

## Introduction

This chapter contains data relating to information technology and communication. The information technology data concentrates on use of selected technologies by households, business and farms. The communications section looks at mail volumes in Victoria, and expenditure on postal and telephone charges and other household technologies.

Data in this chapter are sourced from surveys conducted by the ABS, and from the Australian Postal Corporation.

## Information technology

Information technology including telecommunications, refers to services and technologies that enable information to be transformed and disseminated, including the transmission or communications of voice and/or data over a variety of transmission media.

Over recent years, the use of information technology such as computers and the Internet, has brought about many changes to the Australian way of life. Many Victorians now do things with information technology which may have been unimaginable a decade ago. The new technologies have also brought about significant change to the way we communicate including the way businesses communicate.

The 1998–99 Information Technology Survey found that Victoria had 5,803 information technology and telecommunications (IT & T) specialist businesses, which employed 60,401 persons, and paid wages and salaries worth \$3,117.3 million dollars. The largest number of businesses occurred in the computer services industry (4,589 businesses, employing 21,410 staff), followed by wholesale trade (850 businesses, 14,772 staff). Victoria accounted for 32.1% of Australian businesses in the IT & T sector, 30.3% of employment and 30.5% of wages and salaries.

## Household use of computers and the Internet

Some 56% of Victorian households had access to a home computer (table 13.1) in 2000, of whom three-fifths had Internet access (34% of total households). Between 1999 and 2000, growth in Internet access was greater than growth in home computer access. Home Internet access increased by 48% (from 23% of households to 34%) whereas home computer access increased by only 10% (from 51% to 56%).

In 2000, Victorian households with children under 18 years of age (77%) were much more likely to have access to a home computer or the Internet than those without children under 18 (44%). Households with higher incomes were more likely to have access to a home computer and the Internet than those with lower incomes: 83% of households earning \$75,000 or more a year had a computer and 65% had Internet access, while the respective figures for households earning less than \$25,000 were 25% and 10%. Access to a home computer or the Internet was slightly more prevalent in metropolitan Melbourne (57% of households) than in regional Victoria (52%).

The Household Use of Information Technology Survey also gathered data about the use of peripheral computer equipment, and the reasons for using home computers. In terms of peripheral equipment, Victorian households with computer access were most likely to also have access to printers (87%), CD-ROM drives (76%) and modems (69%). Home computers are used for a variety of reasons, the most common being work related purposes (52% of households with home computer access), followed by personal or family correspondence (41%), and learning and study activities (41%).

### 13.1 HOUSEHOLDS WITH HOME COMPUTER OR INTERNET ACCESS(a)

	Computer access		Internet access	
	1999	2000	1999	2000
	%	%	%	%
Family type				
Married/defacto couple	40	46	18	29
Married/defacto couple with dependants	73	78	36	50
Single parent	51	57	16	20
Single person	23	25	8	15
Other	57	63	29	41
Households				
Without children under 18	40	44	18	27
With children under 18	71	77	32	47
Household income				
\$0-\$24,999	21	25	5	10
\$25,000-\$49,999	46	57	16	30
\$50,000-\$74,999	66	67	33	41
\$75,000 or more	84	83	49	65
Region				
Metropolitan Melbourne	53	57	25	37
Rest of Victoria	44	52	16	26
<b>Total</b>	<b>51</b>	<b>56</b>	<b>23</b>	<b>34</b>

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

Source: ABS data available on request, Household Use of Information Technology Survey.

There was a slight increase in the proportion of Victorian adults accessing the Internet from 1999 (42% of adults) to 2000 (46%) (table 13.2). The rate of growth of adults accessing the Internet varied according to the site of access, with a moderate increase in those accessing from home (from 19% of adults to 28% in 2000) and little or no increase in those accessing from work or other sites.

Employed adults (59%) were far more likely than unemployed adults (23%) to access the Internet during 2000. The proportion of adults accessing the Internet tended to decrease with increasing age: 78% of 18–24 year olds compared with 13% of persons 55 years and over. A higher proportion of adults in metropolitan Melbourne (48%) accessed the Internet from home compared with the rest of Victoria (39%).

The most popular uses of the Internet at home during 2000 were to use email or chat rooms (68% of adults with home Internet access) and general browsing (60%).

