

# **BUSINESS USE OF INFORMATION TECHNOLOGY** AUSTRALIA

EMBARGO: 11:30AM (CANBERRA TIME) FRI 15 DEC 2000

## CONTENTS

	page
Notes .....	2
TABLES	
Comparison of Australian and Canadian business use of IT .....	7
Business use of selected information technologies .....	9
Business use of Internet commerce .....	11
Purpose of business Internet use .....	12
Selected business Internet activities .....	13
Percentage of annual sales/orders originating from Internet sales/orders .....	14
Selected business Web site functions .....	15
Nature and location of Web site or home page .....	16
Barriers to computer use, Internet access and having a Web site or home page .....	17
Factors limiting further development of business Web site or home page	18
ADDITIONAL INFORMATION	
Explanatory Notes .....	19
Glossary .....	22

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

## NOTES

ABOUT THIS PUBLICATION	This publication presents results from an Australian Bureau of Statistics (ABS) survey of business use of computers and the Internet, including Web sites and Internet commerce. The survey was conducted in respect of the 1999–2000 financial year.
ABOUT THE SURVEY	The survey collected information from 12,000 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 INFORMATION TECHNOLOGY STATISTICS	Information about ABS activities in the field of information technology statistics is available from the Information Technology Statistics theme page on the ABS web site <URL: <a href="http://www.abs.gov">http://www.abs.gov</a> >. 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 14 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, PO Box 10 Belconnen, ACT, 2616.
ROUNDING	Where figures have been rounded discrepancies may occur between the sum of component items and the total.
SYMBOLS AND OTHER USAGES	<p>ABS      Australian Bureau of Statistics</p> <p>ANZSIC   Australian and New Zealand Standard Industrial Classification</p> <p>SISCA    Standard Institutional Sector Classification of Australia</p> <p>IT        Information technology</p> <p>RSE      Relative standard error</p> <p>*        Estimates have a relative standard error between 25% and 50%</p> <p>—        Nil or rounded to zero</p>

