



# **BUSINESS USE OF INFORMATION TECHNOLOGY**

AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) WED 20 MAR 2002

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- For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Soula Macfarlane on Melbourne 03 9615 7315.

# NOTES

## INTRODUCTION

This publication presents results from an Australian Bureau of Statistics (ABS) survey of business use of computers and the Internet. The survey was conducted in respect of the 2000–01 financial year.

## HISTORY OF THE SURVEY

The ABS has now conducted four surveys on the use of information technology (IT) by Australian businesses. Since the first survey in 1993–94, the survey has continued to evolve and adapt to changes in business use of IT. The 1993–94 survey focused on issues related to computer use, the 1997–98 survey collected a wider range of data but with particular emphasis on Internet activities, and the 1999–2000 survey introduced questions about web sites and Internet commerce. The 2000–01 survey has also focused on the extent and use of the Internet and web sites, as well as continuing to measure and refine the concepts of Internet commerce. Future surveys will be conducted annually and will continue to adapt to changes in business use of IT.

## ABOUT THE 2000–01 SURVEY

The survey collected information from 12,700 businesses in the private sector. These businesses were randomly selected to represent all industries, with the exception of Agriculture, Forestry, Fishing, Education, Religious organisations and private households employing people. More details about the survey methodology can be found in the Explanatory Notes.

## MORE INFORMATION ON ABS IT STATISTICS

Information about ABS activities in the field of IT statistics is available from the Information Technology Statistics theme page on the ABS web site <URL: <http://www.abs.gov>>. To access the theme page, select Themes from the menu on the home page. Details of other ABS publications relating to the production and use of information technologies in Australia can be found in paragraph 15 of the Explanatory Notes.

## COMMENTS

The ABS welcomes comments and suggestions from users regarding future surveys of IT use by businesses. These comments should be addressed to the Director, Science and Technology Statistics Section, Australian Bureau of Statistics, Locked Bag 10 Belconnen, ACT, 2616.

## ROUNDING

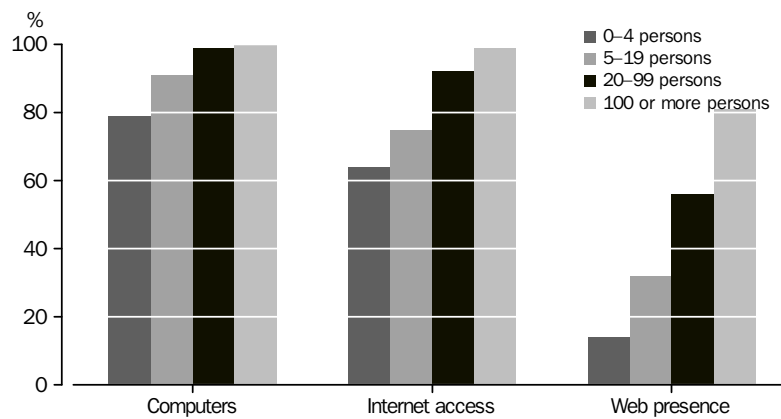
Where figures have been rounded, discrepancies may occur between the sum of component items and the total.

Dennis Trewin  
Australian Statistician

INTRODUCTION

The number of Australian businesses embracing information technology (IT) continues to increase. By June 2001, the proportion of businesses using a computer increased to 84%, up from 76% in June 2000. Over the same period, the proportion of businesses with Internet access rose from 56% to 69% and the proportion with a Web presence rose from 16% to 22%. The 2000–01 survey found that technology use continues to be strongly related to business size, as the graph below illustrates.

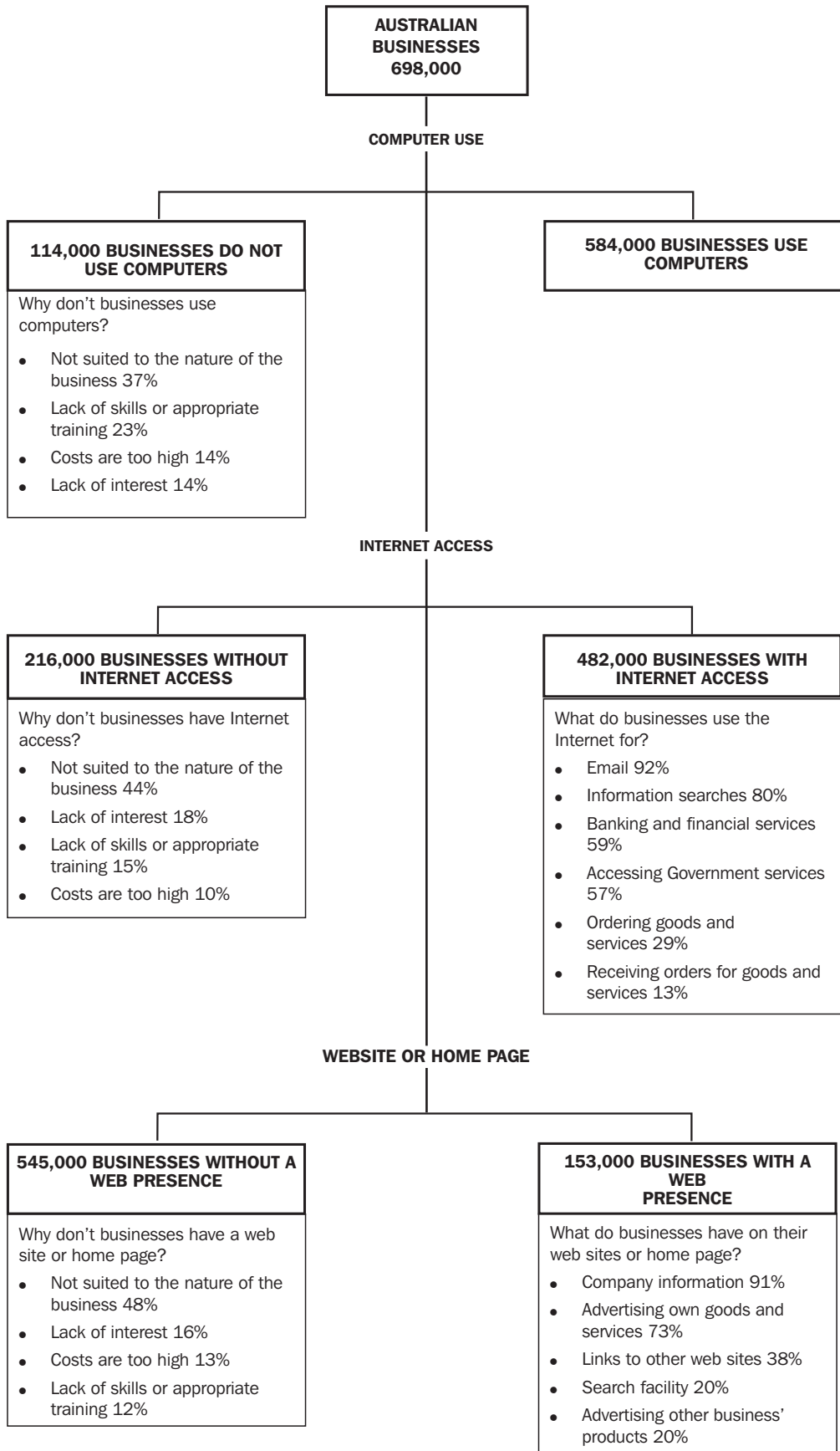
BUSINESS USE OF INFORMATION TECHNOLOGY, By employment size