### 13.2 ADULT INTERNET ACCESS(a)

	Home		Work		Other sites		Any site	
	1999	2000	1999	2000	1999	2000	1999	2000
	%	%	%	%	%	%	%	%
Age group (years)								
18–24	32	37	22	23	61	66	74	78
25–39	22	34	29	29	30	30	52	58
40–54	21	34	29	31	15	15	44	47
55 and over	7	10	*4	6	4	4	11	13
Sex								
Male	22	33	26	27	26	25	47	51
Female	16	23	17	18	20	22	36	41
Personal income								
\$0–\$39,999	15	22	12	13	22	24	34	39
\$40,000–\$79,000	35	42	52	46	29	26	68	66
\$80,000 and over	38	51	54	70	*27	39	68	79
Employment status								
Not employed	5	15	..	..	13	14	16	23
Employed	26	35	32	34	28	29	55	59
Region								
Metropolitan Melbourne	21	30	23	24	24	25	45	48
Rest of Victoria	13	23	17	19	19	20	32	39
<b>Total</b>	<b>19</b>	<b>28</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>42</b>	<b>46</b>

(a) Proportions are of all adults in each category. Adults can nominate more than one site if applicable.

Source: ABS data available on request, Household Use of Information Technology Survey.

In 2000, 72% of adults transferred or withdrew funds via Automatic Teller Machines (ATM's) and nearly two-thirds of all adults in Victoria used Electronic Funds Transfer at Point of Sale (EFTPOS) to pay bills or withdraw funds (table 13.3). There was an increase in the proportion of adults who paid bills or transferred funds via the telephone from 39% in 1999 to 46% in 2000.

Persons aged 55 years and over were far less likely to undertake Internet and selected electronic transactions than persons in younger age groups. However, the proportion of persons aged 55 years and over using these technologies did increase between 1999 and 2000, particularly for ATM transactions (33% to 43%). In comparison, 89% of 18–24 year olds transacted funds with an ATM in 2000.

The proportion of adults who undertook Internet shopping remains small, increasing from 5% in 1999 to 6% in 2000. Males (8%) were twice as likely as females (4%) to undertake Internet shopping.

**13.3 ADULTS UNDERTAKING INTERNET AND SELECTED ELECTRONIC TRANSACTIONS(a)**

	Paid bills or transferred funds via phone		Paid bills or withdrew funds via EFTPOS		Transferred or withdrew funds via ATM		Internet shoppers	
	1999	2000	1999	2000	1999	2000	1999	2000
	%	%	%	%	%	%	%	%
Age group (years)								
18-24	33	45	75	84	87	89	7	9
25-39	52	59	79	82	89	87	8	8
40-54	42	50	62	66	70	75	5	7
55 and over	23	27	30	34	33	43	*1	*2
Sex								
Male	38	42	61	65	68	72	8	8
Female	39	50	60	65	68	71	3	4
Region								
Metropolitan Melbourne	42	48	62	66	71	74	6	7
Rest of Victoria	29	41	56	62	62	67	*3	*3
<b>Total</b>	<b>39</b>	<b>46</b>	<b>61</b>	<b>65</b>	<b>68</b>	<b>72</b>	<b>5</b>	<b>6</b>

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

Source: ABS data available on request, Household Use of Information Technology Survey.

Table 13.4 details the types of purchases made over the Internet in 1999 and 2000. Of the 215,000 Victorian adults making these purchases or orders in 2000, 24% did so on at least 5 occasions. The proportion of internet shoppers buying books or magazines in 2000 (29%) was almost half that in 1999 (51%) in 1999.

**13.4 INTERNET PURCHASES(a)**

	1999	2000
	%	%
Type of good or service purchased/ordered		
Music	19	18
Books/Magazines	51	29
Computer software(b)	26	23
Computer hardware	n.a.	*8
Videos, DVDs	n.a.	*10
Clothing, shoes etc.	12	*6
Sporting equipment	**	*6
Holidays	*6	*11
Entertainment/tickets to entertainment events	*9	*8
Food and groceries	n.a.	*6
Other	31	17
Number of occasions on which purchases/orders made		
1	36	31
2-4	33	45
5 or more	29	24

(a) Proportions are of adults making purchases or orders via the Internet for private use in Victoria.

(b) 1999 figure includes computer software and hardware.

Source: ABS data available on request, Household Use of Information Technology Survey.

Aside from Internet shopping, 305,000 Victorian adults (9% of the adult population) accessed government services via the internet for private purposes. These included obtaining tax information or service (37%), employment information or service (32%) and paying bills (29%).