Dennis Trewin  
Australian Statistician

## MAIN FEATURES

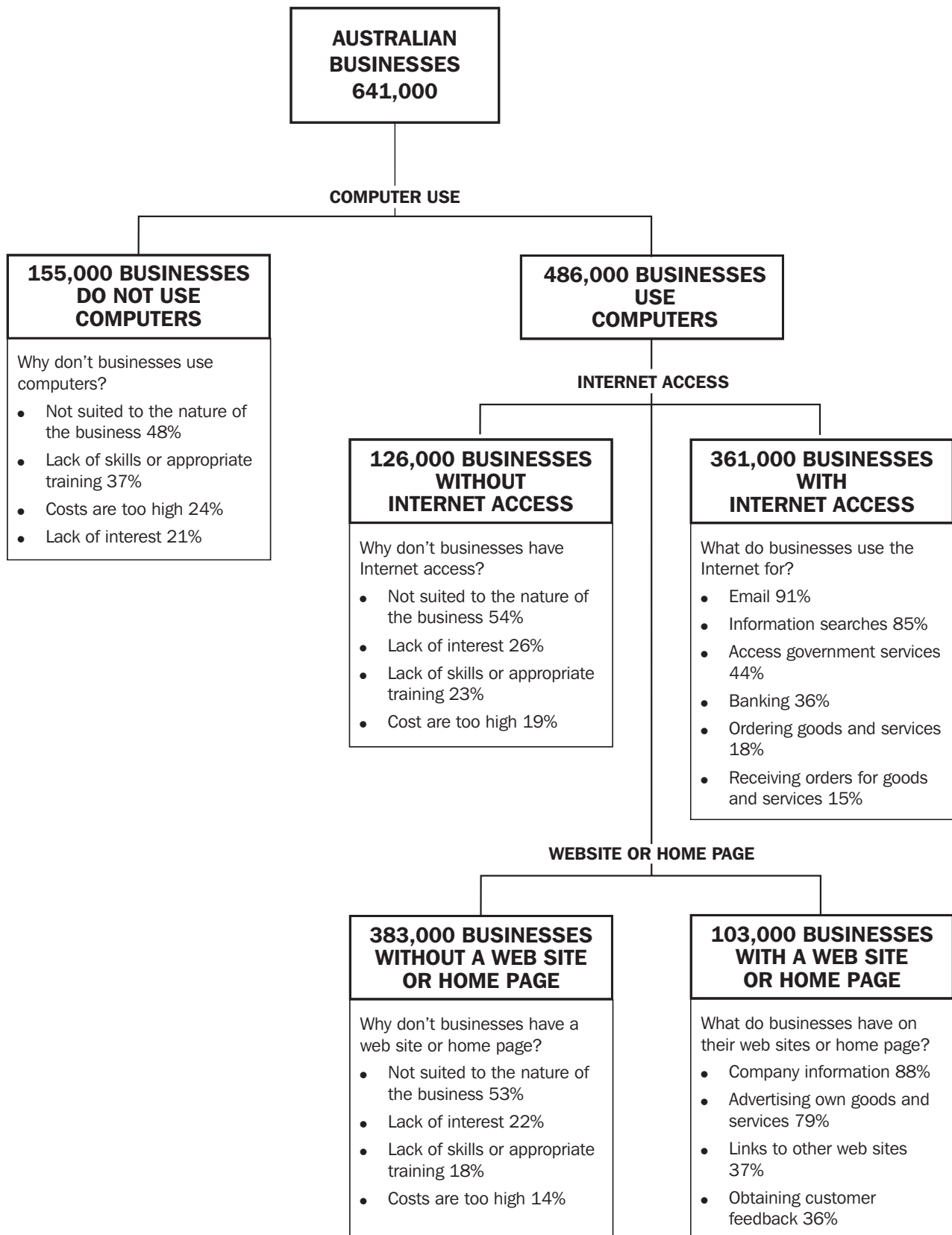
### INTRODUCTION

Over recent years, information technology has brought many changes to the Australian way of life and of doing business. Many Australians now do things with information technology (IT) which would have been unimaginable a decade ago. Similarly, for Australian businesses, the emergence of new technologies has brought significant change to the way business is done.

Much has been made of the opportunities that exist for Australian businesses to enter the 'global market' or to embrace the 'new economy'. Technologies, particularly the information technologies, are seen as facilitators or enablers for this new activity, allowing business to compete in an ever evolving market place. In order to gain an understanding of what might be possible, analysts require an understanding of the spread of technologies throughout industries and the uses which are made of those technologies within businesses.

To assist in that understanding, the ABS has now conducted three surveys on the use of IT by Australian businesses. From the first survey in 1993–94 to the latest one for 1999–2000, the survey has evolved from collecting information on computer use to measuring the extent and uses of Internet and Web technologies. Future surveys will be conducted each year and will continue to adapt to changes in business use of IT.

While there is considerable interest in monitoring the use of IT by Australian businesses, there is also a need to understand the factors which hamper the adoption of IT. The flow chart on the next page presents a broad overview of the adoption of computers, the Internet and Web sites or home pages by Australian businesses.



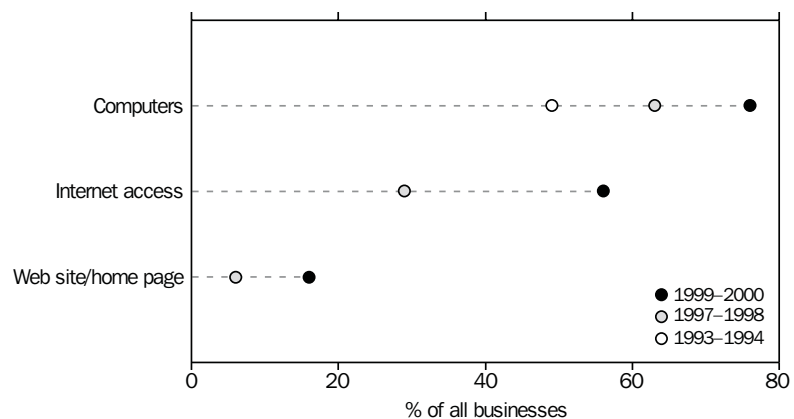
## HAS ADOPTION OF IT BY AUSTRALIAN BUSINESSES INCREASED?

The use of IT among Australian businesses continues to rise, as shown in the graph below. The ABS measured the use of computers at the end of the financial years in 1993–94, 1997–98 and 1999–2000. In the latter two years, access to the Internet and use of Web sites was also measured.

Computer use has continued to grow fairly steadily, rising from 49% of businesses in 1993–94 to 63% in 1997–98 and 76% in 1999–2000. However, between 1997–98 and 1999–2000, the proportion of businesses with Internet access has almost doubled (29% to 56%) while the proportion with Web sites or home pages has more than doubled (6% to 16%).

The proportion of Australian businesses using computers, accessing the Internet and/or using Web sites or home pages continued to be higher for larger businesses. However growth in the use of these technologies was higher for smaller businesses. For instance, growth in computer use was greatest in businesses with employment of fewer than 5 persons, increasing from 55% of these businesses at the end of June 1998 to 69% at the end of June 2000. Growth in Internet access was also greatest in businesses of this size, increasing from 24% of businesses at the end of June 1998 to 50% at the end of June 2000. Growth in the use of a Web site or home page was greatest in businesses with employment of between 5 and 19 persons, increasing from 8% of businesses at the end of June 1998 to 24% at the end of June 2000.

