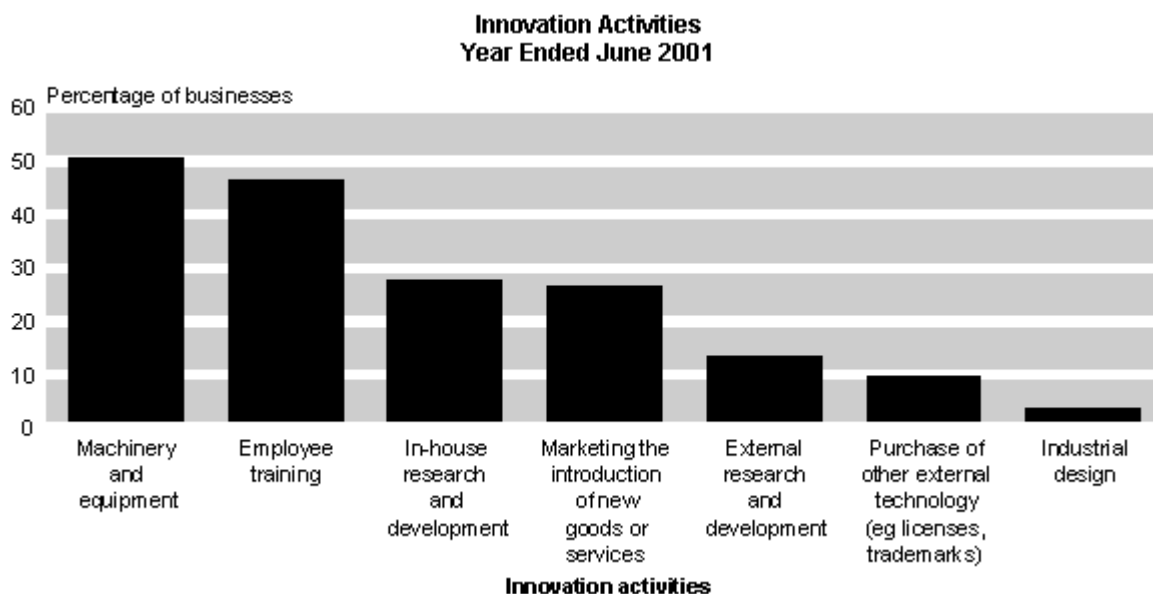
Introduction of new or significantly improved products or processes

Sixty-two percent of New Zealand businesses have offered new or significantly improved products to their customers in the last three years. Forty-nine percent of businesses have introduced improved production processes in the last three years. Production processes include new ways to supply services or deliver products.

Innovation activities

The BPS asked respondents to indicate what innovative activities the business invested in during the previous 12 months (year ended June 2001), in relation to the introduction of new or significantly improved products, services or processes.

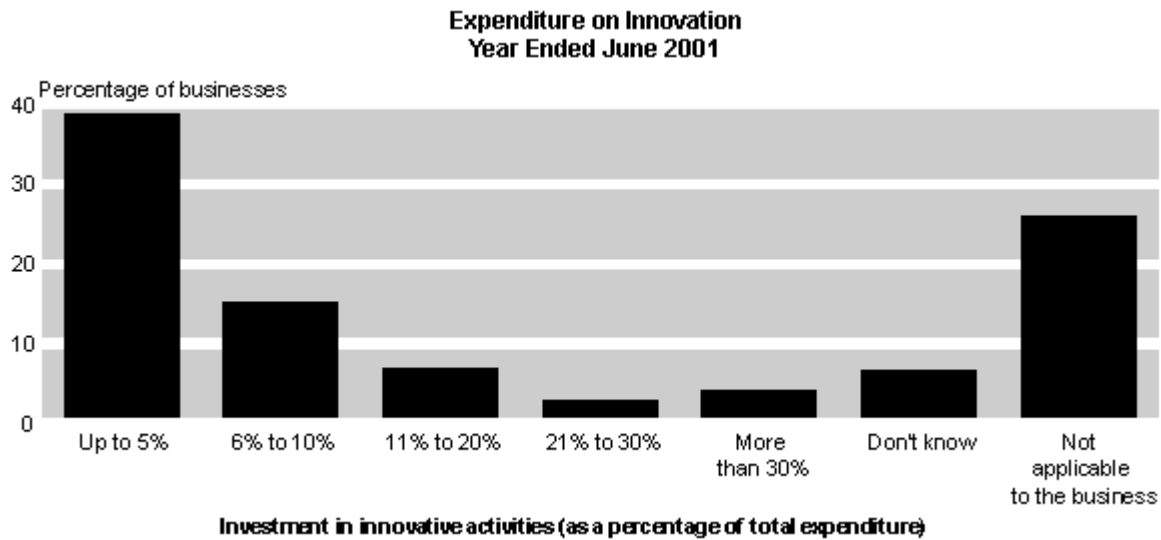
Fifty percent of New Zealand businesses in the previous 12 months (year ended June 2001) had invested in machinery and equipment specifically relating to the introduction of new or significantly improved products, services or processes. Forty-six percent of businesses had invested in employee training, while 28 percent had invested in in-house research and development relating to the introduction of new or significantly improved products.



Expenditure on innovation

The BPS asked respondents to provide their level of business investment in innovative activities as a percentage of total expenditure.

Thirty-nine percent of New Zealand businesses reported spending up to 5 percent of their total expenditure on innovation. Four percent of businesses spend more than 30 percent of their total expenditure on innovation.