The Survey of Internet Activity obtained data on the Internet Service Provider (ISP) industry in Australia. During September quarter 2001, Victoria had 222 Internet service providers (ISPs), with 465 points of presence (POP), and 141,880 access lines. A POP constitutes a server in a geographic location where an ISP can be accessed by a subscriber via an access line. These ISPs had almost 1.2 million subscribers, who downloaded 331 million megabytes of information during the quarter. There was an average of 282 Mbs of data downloaded per Victorian Internet subscriber during the quarter.

## Business use of computers and the Internet

In 1999–2000, 77% of Victorian employing businesses used computers, and 58% had Internet access (table 13.5). As might be expected, the larger the business, either in terms of employment or sales, the larger the proportion that used computers, Internet, web sites or internet commerce. Metropolitan Melbourne businesses had a slightly higher prevalence of the use of these technologies use than in the rest of Victoria.

### 13.5 BUSINESS USE OF SELECTED TECHNOLOGIES, Selected Characteristics — 1999(a)

	Computers	Internet access	Web site or home page	Internet commerce active
	%	%	%	%
Employment size				
Less than 5 persons	71	51	8	6
5–19 persons	85	65	23	5
20–99 persons	97	85	46	*13
100 or more persons	100	90	60	*15
Value of sales orders				
Less than \$100,000	64	42	5	*2
\$100,000–\$999,999	76	58	14	7
\$1m–\$4.9m	93	77	25	9
\$5m or more	99	87	53	13
Region				
Metropolitan Melbourne	77	59	16	6
Rest of Victoria	74	54	12	6
<b>Total(b)</b>	<b>77</b>	<b>58</b>	<b>15</b>	<b>6</b>

(a) Proportions are of all businesses in each category. (b) Sum of components may not equal total due to rounding.

Source: ABS data available on request, *Business Use of Information Technology Survey*.

The extent of computer technology use by businesses in Victoria varied considerably across industries. In 1999–2000, manufacturing, and property and business services had high levels of computer (87% and 88%, respectively) and Internet access (65% and 79% respectively). In contrast, computer use was about a third lower in the industries of accommodation, cafes and restaurants; transport and storage; and personal and other services, which also had lower Internet access rates (table 13.6).

**13.6 BUSINESS USE OF SELECTED TECHNOLOGIES, By Industry —  
1999–2000(a)**

Industry	Computers %	Internet access %	Web site or home page %	Internet commerce active %
Mining	78	68	24	**
Manufacturing	87	65	22	*9
Electricity, gas and water	n.p.	n.p.	n.p.	n.p.
Construction	68	43	*4	*2
Wholesale trade	85	68	20	*13
Retail trade	69	44	14	*4
Accommodation, cafes and restaurants	60	34	20	9
Transport and storage	60	42	10	*6
Communication services	76	43	15	*6
Finance and insurance	79	66	17	*3
Property and business services	88	79	16	*9
Health and community services	80	58	10	**
Cultural and recreational services	84	65	24	*8
Personal and other services	60	39	19	*4
<b>Total(b)</b>	<b>77</b>	<b>58</b>	<b>15</b>	<b>6</b>

(a) Proportions are of all businesses in each category. (b) Sum of components may not equal total due to rounding.

Source: ABS data available on request, *Business Use of Information Technology Survey*.

### Government use of computers and the Internet

All State and Local Government agencies reported using personal computers and Local Area Network/Wide Area Networks at June 1998 (table 13.7). The use of Internet and email was also very high, with over 95% of State and Local Government agencies using these technologies. Over half of local government authorities and four-fifths of State Government departments and agencies had a web site or home page.

**13.7 GOVERNMENT USE OF SELECTED TECHNOLOGIES — 1997–98(a)**

	State Government(b) %	Local Government(c) %
PC's	100	100
LAN/WAN	100	100
Internet access	95	97
Email access	95	96
Web browser access	91	97
Restricted Web browser access	*48	15
Web site or Home page	81	52

(a) Proportions are of all agencies in each category. (b) Includes State departments and State Authorities; this includes organisations providing services such as police, ambulance and fire services, Legislature, Courts etc., State museums and libraries, with employment greater than or equal to 20 persons. (c) Includes Local Government Authorities and Aboriginal and Torres Strait Islander Community Councils.

Source: ABS data available on request, *Government Use of Information Technology Survey*.