### 1 AUSTRALIAN BUSINESSES USING IT

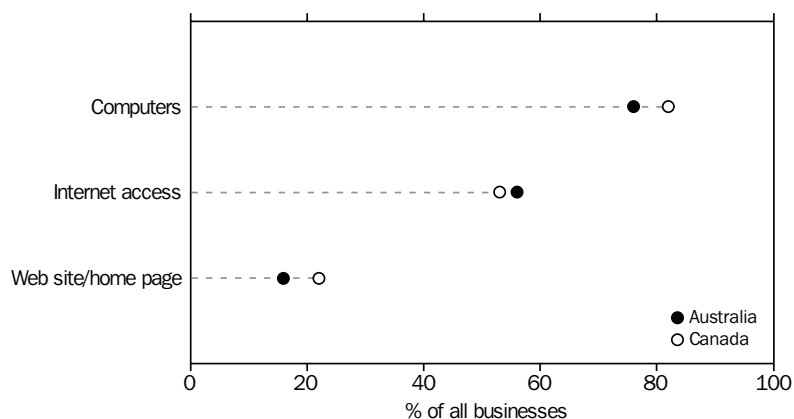


## HOW DOES AUSTRALIA COMPARE WITH OTHER COUNTRIES?

At time of publication, there were few comparable official statistics about business use of IT, the exception being those from a 1999 Canadian survey. Statistics Canada has recently released results from an economy wide survey of information and communications technologies, including electronic commerce. The main methodological differences between the Canadian and Australian surveys were the exclusion of the construction industry from the Canadian survey and the reference periods; Statistics Canada collected data for the 1999 calendar year while ABS collected data for the 1999–2000 financial year. Both surveys excluded very small businesses, with ABS generally not collecting data from non-employed businesses and Statistics Canada excluding businesses with low turnover.

The graph below shows that there is little difference between the rates at which Canadian and Australian businesses have adopted computers, the Internet or Web sites/home pages.

2 AUSTRALIAN AND CANADIAN BUSINESSES USING IT



While the OECD has only recently released definitions of e-commerce transactions, both ABS and Statistics Canada have used a concept of Internet commerce which is reasonably consistent with those definitions, that is, an Internet sale of goods or services is one which is transacted over the Internet, including via email, public Web sites or B2B Internet based trading systems. Neither the method of payment nor method of delivery of the product are relevant, that is, they may occur by more traditional off-line means.

In both Canada and Australia, Internet commerce accounts for a very small proportion of economic activity (0.2% of operating revenue in Canada and 0.4% of sales in Australia).

### 3 COMPARISON OF AUSTRALIAN AND CANADIAN BUSINESS USE OF IT(a)

	<i>Canada</i>	<i>Australia</i>
	%	%
Businesses using computers	82	76
Businesses with Internet access	53	56
Businesses with a Web site or home page	22	16
Businesses that have used the Internet/Web to receive orders for goods or services	10	8
Businesses that have used the Internet/Web to order goods or services	14	10
Value of Internet commerce as a proportion of total annual operating revenue/sales(b)	0.2	0.4

(a) Proportions are of all businesses.

(b) Total operating revenue is used for the Canadian results and would be slightly higher than sales;  
however the difference is not considered significant for the purpose of this analysis.

The report on the Canadian survey, titled 'Information and Communications Technologies and Electronic Commerce in Canadian Industry' is available from Statistics Canada's Web site  
<URL: <http://www.statcan.ca>>.

WHICH AUSTRALIAN  
BUSINESSES ARE USING IT?

The proportion of Australian businesses using computers, accessing the Internet or using Web sites or home pages increased with business size. For instance, 100% of large businesses (those with employment of 100 or more persons) used a computer, 95% had access to the Internet and 68% had a Web site or home page at 30 June 2000. Very small businesses (those with employment of fewer than 5 persons) had much lower adoption of IT at 30 June 2000, with 69% using a computer, 50% having Internet access and only 9% having a Web site or home page.

The extent of computer use also varied considerably across industries. At the end of June 2000, it was lowest in the Personal and other services, Accommodation, cafes and restaurants, Transport and storage Retail trade, and Construction industries, where between 60% and 68% of businesses were using computers. These industries also had low Internet access rates, varying from 39% to 46%. The rate of Internet access was also low in the Communication services industry, with 42% of businesses having Internet access. Note that the Communication services industry includes Telecommunications services which had very high Internet access (90% of businesses) together with Postal and courier services which had considerably lower Internet access (29% of businesses).

At the end of June 2000, computer use and Internet access were highest in the Property and business services and Electricity, gas and water supply industries. At least 85% of businesses in these two industries used computers and at least 76% had access to the Internet.

Web site use was highest in the Electricity, gas and water supply industry, with 56% of businesses having a Web site or home page. The next highest Web use was in the mining industry where 30% of businesses had a Web site or home page.

WHERE ARE IT USERS  
LOCATED?

Internet access and Web site or home page use were higher for businesses located in capital cities compared with other areas of Australia. An estimated 58% of businesses located in capital cities had access to the Internet at 30 June 2000 compared with 52% of businesses in other areas. A greater difference was seen between capital cities and other areas in respect of Web site or home page use, with 18% of businesses in capital cities having a Web site or home page compared with 13% of businesses in other areas.

WHICH AUSTRALIAN  
BUSINESSES EMPLOY IT  
STAFF?

At the end of June 2000, 17% of all businesses in Australia employed their own IT staff (including Web design staff). A higher proportion of large businesses employed IT staff than smaller businesses, with 68% of businesses with employment of 100 or more persons having IT staff compared with 13% of businesses with employment of fewer than 5 persons. The percentage of businesses with IT staff ranged from 10% in both the Construction and Personal and other services industries to 46% in the Electricity, gas and water supply industry.