Internet commerce was undertaken by almost one quarter (24%) of all businesses by June 2001. The majority of these businesses had purchased via the Internet (20% of all businesses) rather than selling via the Internet (9% of all businesses). Only 5% of all businesses were both purchasing and selling via the Internet. The estimated value of income earned by businesses from the sale of goods and services ordered via the Internet for the year ending 30 June 2001 was \$9.4 billion, representing 0.7% of total business income in that period. Readers should note that many businesses were only able to provide an estimate of their Internet income, and therefore the estimated value of Internet income for all businesses should be used with caution. Readers should also note that the methodology used to collect Internet income in 2000–01 is slightly different to that used in the previous survey and direct comparisons should be made with caution.

Significant growth has occurred in the number of Australian businesses purchasing via the Internet, with the proportion doubling from 10% in 1999–2000 to 20% in 2000–01. The estimated number of businesses receiving income from Internet selling also rose, from 6% in 1999–2000 to 9% in 2000–01.

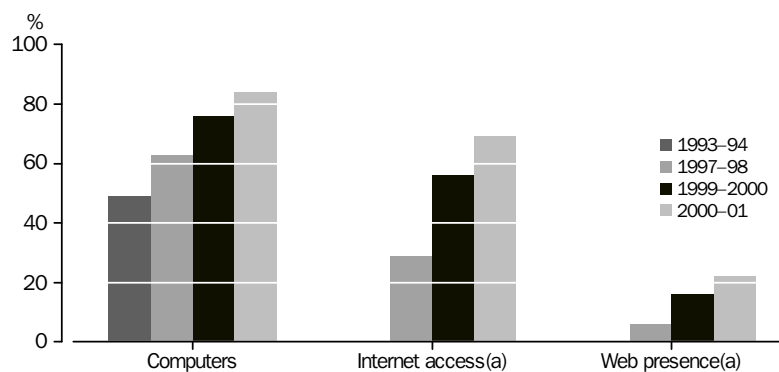
**OVERVIEW OF BUSINESS USE OF IT, 30 June 2001**



## HISTORICAL DATA

The number of Australian businesses using computers, accessing the Internet and using web sites or home pages continues to grow. Computer use has shown steady growth, rising from 49% of Australian businesses in 1993–94 to 84% of businesses at the end of June 2001. In contrast, the proportion of businesses with a Web presence has grown rapidly, rising from 6% in 1997–98 to 16% in 1999–2000 and 22% in 2000–01. The proportion of businesses with Internet access has also risen rapidly, from 29% in 1997–98 to 56% in 1999–2000 and 69% in 2000–01.

## AUSTRALIAN BUSINESSES USING IT



(a) Data not collected for 1993–94.

USE OF IT BY BUSINESS SIZE

A strong relationship exists between the employment size of a business and the likelihood that the business is using IT. As employment size increases, so does the proportion of Australian businesses making use of IT. For example, at 30 June 2001 virtually all large businesses (those employing 100 or more persons) used computers (100%) or had access to the Internet (99%), while 81% had a Web presence. In contrast, the very small businesses (those employing fewer than 5 persons) had a lower level of IT adoption; 79% used computers, 64% had access to the Internet and only 14% had a Web presence.

REGIONAL DATA

There were only slight regional differences in the use of IT at the end of June 2001. For instance, there was a small difference in the proportion of businesses with Internet access (71% in capital cities and 65% in other areas) and there was only a very slight difference in the proportion of businesses using computers (84% and 82% respectively). Even the proportion of businesses with a Web presence showed only a modest difference between businesses in capital cities (23%) and those in other areas (19%).

INDUSTRY

At the end of June 2001, the proportion of Australian businesses using information technologies varied considerably across industries. The proportion of businesses using computers or with access to the Internet was lowest in the Accommodation, cafes and restaurants industry (71% and 53% respectively) and in the Personal and other services industry (72% and 52% respectively). Computer and Internet use was highest in the Electricity, gas and water industry (95% and 89% respectively). The highest proportion of businesses with a Web presence was also in the Electricity, gas and water industry (44%), while the lowest proportion was in the Construction industry (10%).