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Technical notes

Survey background

The Business Practices Survey (BPS) was sponsored by Ministry of Economic Development, Ministry of Research Science and Technology and Statistics New Zealand.

The primary objective of the BPS was to gain an understanding of the wider state of business and management practice in New Zealand firms, including:

- (1) Commitment to the use of **information technology**.
- (2) Adoption of **management practices** by New Zealand businesses in the areas of:

- Leadership and planning
- Customer management
- Supplier management
- Quality management
- Information management and benchmarking
- Market focus

- (3) Commitment to capability improvement and **innovation**.

Data collection

The BPS was a postal survey. The questionnaire was posted out on 29 June 2001. Most of the questions were of a qualitative nature relating to the current state of business practice, information technology and innovation. Financial information was also requested, including the value of operating income, value of operating expenditure, and value of sales generated through the Internet (if applicable). Respondents were asked to provide a balance date for the financial accounts used to answer financial information questions.

Survey population

The target population for the BPS was all private sector enterprises in New Zealand with six or more full-time equivalent employees (FTE), \$30,000 or more in GST turnover, and an industrial and institutional classification that fell within the following ranges:

Australian New Zealand Standard Industrial Classification (ANZSIC) codes:
A, B, C, E, F, G, H, I, J, K, L, N, O, P

and had one of the following New Zealand Standard Institutional Sector Classification (NZSIC) codes:
1111, 1121, 1211, 2211, 2221, 2291, 2311, 2411.

The following ANZSIC codes were excluded from the survey: D (Electricity, Gas and Water), M (Government Administration and Defence), Q (Personal and Other Services).

The population source for the survey was the Business Frame maintained by Statistics New Zealand. The Business Frame is sustained principally from Inland Revenue Department (IRD) records.

The selection and collection unit for the BPS is the enterprise unit on Statistics New Zealand's Business Frame.

Sample design

The sample design was a two-level stratification according to ANZSIC industry and size (in terms of FTE engaged). This information was obtained using enterprise ANZSIC industry and FTE information from Statistics New Zealand's Business Frame.

The first level of stratification was into 31 ANZSIC industry groupings, using a mixture of one-and-two digit ANZSIC codes and a subset of four-digit ANZSIC codes. Within each of the ANZSIC groups there is further stratification by size, using the FTE information. The three FTE groupings are:

- 6-19.5 FTEs
- 20-49.5 FTEs
- 50 or more FTEs.

Measurement errors

The BPS results are subject to measurement errors. These include both sample errors and non-sample errors. These measurement errors should be considered when analysing the results from the survey.

Non-sample errors

Non-sampling errors include mistakes by respondents 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 applies imputation methodologies to cope with non-respondents. Statistics New Zealand adopts procedures to minimise these types of error, but they may still occur and are not quantifiable.

Sample errors

The sample was designed to give statistics for the categorical questions with a maximum level of sample error of 15 percent (at the 95 percent confidence interval limit). This was applied at the level of two-digit ANZSIC by FTE size group.

This means, for example, that there is a 95 percent likelihood that the true proportion of the answers to a categorical question, within two-digit ANZSIC by FTE size group, lies within 15 percent of the published estimate.

This also resulted in expected (but not assured) maximum sample errors for the following levels of:

- 3.2 percent for categorical results for the total population
- Up to 4.2 percent for categorical results by FTE size group
- Up to 12.6 percent for categorical results by 1-digit ANZSIC.

Response rate

The target overall response rate for the survey was 75 percent overall with at least 70 percent in each stratum. The survey achieved an overall response rate of 81.6 percent with a response rate of at least 70 percent in each stratum. The achieved sample size was 2,756 enterprises.

Imputation methodology

The following gives an outline of the imputation methodology used in the Business Practices Survey.

Unit non-response

Unit (or complete) non-response occurs where units in the sample do not return the questionnaire. The contribution of the remaining units in the sample will be adjusted to account for the unit non-response (no imputation will occur for the units which do not return the questionnaire).

Item non-response

Item (or partial) non-response is where units return the questionnaire but some questions are not answered. If a returned questionnaire contained a significant proportion of unanswered questions then that unit will be considered a non-response. The significant proportion was determined by the number of unanswered business practice index questions.

Mean imputation for dollar value responses

Mean imputation was used to impute dollar values for the questions on the level of operating income and expenditure; and the level of Internet sales. The imputation of the Internet sales question was conditional on the responses to other questions on the use of information technology.

Nearest neighbour imputation for responses to categorical questions

Responses were imputed for a subset of categorical questions using nearest neighbour imputation. The nearest neighbour method involves finding a donor unit with the most similar set of responses to the unit that needs answers imputed. The donor unit supplies responses for all variables requiring a response. Should the donor unit have not responded to any of the variables requiring a response, then the next best donor unit is used to supply the information. This is continued until all the variables have a response.

Definitions

ANZSIC: Australian and New Zealand Standard Industrial Classification system.

NZSIC: New Zealand Standard Industrial Classification system.

Business Frame: A register of all businesses operating in New Zealand. The population of the BPS is drawn from the Business Frame.

Enterprise: A business entity operating in New Zealand, for example the owner of a chain of retail stores.

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Tables

The following tables can be downloaded from the Statistics New Zealand website in Excel 97 format. If you do not have access to Excel 97 or higher, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

List of tables

1. Information technology
2. Management practices
3. Innovation