#### 4 BUSINESS USE OF SELECTED INFORMATION TECHNOLOGIES(a)

	<i>Number of businesses</i>		<i>Businesses with</i>		
	'000	<i>IT staff</i>	<i>Computers</i>	<i>Internet access</i>	<i>Web site or home page</i>
		%	%	%	%
Employment size					
1–4 persons	415	13	69	50	9
5–19 persons	184	22	85	65	24
20–99 persons	36	38	97	83	46
100 or more persons	6	68	100	95	68
Value of annual sales/orders					
Less than \$100,000	158	11	63	43	6
\$100,000–\$999,999	365	16	76	55	14
\$1.0m–\$4.9m	92	24	91	74	32
\$5m or more	26	46	99	87	52
Industry					
Mining	2	19	82	70	30
Manufacturing	54	20	79	60	23
Electricity, gas and water supply	—	46	85	79	56
Construction	90	10	68	46	6
Wholesale trade	45	21	83	62	22
Retail trade	112	12	68	42	15
Accommodation, cafes and restaurants	32	12	61	40	19
Transport and storage	32	13	64	46	14
Communication services	4	17	77	42	17
Finance and insurance	23	18	81	71	19
Property and business services	149	29	88	76	19
Health and community services	51	14	83	57	9
Cultural and recreational services	17	15	81	63	26
Personal and other services	30	10	60	39	19
State					
New South Wales	233	16	74	55	16
Victoria	169	20	77	58	15
Queensland	112	17	79	58	17
South Australia	42	17	78	58	17
Western Australia	57	16	75	54	19
Tasmania	12	11	70	42	13
Northern Territory	4	*17	68	59	13
Australian Capital Territory	12	30	80	59	19
Region					
Capital cities	430	18	77	58	18
Other areas	211	16	74	52	13
<b>Australia</b>	<b>641</b>	<b>17</b>	<b>76</b>	<b>56</b>	<b>16</b>

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

HOW FAR DOWN THE  
INTERNET COMMERCE PATH  
ARE AUSTRALIAN  
BUSINESSES?

Internet business has been defined, in this publication, to mean use of the Internet, including the Web, to facilitate business processes. It excludes use of the Internet for only email and/or information searches. At the end of June 2000, 46% of Australian businesses were "Internet business active" according to this definition. Such activity was most prevalent in businesses with employment of 100 or more persons (93%). This contrasts with very small businesses (employment of fewer than 5 persons) where 38% were estimated to be undertaking Internet business activity.

A further indicator of the extent of use of information technology is the number of businesses which are receiving sales income from orders for goods or services over the Internet. We have called such businesses "Internet commerce active". Even though Internet commerce currently has no universally accepted definition for statistical purposes, agencies responsible for collecting and reporting official statistics are tending towards a transaction definition as follows:

An Internet commerce transaction is the sale/purchase of goods and/or services conducted over the Internet (including via email, public Web sites or B2B Internet based trading systems), regardless of the ultimate method of delivery or payment for the good or service.

In this context, 6% of Australian businesses would have been classified as being Internet commerce active at the end of June 2000.

The Wholesale trade (11%) and Accommodation, cafes and restaurants (9%) industries had the highest percentage of Internet commerce active businesses. As expected perhaps, larger businesses were more likely to be Internet commerce active (14% of businesses with employment of 100 or more persons).

## 5 BUSINESS USE OF INTERNET COMMERCE(a)

	<i>Number of businesses</i>	<i>Internet business active</i>	<i>Internet commerce active</i>
	'000	%	%
Employment size			
1–4 persons	415	38	5
5–19 persons	184	55	8
20–99 persons	36	76	12
100 or more persons	6	93	14
Value of annual sales/orders			
Less than \$100,000	158	33	4
\$100,000–\$999,999	365	44	5
\$1.0m–\$4.9m	92	64	11
\$5m or more	26	78	13
Industry			
Mining	2	57	*1
Manufacturing	54	50	8
Electricity, gas and water supply	—	73	2
Construction	90	34	2
Wholesale trade	45	51	11
Retail trade	112	34	5
Accommodation, cafes and restaurants	32	35	9
Transport and storage	32	37	8
Communication services	4	37	7
Finance and insurance	23	57	5
Property and business services	149	63	8
Health and community services	51	43	*1
Cultural and recreational services	17	53	6
Personal and other services	30	34	4
State			
New South Wales	233	45	6
Victoria	169	45	6
Queensland	112	47	5
South Australia	42	47	5
Western Australia	57	47	7
Tasmania	12	38	*5
Northern Territory	4	46	*3
Australian Capital Territory	12	56	*10
Region			
Capital cities	430	48	7
Other areas	211	42	5
<b>Australia</b>	<b>641</b>	<b>46</b>	<b>6</b>

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

## WHAT ARE AUSTRALIAN BUSINESSES USING THE INTERNET FOR?

At the end of June 2000, 28% of businesses with access to the Internet were engaged in activities associated with selling goods or services to customers. This included receiving orders, sending invoices and providing after sales service. Of the businesses with Internet access, 24% used it for activities associated with buying goods or services such as ordering from supplies, purchasing information on-line or receiving invoices. Over a third (36%) of businesses with Internet access were using on-line banking facilities. A fifth (20%) of businesses were using their Internet access only for email and/or information searches.