IT EMPLOYMENT AND THE USE OF EXTERNAL IT SERVICES

In the ABS survey, IT staff are defined as all employees, working proprietors or partners who are predominantly engaged in IT work. Contractors or consultants for whom PAYG withholding tax is not deducted are excluded. The ABS measured the use of external IT services, for example those offered by contractors or consultants, in the 2000–01 survey and estimated that 26% of Australian businesses used such services at the end of June 2001.

There appears to be a strong relationship between the size of a business and business' use of its own IT staff or external IT services. As the business size increased, so did the use of IT staff and external IT services. About half of all large businesses (53%) used both their own IT staff and external IT services.

IT EMPLOYMENT AND THE  
USE OF EXTERNAL IT  
SERVICES *continued*

**2.1** IT EMPLOYMENT AND USE OF EXTERNAL IT SERVICES (a)

	BUSINESSES USING			
	Number of businesses	Their	External IT	Both IT
		own IT staff(b)	services(c)	staff and external IT services
	'000	%	%	%
<b>Employment size</b>				
0–4 persons(d)	457	np	17	4
5–19 persons	196	18	37	9
20–99 persons	39	30	60	20
100 or more persons	6	63	83	53
<b>Total</b>	<b>698</b>	np	<b>26</b>	<b>7</b>

np not available for publication but included in totals where applicable, unless otherwise indicated

- (a) Proportions are of all businesses in each employment size category.
- (b) Some businesses may also use external IT services. Data may be overstated for businesses with small employment due to a tendency to identify non-IT staff as IT specialists.
- (c) Some businesses may also have their own IT staff.
- (d) While the scope of the survey is employing businesses, a small number of non-employers have been included. See paragraph 4 of the Explanatory Notes.

IT EMPLOYMENT AND THE  
USE OF EXTERNAL IT  
SERVICES *continued***2.2** BUSINESS USE OF SELECTED INFORMATION TECHNOLOGIES (a)

	BUSINESSES USING			
	<i>Number of businesses</i>	<i>Computers</i>	<i>Internet access</i>	<i>Web presence</i>
	'000	%	%	%
<b>Employment size</b>				
0–4 persons(b)	457	79	64	14
5–19 persons	196	91	75	32
20–99 persons	39	99	92	56
100 or more persons	6	100	99	81
<b>Total income</b>				
Less than \$100,000	195	74	58	10
\$100,000–\$999,999	386	85	69	21
\$1m–\$4.9m	91	95	83	40
\$5m or more	26	100	94	64
<b>Industry</b>				
Mining	2	88	79	30
Manufacturing	58	81	66	28
Electricity, gas and water supply	—	95	89	44
Construction	100	80	64	10
Wholesale trade	48	89	77	33
Retail trade	119	78	57	22
Accommodation, cafes and restaurants	35	71	53	26
Transport and storage	34	76	60	19
Communication services	5	78	58	20
Finance and insurance	26	90	81	22
Property and business services	164	93	85	25
Health and community services	55	89	72	14
Cultural and recreational services	20	87	74	30
Personal and other services	32	72	52	22
<b>State or Territory</b>				
New South Wales	251	82	68	22
Victoria	182	83	69	21
Queensland	125	86	70	22
South Australia	49	85	71	24
Western Australia	65	86	71	24
Tasmania	12	80	63	23
Northern Territory	4	83	73	*18
Australian Capital Territory	10	88	73	26
<b>Region</b>				
Capital cities	476	84	71	23
Other areas	222	82	65	19
<b>Total</b>	<b>698</b>	<b>84</b>	<b>69</b>	<b>22</b>

— nil or rounded to zero (including null cells)

\* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Proportions are of all businesses in each category.

(b) While the scope of the survey is employing businesses, a small number of non-employers have been included. See paragraph 4 of the Explanatory Notes.

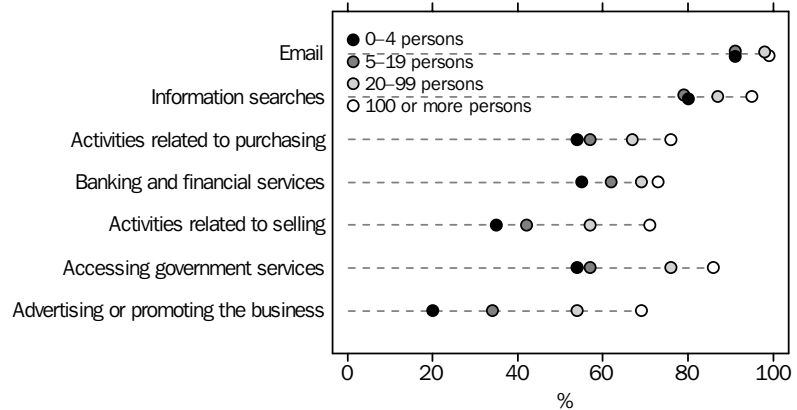


INTERNET ACTIVITIES

While the proportion of Australian businesses with access to the Internet continued to rise, the range of activities being undertaken by businesses via the Internet also increased. In 1999–2000, one in every five businesses (20%) had accessed the Internet only to use email or to search for information. By 2000–01, this had dropped to only 10% of businesses with Internet access. Between 1999–2000 and 2000–01, large increases occurred in the proportion of businesses accessing the Internet to order goods and services (from 18% to 29% of businesses accessing the Internet) and banking and financial services (from 36% to 59%).