### 6 PURPOSE OF BUSINESS INTERNET USE(a)

	<i>Businesses with Internet access</i>	<i>Selling related activities</i>	<i>Buying related activities</i>	<i>Banking</i>	<i>Email and/or information searches only</i>
	'000	%	%	%	%
Employment size					
1–4 persons	206	26	21	33	24
5–19 persons	119	30	27	40	17
20–99 persons	30	32	27	44	10
100 or more persons	6	39	39	53	*3
Value of annual sales/orders					
Less than \$100,000	68	23	21	32	24
\$100,000–\$999,999	202	26	22	34	21
\$1m–\$4.9m	68	36	29	42	15
\$5m or more	22	41	32	45	10
Industry					
Mining	1	10	24	35	19
Manufacturing	33	36	24	34	18
Electricity, gas and water supply	—	31	38	28	*8
Construction	41	23	21	36	27
Wholesale trade	28	39	25	35	19
Retail trade	47	27	24	35	23
Accommodation, cafes and restaurants	13	37	20	36	15
Transport and storage	15	36	22	39	21
Communication services	2	41	29	47	11
Finance and insurance	17	28	20	36	20
Property and business services	112	28	28	39	17
Health and community services	29	11	15	36	25
Cultural and recreational services	11	26	24	27	20
Personal and other services	12	29	25	33	16
State					
New South Wales	128	29	27	36	20
Victoria	97	25	23	34	22
Queensland	66	30	19	36	22
South Australia	24	28	20	31	19
Western Australia	31	29	26	42	16
Tasmania	5	27	*13	41	*12
Northern Territory	2	*19	*16	47	*25
Australian Capital Territory	7	41	*38	49	*7
Region					
Capital cities	250	29	24	37	19
Other areas	110	27	22	35	22
<b>Total</b>	<b>361</b>	<b>28</b>	<b>24</b>	<b>36</b>	<b>20</b>

(a) Proportions are of businesses with Internet access in each category.

WHAT ARE AUSTRALIAN  
BUSINESSES USING THE  
INTERNET FOR? *continued*

For most industries, the proportion of businesses selling over the Internet exceeded or equaled the proportion buying. However the Mining Industry had a much higher proportion of businesses conducting activities associated with buying goods and services via the Internet (24%) than conducting activities associated with selling goods and services via the Internet (10%) at the end of June 2000. Other industries that also had a higher proportion of businesses using the Internet for buying activities than selling activities were the Electricity, gas and water industry and the Health and community services industry.

The most prevalent activity associated with selling goods or services via the Internet was that of receiving orders for goods or services, with 15% of businesses with Internet access undertaking this activity. The least common Internet sales related activity was the delivery of products in digital form, with only 3% of businesses with Internet access engaged in this activity. The most common Internet facilitated buying activity was ordering goods and services from other organisations, with 18% of businesses with Internet access undertaking this activity. Of those businesses with Internet access, only 5% made payments for goods or services via the Internet.

7 SELECTED BUSINESS INTERNET ACTIVITIES(a)

	Value of annual sales/orders				Total
	Less than \$100,000	\$100,000– \$999,999	\$1m–\$4.9m	\$5m or more	
	%	%	%	%	%
Selling related activities					
Receiving orders for goods and services from customers	11	13	21	23	15
Sending invoices to customers	11	8	8	7	9
Receiving on-line payment/authorisation from customers	3	6	12	12	7
Sale of information on-line	5	6	10	11	7
Delivery of products in digital form	*2	3	*2	*6	3
Providing after sales service	8	9	17	18	11
Buying related activities					
Ordering goods and services from other organisations	16	17	23	28	18
Receiving invoices from other businesses	7	9	11	14	9
Purchasing information on-line	14	13	18	24	15
Making electronic payments for goods and services	4	5	6	10	5
Other					
Email	91	90	92	96	91
Information searches	87	84	83	89	85
Marketing and promotion	19	23	36	52	27
Banking	32	34	42	45	36
Accessing membership services and loyalty programs	9	10	13	17	11
Accessing government services	41	43	43	60	44
Co-ordinating delivery arrangements	*2	2	4	5	3
Other	7	5	6	4	6
	'000	'000	'000	'000	'000
Businesses with Internet access	68	202	68	22	361

(a) Proportions are of businesses with Internet access in each sales/order range.

## HOW SIGNIFICANT IS INTERNET COMMERCE IN AUSTRALIA?

The estimated total value of sales/orders received by businesses via the Internet for the year ending 30 June 2000 was \$5.1b. This represented approximately 0.4% of total sales/orders received for goods and services for that period in those industries surveyed. While Internet commerce accounted for only a very small proportion of total sales/orders, it was dominated by B2B transactions.

Of the 38,000 "Internet commerce active" businesses estimated to be receiving sales income via the Internet in 1999–2000, 39% generated less than 1% of their sales in this manner. A further 27% generated between 1% and 5% of their total sales via the Internet, while 34% of businesses generated 5% or more of their total sales via the Internet. Only 2% of businesses generated 50% or more of their sales via the Internet.

### 8 PERCENTAGE OF ANNUAL SALES/ORDERS ORIGINATING FROM INTERNET SALES/ORDERS(a)

	<i>Number of businesses</i>	<i>Percentage of annual sales/orders generated via the Internet</i>		
		<i>Less than 1%</i>	<i>1% to less than 5%</i>	<i>5% or more</i>
	<i>'000</i>	<i>%</i>	<i>%</i>	<i>%</i>
Employment size				
1–4 persons	19	23	29	48
5–19 persons	14	54	25	21
20 or more persons	5	57	*27	17
<b>Total</b>	<b>38</b>	<b>39</b>	<b>27</b>	<b>34</b>

(a) Proportions are of businesses receiving Internet sales/orders income in each employment size category.

## WHAT ARE AUSTRALIAN BUSINESSES USING THEIR WEB SITES FOR?

The majority of businesses with Web sites or home pages used their site to display company information (88%) and/or advertise their goods or services (79%). An estimated 6% of businesses with Web sites offered secure access or secure transactions on those sites. While 14% of businesses with Web sites offered on-line ordering, only 3% of businesses with Web sites used shopping cart software and only 5% had an on-line payments facility.

An estimated 11% of businesses with Web sites provided after sales service to their customers through their site, with fewer than 5% of businesses with Web sites offering their customers the facility to track orders or retrieve account information via the Web site.

The integration of Web site technology with back-end systems such as existing accounting and stock control software occurred in 4% of businesses with a Web site or home page.

## 9 SELECTED BUSINESS WEB SITE FUNCTIONS

	'000	%(a)
Information		
Company information	91	88
Advertising of own goods and services	82	79
Recruitment information	9	9
Relationship with other organisations		
Links to other Web sites	38	37
Banner advertising for other organisations' goods and services	10	9
Affiliate program links	*2	*2
Relationship with customers		
Obtaining customer feedback	38	36
After sales service	12	11
Account information	4	4
Membership services or loyalty programs	4	4
Tracking orders	2	2
Live chat for customer queries	*2	2
Personalised page for repeat customers	*2	*2
Sales related activities		
On-line ordering	14	14
Capability for secure access or transactions	6	6
Sale of information	5	4
On-line payments	5	5
Delivery of products in digital form	4	4
Shopping cart software	3	3
Real time on-line payments	*2	*2
Other		
Integration with back-end systems	4	4
Other	5	5
<b>Businesses with a Web site or home page</b>	<b>103</b>	<b>100</b>

(a) Proportions are of businesses with a Web site or home page.

### WHERE ARE AUSTRALIAN BUSINESSES' WEB SITES HOSTED?

About a quarter of the estimated 103,000 businesses with a Web site or home page had it located on their own server (24%). Another quarter (27%) of businesses with Web sites or home pages were represented on a parent company or related entity's Web site and 57% of businesses had their Web site or home page located on an external server such as that of an Internet Service Provider (ISP). A number of businesses (4%) reported having Web sites or home pages on both their own server and the server of a related or unrelated business. Most businesses with a Web site or home page used Australian host servers (95%), while 10% used overseas hosts. A small number of businesses (5%) using Web sites or home pages had them hosted on servers both within Australia and overseas.

## 10 NATURE AND LOCATION OF WEB SITE OR HOME PAGE(a)(b)

	Value of annual sales/orders				<b>Total</b>
	<i>Less than \$100,000</i>	<i>\$100,000– \$999,999</i>	<i>\$1m–\$4.9m</i>	<i>\$5m or more</i>	
	%	%	%	%	%
Own Web site or home page on own server	21	19	26	38	<b>24</b>
Represented on parent or related entity's Web site	29	28	24	26	<b>27</b>
Own Web site or home page on other server	56	60	59	47	<b>57</b>
Hosted in Australia	94	96	97	88	<b>95</b>
Hosted overseas	13	10	8	16	<b>10</b>
	'000	'000	'000	'000	'000
Number of businesses with a Web site or home page	9	51	30	14	<b>103</b>

(a) Proportions are of businesses with a Web site or home page in each sales/order range.

(b) Businesses may have Web sites or home pages on multiple servers/sites.

# WHAT ARE THE BARRIERS TO GREATER USE OF IT BY AUSTRALIAN BUSINESSES?

While the level of use of computer and Internet technology appears to be relatively high among Australian businesses, one in four businesses do not use a computer and nearly half of all businesses do not have access to the Internet. Use of Web sites is much lower, with 84% of businesses not having one at June 2000. It is clearly of interest to know why a portion of businesses are not embracing IT at even the most basic level.

The ABS survey found that the largest barrier to utilising IT, whether a computer, the Internet or a Web page, is simply that the business perceives that the technology is not suited to the nature of the business. This finding is consistent with results obtained at the end of June 1998, at which time 63% of businesses without a computer identified computer use as not being suited to the nature of the business and 60% of businesses without Internet access identified Internet access as not being suited to the nature of the business.

At the end of June 2000, nearly half (48%) of the businesses which were not using a computer reported that computer use was not suited to the nature of the business, while just over a third (37%) identified lack of skills or appropriate training as a barrier to computer use. For businesses with a computer but without Internet access, the most frequently identified barrier to Internet access was that it did not suit the nature of the business (54%), followed by a lack of interest in Internet access (26%). The most commonly identified barrier to use of a Web site or home page within a business was that it was not seen as being suited to the nature of the business (53% of businesses using a computer but without a Web site/home page).