After email (92% of businesses with Internet access) and information searches (80%), the more common Internet activities at 30 June 2001 were those related to banking and financial services (59%) and product searches (44%). Advertising or promoting the business was less common (26%), particularly among businesses employing fewer than 20 persons. Typically larger businesses were more likely to have any of these activities, as the following graph shows.

GENERAL INTERNET ACTIVITIES, By employment size



WEB FUNCTIONS

The proportions of businesses providing particular functions through their Web presence have changed little between 1999–2000 and 2000–01. Providing information about the business was the most common function and was reported by 91% of the businesses with a Web presence at 30 June 2001. An inquiry or contact facility, and advertising of the business' own products, both at 73%, were the next highest reported functions. An estimated 38% of businesses with a Web presence provided links to other sites, 20% provided a search facility and 20% advertised other businesses' products.

WEB FUNCTIONS *continued*

Far less common were functions which were related to selling and the provision of specific customer information. While 14% of businesses with a Web presence offered online ordering, only 4% of businesses with a Web presence had shopping cart facilities and only 5% had online payment capabilities. Only 4% of businesses with a Web presence provided customer account information, 2% offered a personalised page for repeat customers and 2% provided a facility for customers to track orders.

The integration of Web technology with back end systems continues to be rare among businesses with a Web presence. Only 3% of businesses with a Web presence had achieved this integration. The capability for secure access or secure transactions through a business' Web presence was also not common, being offered by only 5% of businesses with a Web presence.

**3.1** SELECTED BUSINESS WEB FUNCTIONS (a)(b)

	<i>Businesses</i>	
	'000	%
<b>Information</b>		
Information about the business	139	91
Advertising of the business' own products	111	73
Recruitment information	14	9
Search facility	30	20
<b>Relationship with other organisations</b>		
Advertising other businesses' products	30	20
Links to other web sites	59	38
<b>Relationship with customers</b>		
Inquiry or contact facility	112	73
Customer account information	6	4
Facility to track orders	2	2
Personalised page for repeat customers	3	2
<b>Selling related activities</b>		
Online ordering	21	14
Shopping cart facilities	5	4
Online payment capabilities	8	5
<b>Capability for secure access or transactions</b>	7	5
<b>Integration with back end systems</b>	5	3
<b>Other</b>	5	3
<b>Businesses with a Web presence</b>	<b>153</b>	<b>100</b>

(a) Proportions are of businesses with a Web presence.

(b) Businesses could identify more than one function.

**3.2** SELECTED BUSINESS INTERNET ACTIVITIES (a)(b)

		EMPLOYMENT SIZE				
		0–4	5–19	20–99	100 or more	Total
		persons(c)	persons	persons	persons	
<b>Selling related activities</b>						
Total of all selling related activities	%	35	42	57	71	39
Advertising or promoting goods and services	%	19	31	50	64	26
Receiving orders for goods and services from customers	%	10	15	20	24	13
Receiving payments and orders for goods and services from customers	%	5	8	12	16	7
Sending invoices to customers	%	16	10	13	15	14
Delivery of products electronically	%	9	6	7	9	8
Providing after sales service	%	10	11	13	16	10
<b>Purchasing related activities</b>						
Total of all purchasing related activities	%	54	57	67	76	56
Searching for availability or cost of goods and services	%	43	44	49	66	44
Ordering goods and services from other organisations	%	27	30	40	49	29
Receiving invoices from other businesses	%	17	19	25	28	18
Receiving products electronically	%	14	14	22	22	15
Seeking after sales service	%	14	14	16	25	14
<b>Government services</b>						
Accessing any government service	%	54	57	76	86	57
Electronic lodgement of						
Taxation forms or payments	%	16	22	38	59	20
Claims for grants or benefits	%	2	2	6	11	2
Applications for licences or permits	%	4	5	10	13	5
Payments (e.g. rates, licence fees)	%	14	12	16	16	13
Seeking information or services relating to						
Taxation	%	37	38	56	76	39
Employment	%	16	24	37	45	20
Regulation	%	23	25	42	59	25
<b>General activities</b>						
Total of all general activities	%	99	99	100	100	99
Email	%	91	91	98	99	92
Information searches	%	80	79	87	95	80
Banking and financial services	%	55	62	69	73	59
Advertising or promoting the business	%	20	34	54	69	27
<b>Businesses with Internet access</b>	'000	<b>292</b>	<b>148</b>	<b>36</b>	<b>6</b>	<b>482</b>

- (a) Proportions are of businesses with Internet access in each employment category.
- (b) Businesses could identify more than one activity.
- (c) While the scope of the survey is employing businesses, a small number of non-employers have been included. See paragraph 4 of the Explanatory Notes.

INTERNET COMMERCE IN AUSTRALIA

For the purposes of the survey, Internet commerce was defined as purchasing or selling via the Internet. More precisely, Internet commerce is either placing or receiving orders for goods and services via the Internet or Web, with or without associated online payments.

At 30 June 2001, nearly one quarter of all businesses (24%) had undertaken Internet commerce during the previous 12 months. These businesses were more than twice as likely to purchase via the Internet or Web as they were to sell via the Internet or Web (20% of all businesses compared with 9%).

The estimated value of income earned by businesses from the sale of goods and services ordered via the Internet for the year ending 30 June 2001 was \$9.4 billion. This represented approximately 0.7% of the total income for the same period in the industries surveyed. Readers should note that many businesses were only able to provide an estimate of their Internet income, and therefore the estimated value of Internet income for all businesses should be used with caution. Readers should also note that the methodology used to collect Internet income in 2000–01 is slightly different to that used in the previous survey and direct comparisons should be made with caution.

Of the 61,000 businesses estimated to be receiving income from sales via the Internet in 2000–01, 32% generated less than 1% of their total income in this manner. A further 33% generated between 1% and 5% of their total income via the Internet, while 35% of businesses generated 5% or more of their total income via the Internet. Only 7% of businesses generated 50% or more of their total income from sales via the Internet.

The 2000–01 survey asked businesses to report on the benefits to businesses of Internet or Web purchasing. Of those businesses undertaking this activity, 96% reported receiving at least one benefit, with the most common being "time saving".

The survey also asked businesses involved in Internet or Web selling to report the effect on their business. Overall, 86% reported a benefit to the business. About two thirds (63%) of businesses reported that the ability to sell goods or services via the Internet or Web had increased trading outside their local area. Other important effects were increased trading outside normal business hours (61%) and increased efficiency of business procedures (57%). On the other hand, 68% of businesses reported either an increase or no change to business costs.

INTERNET COMMERCE IN  
AUSTRALIA *continued*

**4.1** BUSINESSES EARNING INCOME VIA THE INTERNET (a)

	Number of businesses	INTERNET INCOME AS A PERCENTAGE OF TOTAL INCOME		
		Less than 1%	1% to less than 5%	5% or more
	'000	%	%	%
<b>Employment size</b>				
0–4 persons(b)	30	19	31	49
5–19 persons	22	43	38	19
20–99 persons	7	49	26	26
100 or more persons	1	55	*25	*20
<b>Total</b>	<b>61</b>	<b>32</b>	<b>33</b>	<b>35</b>

\* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Proportions are of businesses earning income via the Internet or Web in each employment size category.

(b) While the scope of the survey is employing businesses, a small number of non-employers have been included. See paragraph 4 of the Explanatory Notes.

INTERNET COMMERCE IN  
AUSTRALIA *continued***4.2** BUSINESS INTERNET COMMERCE (a)(b)

	BUSINESSES UNDERTAKING			
	<i>Number of businesses</i>	<i>Internet purchasing</i>	<i>Internet selling</i>	<i>Internet commerce</i>
	'000	%	%	%
<b>Employment size</b>				
0–4 persons(c)	457	17	7	20
5–19 persons	196	22	11	27
20–99 persons	39	37	18	45
100 or more persons	6	49	24	59
<b>Total income</b>				
Less than \$100,000	195	15	5	17
\$100,000–\$999,999	386	19	8	23
\$1m–\$4.9m	91	29	15	35
\$5m or more	26	38	21	48
<b>Industry</b>				
Mining	2	22	3	22
Manufacturing	58	22	14	29
Electricity, gas and water supply	—	35	*5	36
Construction	100	9	3	10
Wholesale trade	48	24	16	32
Retail trade	119	13	8	16
Accommodation, cafes and restaurants	35	11	12	18
Transport and storage	34	15	11	19
Communication services	5	21	10	22
Finance and insurance	26	27	8	29
Property and business services	164	33	10	37
Health and community services	55	21	2	21
Cultural and recreational services	20	23	11	27
Personal and other services	32	13	6	16
<b>State or Territory</b>				
New South Wales	251	22	9	25
Victoria	182	19	7	22
Queensland	125	19	9	23
South Australia	49	17	9	21
Western Australia	65	18	11	24
Tasmania	12	14	*8	19
Northern Territory	4	*22	**7	*29
Australian Capital Territory	10	31	*13	39
<b>Region</b>				
Capital cities	476	22	9	26
Other areas	222	16	7	19
<b>Total</b>	<b>698</b>	<b>20</b>	<b>9</b>	<b>24</b>

— nil or rounded to zero (including null cells)

\* estimate has a relative standard error of between 25% and 50% and should be used with caution

\*\* estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Proportions are of all businesses in each category.

(b) Internet commerce is purchasing or selling via the Internet or Web.

(c) While the scope of the survey is employing businesses, a small number of non-employers have been included. See paragraph 4 of the Explanatory Notes.

INTERNET COMMERCE IN  
AUSTRALIA *continued***4.3** EFFECTS OF INTERNET SELLING ON BUSINESSES (a)

	<i>Decreased</i>	<i>Increased</i>	<i>No change</i>	<i>Not applicable</i>
	%	%	%	%
Quality of customer service	*2	56	36	6
Business costs	26	25	43	6
Sales or customers	1	52	44	3
Efficiency of business procedures	*2	57	35	6
Competitiveness	*1	55	38	6
Trading outside normal business hours	—	61	31	8
Trading outside local area	—	63	28	9

\* estimate has a relative standard error of between 25% and 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Proportions are of businesses earning income via the Internet or Web.

**4.4** BENEFITS OF INTERNET SELLING (a)(b)

		BUSINESSES SELLING VIA THE INTERNET OR WEB FOR .....			<i>Total</i>
		<i>Less than 2 years</i>	<i>2 to less than 4 years</i>	<i>4 or more years</i>	
Increased quality of customer service	%	47	63	76	56
Reduced business costs	%	23	30	35	26
Increased sales or customers	%	47	56	64	52
Increased efficiency of business procedures	%	54	61	65	57
Increased competitiveness	%	47	60	78	55
Increased trading outside normal business hours	%	61	62	60	61
Increased trading outside local area	%	62	63	75	63
Businesses receiving a benefit from Internet selling	%	85	87	95	86
Businesses earning income via the Internet or Web	'000	34	21	6	61

(a) Proportions are of businesses earning income via the Internet or Web within each time range.

(b) Businesses could identify more than one benefit.