# 11 BARRIERS TO COMPUTER USE, INTERNET ACCESS AND HAVING A WEB SITE OR HOME PAGE(a)

	Value of annual sales/orders				
	Less than \$100,000	\$100,000–\$999,999	\$1m–\$4.9m	\$5m or more	Total
BARRIERS TO COMPUTER USE(b)					
	%	%	%	%	%
Not suited to nature of the business	54	45	36	*44	48
Lack of skills or appropriate training	32	40	37	*55	37
Costs are too high	23	25	19	*26	24
Lack of interest	19	22	24	*13	21
Other	18	15	20	*33	16
	'000	'000	'000	'000	'000
Number of businesses not using computers	59	88	8	*—	155
BARRIERS TO INTERNET ACCESS(c)					
	%	%	%	%	%
Not suited to nature of the business	55	56	43	50	54
Lack of interest	24	26	30	*25	26
Lack of skills or appropriate training	23	21	27	*33	23
Costs are too high	21	20	9	*16	19
Security concerns	12	19	16	*19	17
Slow connection speeds	*6	7	*5	*1	7
Other	11	14	19	*13	14
	'000	'000	'000	'000	'000
Number of businesses with a computer but without Internet access	31	76	16	3	126
BARRIERS TO HAVING A WEB SITE OR HOME PAGE(d)					
	%	%	%	%	%
Not suited to nature of the business	60	53	45	34	53
Lack of interest	19	22	25	21	22
Lack of skills or appropriate training	19	18	20	16	18
Costs are too high	14	15	14	10	14
No Internet access	15	11	10	9	12
Security concerns	8	9	9	7	9
	'000	'000	'000	'000	'000
Number of businesses with a computer but without a Web site or home page	90	227	54	12	383

(a) Businesses could identify more than one barrier.

(b) Proportions are of businesses not using a computer in each sales/order range.

(c) Proportions are of businesses using a computer but without Internet access in each sales/order range.

(d) Proportions are of businesses using a computer but without a Web site or home page in each sales/order range.

WHAT LIMITS FURTHER  
DEVELOPMENT OF  
AUSTRALIAN BUSINESS WEB  
SITES?

Of these businesses with a Web site or home page, 44% were satisfied with its functions. For other businesses, the factors which most limited the further development of their Web site or home page were the cost of further development, the low rate of use of Internet commerce by customers or suppliers, and lack of skills. These factors were identified by 33%, 26% and 24% of businesses with Web sites or home pages respectively.

12 FACTORS LIMITING FURTHER DEVELOPMENT OF BUSINESS WEB SITE OR HOME PAGE(a)(b)

	<i>Value of annual sales/orders</i>				<b>Total</b>
	<i>less than \$100,000</i>	<i>\$100,000– \$999,999</i>	<i>\$1m — \$4.9m</i>	<i>\$5m or more</i>	
	%	%	%	%	%
Cost	41	32	34	29	<b>33</b>
Low use of Internet commerce by customers or suppliers	22	29	22	24	<b>26</b>
Lack of skills	31	25	24	14	<b>24</b>
Security concerns	11	14	18	16	<b>15</b>
Quality and reliability of Internet infrastructure	11	9	11	9	<b>10</b>
Other	6	11	14	13	<b>12</b>
	'000	'000	'000	'000	'000
Number of businesses with a Web site or home page	9	51	30	14	<b>103</b>

(a) Proportions are of businesses with a Web site or home page in each sales/order range.

(b) Business could identify more than one factor.

## EXPLANATORY NOTES

### INTRODUCTION

**1** This publication presents results from the 1999–2000 Business Technology Survey. The survey collected data about the use of computers and the Internet by businesses. The survey focussed on Internet use, including the use and functionality of Web sites or home pages. Additionally, data were collected on the value of orders received via the Internet for goods or services.

### PREVIOUS SURVEYS

**2** Business Technology Surveys were previously conducted by the ABS with respect to the 1993–94 and 1997–98 financial years. The 1993–94 survey collected data about IT staff and expenses and the prevalence of computers. The 1997–98 survey concentrated on the use of the Internet by business, including the benefits of and barriers to Internet access. Data on IT staff and expenses were also collected in the 1997–98 survey, but the latter were excluded from the 1999–2000 collection in order to improve the timeliness of the survey's results.

### SURVEY SCOPE AND METHODOLOGY

**3** All employing businesses in Australia were included in the scope of the survey, with the exception of businesses included 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 15,500 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. A response rate of 91% was achieved. Data from respondents were weighted to represent the surveyed population. Even though 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	<p><b>6</b> This publication presents statistics classified according to the 1993 edition of the <i>Australian and New Zealand Standard Industrial Classification (ANZSIC)</i> (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.</p>
RELIABILITY OF ESTIMATES	<p><b>7</b> The estimates presented in this publication are subject to both sampling and non-sampling error.</p>
NON-SAMPLING ERROR	<p><b>8</b> Non-sampling error can occur in any type of collection. 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.</p>
SAMPLING ERROR	<p><b>9</b> The estimates in this publication are subject to sampling error as only a sample of businesses were selected for the survey. Consequently, the estimates may differ from 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).</p> <p><b>10</b> 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.</p> <p><b>11</b> Another useful measure of the sampling error is the relative standard error (RSE). The RSE is obtained by expressing the SE as a percentage of the estimate to which it refers. RSEs on aggregates presented in this publication are as follows:</p> <ul style="list-style-type: none"> <li>■ proportion of businesses using computers, 1%</li> <li>■ proportion of businesses with access to the Internet, 1%</li> <li>■ proportion of businesses with Web site or home page, 3%.</li> </ul>
EXAMPLE USING RSEs	<p><b>12</b> The estimated percentage of businesses with a Web site or home page is 16% and the RSE is 3%, giving a standard error of 0.5% (3% of 16%). Therefore, there would be two chances in three that, if all units had been included in the survey, a figure in the range of 15.5% to 16.5% 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 15% to 17%. For more information about RSEs for estimates presented in this publication, please telephone the contact shown on the front page.</p>