INTERNET COMMERCE IN  
AUSTRALIA *continued***4.5** BENEFITS OF INTERNET PURCHASING (a)(b)

		BUSINESSES PURCHASING VIA THE INTERNET OR WEB FOR			Total
		Less than 2 years	2 to less than 4 years	4 or more years	
Reduced business or transaction costs	%	45	55	60	50
Time saving	%	86	89	90	87
Increased access to, and awareness of, suppliers	%	43	54	48	47
Ability to track orders	%	15	19	29	17
Compliance with supplier requirements	%	9	11	*14	10
Keeping pace with competitors	%	14	21	20	17
Businesses receiving a benefit from Internet purchasing	%	95	98	98	96
Businesses purchasing via the Internet	'000	80	47	13	140

\* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Proportions are of businesses purchasing goods or services via the Internet or Web within each time range.

(b) Businesses could identify more than one benefit.



COMPARISONS WITH OTHER COUNTRIES

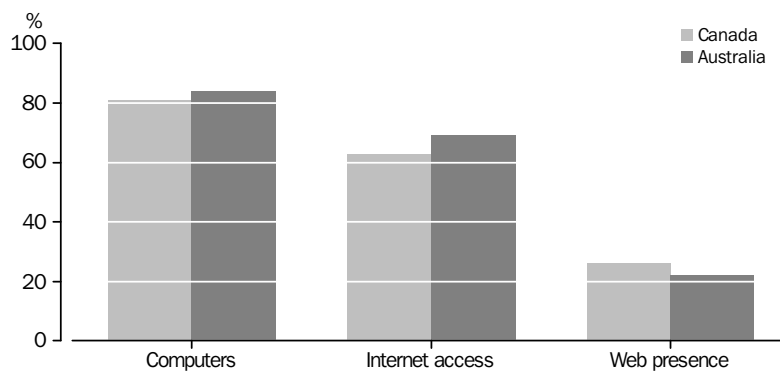
National Statistical Offices are making reasonable progress in their efforts to collect comparable data on IT use and e-commerce. However, there remain differences in the scope and content of surveys covering these topics and Australian statistics can only be compared with those from a relatively small number of other countries.

Three international comparisons are presented in this chapter. The first is a comparison of Australian and Canadian private sector businesses, showing IT use and Internet commerce data for the latest two years. The second is a comparison of Australia and the Nordic countries. It shows the proportion of businesses with Internet access and a Web presence. The third comparison examines the value of Internet commerce in Australia and the United Kingdom. The scope of the Australian survey was adjusted for the UK and Nordic comparisons. For more information on differences between the Australian and other countries' surveys, see paragraph 13 of the Explanatory Notes.

COMPARISON OF AUSTRALIA AND CANADA

There is little difference between Australia and Canada in the rate of uptake of computers, the Internet or web sites/home pages. Australia is slightly ahead on computer use and Internet access, however, the differences are small and may be attributable to the later reference period for the Australian survey. In respect of web site use by businesses, Australia lags Canada slightly as it did for the previous survey period.

CANADIAN AND AUSTRALIAN BUSINESSES USING IT(a)



(a) Canadian data are in respect of the year 2000; Australian data are for 2000-01.

An Australian-Canadian comparison of Internet commerce is shown in the table below. Whilst the proportion of businesses using the Internet/Web to sell goods or services has increased for Australia, it has actually decreased for Canada from 10% to 6% of businesses. Statistics Canada attributes this decrease to a concentration of Internet selling into fewer and larger businesses. For both countries, the proportion of businesses using the Internet/Web for purchasing has increased, although the increase is much greater for Australia than for Canada. The value of Internet sales in absolute terms and as

COMPARISON OF AUSTRALIA AND CANADA a proportion of income has increased significantly for both countries, with Australia leading on both those indicators.  
*continued*

**5.1** COMPARISON OF CANADIAN AND AUSTRALIAN BUSINESS USE OF IT(a)(b)

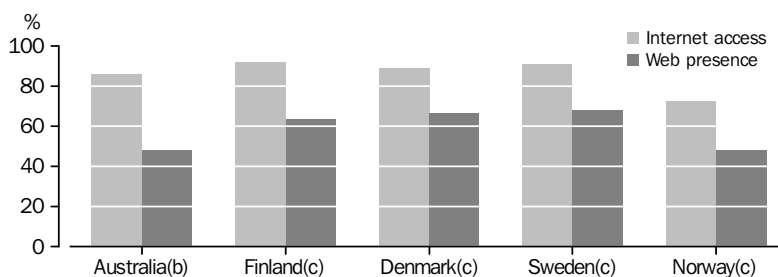
		CANADA		AUSTRALIA	
		1999	2000	1999-2000	2000-01
Proportion of businesses					
Using computers	%	82	81	76	84
With Internet access	%	53	63	56	69
With a web site or home page	%	22	26	16	22
Which use the Internet/Web to sell goods or services	%	10	6	6	9
Which use the Internet/Web to purchase goods or services	%	14	18	10	20
Value of Internet sales as a proportion of income(c)	%	0.2	0.4	0.4	0.7
Value of Internet sales(d)	\$b	4.2	7.2	5.1	9.4

- (a) Proportions are of all businesses.
- (b) There are slight scope differences between the Canadian and Australian surveys. See paragraph 13 of the Explanatory Notes.
- (c) There are slight differences in the income concept used in the Canadian and Australian surveys. See paragraph 13 of the Explanatory Notes.
- (d) Canadian data are presented in Canadian dollars, Australian data in Australian dollars.

Source for Canadian data: *Electronic Commerce and Technology Use, Statistics Canada, September 2001*

COMPARISON OF AUSTRALIA AND THE NORDIC COUNTRIES A comparison between Australia and the Nordic countries shows that Australia compares reasonably well in terms of business Internet access but less well for Web presence.

BUSINESSES WITH INTERNET ACCESS AND A WEB PRESENCE(a)



- (a) The scope of the Australian survey has been adjusted to match the Nordic surveys (see paragraph 13 of the Explanatory Notes).
- (b) Data are in respect of 30 June 2001.
- (c) Data are in respect of the end of the year 2000.

Source: *National Statistical Offices*

COMPARISON OF AUSTRALIA AND THE UNITED KINGDOM After some adjustment, it is possible to compare the value of Internet commerce in Australia and the United Kingdom. The Australian data used in this comparison have been constructed on an adjusted scope basis to match the UK survey (see paragraph 13 of the Explanatory Notes). On this basis, the UK is more advanced than Australia in respect of Internet sales. For the UK, the total value of sales made using the Internet for the calendar year 2000 was £13 billion (excluding the Finance Sector). This represented 0.94% of all sales made by in-scope businesses. The equivalent Australian figures for the same scope were \$6.4 billion and 0.75% respectively.

## EXPLANATORY NOTES .....

### INTRODUCTION

**1** This publication presents results from the 2000–01 Business Use of Information Technology Survey. The survey collected data on Australian business use of computers and the Internet, including web sites and home pages. In particular the survey explored the use and functionality of Internet and Web technologies by businesses, as well as measuring the extent of purchasing and selling via the Internet.

### PREVIOUS SURVEYS

**2** Business Technology Surveys were previously conducted by the ABS with respect to the 1993–94, 1997–98 and 1999–2000 financial years.

- The 1993–94 survey collected data about IT staff and expenses and the prevalence of computers.
- The 1997–98 survey collected data about IT staff and expenses but concentrated more on the use of the Internet by business. Data on benefits of, and barriers to, Internet access were also collected.
- The 1999–2000 survey collected data on IT staff, Internet activities and services used, and Web presence functions and activities. Data on the value of orders for goods and services received via the Internet were also collected.

### SURVEY SCOPE AND METHODOLOGY

**3** All employing businesses in Australia were included in the scope of the survey, with the exception of businesses in:

- SISCA 3000 General Government
- SISCA 6000 Rest of the world
- ANZSIC Division A Agriculture, Forestry and Fishing
- ANZSIC Division M Government Administration and Defence
- ANZSIC Sub-division 84 Education
- ANZSIC Sub-division 97 Private Households Employing Staff
- ANZSIC 7310 Central Bank (SISCA 02110 Reserve Bank of Australia)
- ANZSIC 9610 Religious organisations

**4** A stratified random sample of approximately 14,900 businesses was drawn from the ABS Business Register. All manufacturing businesses with 500 or more employees were included in the sample. For other industries, all businesses with 200 or more employees were included. After some sample loss due to ceased businesses, a response rate of 94% was achieved. Data from respondents were weighted to represent the surveyed population. Whilst the scope of the survey was employing businesses, it is likely that a small number of non-employers were included.

### STATISTICAL UNIT

**5** The business unit used in the survey was the management unit. The management unit is the highest-level accounting unit within a business, having regard to industry homogeneity. In most cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, etc.). However, in the case of large diversified businesses, there may be more than one management unit, with each coinciding with a division or line of business. A division or line of business is recognised where separate and comprehensive accounts are compiled for it.

CLASSIFICATION BY  
INDUSTRY

**6** This publication presents statistics classified according to the 1993 edition of the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (Cat. no. 1292.0). Each management unit has been classified to a single industry on the basis of its main income earning activity, irrespective of whether the unit also generates income from related or unrelated secondary activities.

## ACCURACY OF DATA

**7** The estimates presented in this publication are based on information obtained from a sample of businesses in the surveyed population. Consequently, the estimates are subject to sampling variability, that is, they may differ from the figures that would have been obtained if all units had been included in the survey. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied by chance because only a sample of units was included.

**8** There are about two chances in three that a sample estimate will differ by less than one SE from the figure that would have been obtained if a census had been conducted, and approximately 19 chances in 20 that the difference will be less than two SEs.

**9** Sampling variability can also be measured by the relative standard error (RSE) which is obtained by expressing the SE as a percentage of the estimate to which it refers. The RSE is a useful measure in that it provides an immediate indication of the percentage standard errors likely to have occurred due to sampling, and avoids the need to also refer to the size of the estimate. RSEs on the Australian level aggregates presented in this publication are as follows:

- proportion of businesses using computers, 1%
- proportion of businesses with access to the Internet, 1%
- proportion of businesses with a Web presence, 3%

**10** As an example of the above, the estimated percentage of businesses with a Web presence is 22% and the RSE is 3%, giving a standard error of 1 percentage point (3% of 22%). Therefore, there would be two chances in three that, if all units had been included in the survey, a figure in the range of 21% to 23% would have been obtained, and 19 chances in 20 (i.e. a confidence interval of 95%) that the figure would have been within the range of 20% to 24%. For more information about RSEs for estimates presented in this publication, please telephone the contact shown on the front page.

**11** Errors other than those due to sampling may occur in any type of collection and are referred to as non-sampling error. For this survey, non-sampling error may result from such things as deficiencies in the register of businesses from which the sample was drawn, non-response, imperfections in reporting and/or errors made in compiling results. The extent to which non-sampling error affects the results of the survey is unknown. Every effort was made to minimise non-sampling error by careful design and testing of the questionnaire, efficient operating procedures and systems and the use of appropriate methodology.

**12** Where figures have been rounded, discrepancies may occur between the sum of the components and the total. In addition, percentages have been calculated using the unrounded figures.

INTERNATIONAL  
COMPARISONS

**13** The following points about the international comparisons presented in Chapter 5 should be noted:

- The reference periods of the surveys differ, with the Australian survey period being 6 months later than the surveys of Canada, the Nordic countries and the UK.