## ACKNOWLEDGMENT

**13** 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

**14** Other ABS publications on the use and production of IT goods and services in Australia are:

*Business Use of Information Technology, Australia, 1997–98*  
(Cat. no. 8129.0)

*Computing Services Industry, Australia, 1998–99* (Cat. no. 8669.0)

*Government Use of Information Technology, Australia, 1997–98*  
(Cat. no. 8119.0)

*Household Use of Information Technology, Australia, 1999*  
(Cat. no. 8146.0)

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

*Use of Information Technology on Farms, Australia, 1998–99*  
(Cat. no. 8150.0)

*Use of the Internet by Householders, Australia, August 2000*  
(Cat. no. 8147.0)

## AVAILABILITY OF UNPUBLISHED STATISTICS

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

## GLOSSARY

<b>Affiliate program links</b>	Links on Web sites which earn the hosting business a commission by referring Web site visitors to other commercial Web sites.
<b>Back-end systems</b>	Existing accounting, stock control and ordering computer systems previously used to manage non-Internet aspects of a business.
<b>Banner advertising</b>	Advertising for one or more third party companies appearing as a strip on a business's Web site.
<b>Computer</b>	Includes personal computers (PCs), lap tops, note books, mainframes and mini-computers.
<b>Email</b>	Electronic mail is a facility which allows network users locally and worldwide to exchange messages, including text and attachments.
<b>Extranet</b>	Networks which use Internet-derived technologies to securely extend internal business processes to external business partners.
<b>Home page</b>	Also referred to as a Web site. It is an electronic document that is accessed via the Internet. The document provides information in a textual, graphical or multimedia format.
<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 using a particular communications protocol 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), Internet EDI and Simple Mail Transport Protocol (SMTP).
<b>Internet business</b>	The use of the Internet, including the Web, to facilitate business processes. Included is the use of the Internet or a Web site for activities associated with buying or selling goods or services, banking, recruitment or company promotion. A business may use the Internet for only one or any number of purposes to be defined as participating in Internet business. Note that the more basic uses of the Internet, email and information searches, are not considered to constitute Internet business.
<b>Internet commerce active</b>	Businesses which have received sales income from orders via the Internet, or a Web site, for goods and/or services.
<b>Internet commerce transaction</b>	Sale or purchase of goods and/or services conducted over the Internet (including via email, public Web sites or B2B Internet based trading systems). Both the method of payment and delivery of the product are irrelevant, that is they may occur by more traditional off-line means, such as phone or mail.

<b>IT staff</b>	Refers to all employees and working proprietors and partners who are predominantly engaged in IT work, including Web site design activities. Excluded are staff predominantly engaged in manufacturing, sales or data entry. Also excluded are contractors for whom PAYE tax is not deducted.
<b>Membership services or loyalty programs</b>	Special services available to customers who apply to belong to an organisation. They may or may not pay a subscription or other fee for membership.
<b>On-line payments</b>	Payments made on the Internet or a Web site for goods and services. These payments generally require customers to provide their credit/debit card details on-line.
<b>Real time on-line payments</b>	On-line payments for which there is a concurrent transfer of information with credit/debit card processing networks.
<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 line that can't be accessed by unauthorised persons.
<b>Server</b>	A computer which stores and delivers information to an authorised client over the Internet.
<b>Total employment</b>	Includes working proprietors, working partners, permanent, part-time, temporary and casual staff working for the business during the last pay period of June 2000. Employees on paid leave, executive or managerial staff are also included.
<b>Web site</b>	Refer to the definition for home page.

## FOR MORE INFORMATION...

- INTERNET** [www.abs.gov.au](http://www.abs.gov.au) the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
- LIBRARY** A range of ABS publications is available from public and tertiary libraries Australia-wide. Contact your nearest library to determine whether it has the ABS statistics you require, or visit our web site for a list of libraries.
- 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).

## INFORMATION SERVICE

Data which have been published and can be provided within five minutes are free of charge. Our information consultants can also help you to access the full range of ABS information—ABS user-pays services can be tailored to your needs, time frame and budget. Publications may be purchased. Specialists are on hand to help you with analytical or methodological advice.

- PHONE** **1300 135 070**
- EMAIL** **[client.services@abs.gov.au](mailto:client.services@abs.gov.au)**
- FAX** 1300 135 211
- POST** Client Services, ABS, GPO Box 796, Sydney 1041

## WHY NOT SUBSCRIBE?

ABS subscription services provide regular, convenient and prompt deliveries of ABS publications and products as they are released. Email delivery of monthly and quarterly publications is available.

- PHONE** 1300 366 323
- EMAIL** [subscriptions@abs.gov.au](mailto:subscriptions@abs.gov.au)
- FAX** 03 9615 7848
- POST** Subscription Services, ABS, GPO Box 2796Y, Melbourne 3001



2812900007991  
ISSN 1443-5152

RRP \$18.00