INTERNATIONAL  
COMPARISONS *continued*

- The Canadian and Australian surveys have a slightly different scope. Canada excludes enterprises in the Agriculture and Construction industries. Australia excludes Agriculture, forestry and fishing and (private) Education. The two countries both exclude very small businesses from their surveys but use different exclusion criteria. Whilst Australia excludes almost all non-employing businesses, Canada includes non-employers but excludes all businesses with a gross business income under \$150,000 or \$250,000 depending on the industry. It is thought that the impact of scope differences will be small at the level at which statistics have been presented in this publication.
- The Australian scope differs from the common scope of the Nordic countries. In the comparison shown in Chapter 5, Australian data have been amended to reasonably conform with the Nordic common scope. Adjustments made to Australian data are to exclude information in respect of the Mining, Electricity, gas and water and Construction industries and to exclude data for all businesses with fewer than 10 employees. Even with those adjustments, there are some scope differences remaining. However, an analysis of Australian data indicates that the net effect of these remaining differences is unlikely to be more than 1 or 2 percentage points.
- The UK and Australian surveys also differ in scope. The UK survey excludes the Mining, Electricity, gas and water and Construction industries and does not survey firms with fewer than 10 employees. In addition, the UK treats the Finance sector differently to the Australian treatment. In the comparison presented in Chapter 5, Australian data have been adjusted to the same scope basis as the UK, with both datasets excluding the Finance sector.
- The income concept used in the Canadian and Australian surveys differs slightly. Canada compares the value of gross Internet sales (of goods or services belonging to and sold by the reporting business) with total operating revenue. Australia compares the value of income resulting from Internet sales of goods or services with total income (excluding extraordinary items). These definitional differences are thought likely to have only a small impact on the comparative results.
- The UK income concept is slightly different to that used in the Australian survey, being a proportion of Internet sales to total sales (rather than Internet income to total income per the Australian treatment). It is thought that this difference is likely to have only a small effect on the analysis.

ACKNOWLEDGMENT

**14** ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated; without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the Census and Statistics Act 1905.

RELATED PUBLICATIONS

**15** Other ABS publications on the use and production of information

## RELATED PUBLICATIONS

*continued*

technology and telecommunication goods and services in Australia are listed below:

*Business Use of Information Technology, Australia, 1999–2000*

(Cat. no. 8129.0)

*Government Use of Information Technology, Australia, 1997–98*

(Cat. no. 8119.0)

*Household Use of Information Technology, Australia, 2000* (Cat. no. 8146.0)

*Information Technology, Australia, 1998–99* (Cat. no. 8126.0)

*Internet Activity, Australia, September 2001* (Cat. no. 8153.0)

*Use of Information Technology on Farms, Australia, June 2000*

(Cat. no. 8150.0)

*Use of the Internet by Householders, Australia, November 2000*

(Cat. no. 8147.0)

## AVAILABILITY OF

## UNPUBLISHED STATISTICS

**16** Inquiries about more detailed statistics than those presented in this publication should be made by telephoning the contact shown on the front page.

## ABBREVIATIONS

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
IT	information technology
PAYG	Pay-as-you-go tax
RSE	relative standard error
SE	standard error
SISCA	Standard Institutional Sector Classification of Australia
UK	United Kingdom
\$b	billion (thousand million) dollars
\$m	million dollars

## GLOSSARY .....

<b>Back end systems</b>	Existing accounting, stock control and ordering computer systems previously used to manage non-Internet aspects of a business.
<b>Computer</b>	Includes personal computers (PCs), laptops, notebooks, mainframes and mini-computers.
<b>E-mail</b>	Electronic mail is a facility which allows network users to exchange messages locally and worldwide (including text and file attachments).
<b>External IT services</b>	When a business pays any other business or person (outside of their own business) to provide specialist IT services (e.g. contractors or consultants) these type of specialist IT services are referred to as external IT services.
<b>Information technology (IT)</b>	Refers to the services and technologies which enable information to be accessed, stored, processed, transformed, manipulated and disseminated.
<b>Internet</b>	A world-wide collection of computers which are linked together to form a repository of stored information and to provide a range of communication services. These services include, but are not limited to, the World Wide Web (WWW), File Transfer Protocol (FTP) and Simple Mail Transport Protocol (SMTP).
<b>Internet commerce</b>	Internet commerce is placing and/or receiving orders for goods and services via the Internet or Web, either with or without associated online payments.
<b>IT staff</b>	Refers to all employees and working proprietors and partners who are predominantly engaged in IT work. Excluded are staff predominantly engaged in manufacturing, sales and data entry. Also excluded are contractors or consultants for whom PAYG withholding tax is not deducted.
<b>Online payments</b>	Payments made via the Internet or a web site for goods and services. These payments generally require customers to provide their credit/debit card details online. Includes real time online payments.
<b>Secure access/transactions</b>	A web site has a capability for secure access or transactions when it allows customers to submit orders for goods, requests for services and credit/debit card details over a secure link that cannot be accessed by unauthorised persons. Secure Sockets Layer (SSL) is a common protocol used in this type of web site as it enables encryption of data such as credit card details and customer information sent over the Internet.
<b>Web presence</b>	Web presence includes a web site, home page or a presence on another entity's web site. A web site or home page is an electronic document that is accessed via a unique address on the World Wide Web. The document provides information in a textual, graphical or multimedia format.

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- CPI INFOLINE* For current and historical Consumer Price Index data, call 1902 981 074 (call cost 77c per minute).
- DIAL-A-STATISTIC* For the latest figures for National Accounts, Balance of Payments, Labour Force, Average Weekly Earnings, Estimated Resident Population and the Consumer Price Index call 1900 986 400 (call cost 77c per minute).

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