## Farm use of computers and the Internet

The proportion of farms with computer access increased from 49% in 1999 to 58% in 2000 (table 13.8). Over the same period, the proportion of farms with Internet access almost doubled, from 17% to 33% of farms.

The proportion of farms having access to computers or the Internet generally increased with size as measured by the level of Estimated Value of Operations (EVAO). In 2000, poultry farming had the largest proportion of farms using both a computer and the Internet (82% and 54% respectively).

**13.8 FARMS USING A COMPUTER AND THE INTERNET(a)**

	Computer access %		Internet access %	
	1999	2000	1999	2000
Broad farm industry				
Horticulture and fruit growing	65	68	31	44
Grain, sheep and beef cattle farming	43	52	14	28
Dairy cattle farming	52	64	12	35
Poultry farming	73	82	36	54
Other livestock farming	54	70	31	43
Other	*53	62	*18	41
Farm size(b)				
Less than \$50,000	41	46	16	27
\$50,000–\$149,999	42	53	13	26
\$150,000–\$249,999	58	66	16	35
\$250,000–\$499,999	67	79	22	51
\$500,000–\$999,000	71	86	33	62
\$1m or more	86	93	53	69
<b>Total</b>	<b>49</b>	<b>58</b>	<b>17</b>	<b>33</b>

(a) Farms with an estimated value of agricultural operations of \$5,000 or more. Proportions are of all farms in each category.

(b) An estimation of agricultural activity undertaken by an agricultural establishment, this measure is an indicator of the extent of agricultural activity rather than an indicator of the value of receipts of individual farms.

Source: *Use of Information Technology on Farms, Australia (ABS Cat. no. 8150.0)*.

## Communications

### Australian Postal Corporation

The Australian Postal Corporation (trading as Australia Post) is a government business enterprise owned by the Commonwealth of Australia. Australia Post offers letter and parcel delivery services within Australia and internationally. The majority (89.8%) of mail delivered in Victoria is delivered to private delivery points, with the remainder going to businesses (table 13.9).

**13.9 AUSTRALIAN POSTAL CORPORATION, Delivery Points and Retail Outlets**

	June 1999	June 2000	June 2001
	no.	no.	no.
Delivery points(a)			
Private	1 817 211	1 893 390	2 168 736
Business	200 107	214 886	247 022
Total	2 017 318	2 108 276	2 415 758
Retail outlets			
Post Offices (Corporate)	213	214	213
Licensed Post Offices	851	848	842
Total(b)	1 064	1 062	1 055

(a) Data for 2001 include delivery points in Victoria and Tasmania. (b) Excludes Community Postal Agents.

Source: *Australian Postal Corporation*.

During 2000–01, the volume of mail posted overseas for delivery in Victoria (40.9 million units) was almost twice the volume posted in Victoria for delivery overseas (23.5 million) (table 13.10). The volume posted in other States for delivery in Victoria (115.8 million) was 15% greater than the volume posted in Victoria for delivery to other States (101.0 million).

### 13.10 AUSTRALIAN POSTAL CORPORATION, Mail Volumes

	1998–99	1999–2000	2000–01
	million	million	million
Posted in Victoria for delivery in Victoria	1 300.9	1 342.2	n.a.
Posted in other States for delivery in Victoria	n.a.	n.a.	115.8
Posted in Victoria for delivery to other States	n.a.	n.a.	101.0
Posted overseas for delivery in Victoria	44.9	46.1	40.9
Posted in Victoria for delivery overseas	39.4	45.5	23.5

(a) Data for 1998–99 and 1999–2000 include articles posted in or to Victoria and Tasmania.

Source: Australian Postal Corporation.

## Expenditure on communication

Average weekly household expenditure on communication is similar in Victoria to that spent by Australians as a whole (table 13.11). Expenditure on postal charges has varied little between 1993–94 and 1998–99. In contrast, expenditure on telephone charges has increased by 50% over the same period, which is largely attributable to the increase in mobile phone use between the two periods.

### 13.11 AVERAGE WEEKLY HOUSEHOLD EXPENDITURE ON COMMUNICATION

	1993–94		1998–99	
	Victoria	Australia	Victoria	Australia
	\$	\$	\$	\$
Postal charges	1.19	1.19	1.10	1.09
Telephone charges(a)	12.51	12.47	18.24	18.83

(a) Includes facsimile and telegram charges.

Source: Household Expenditure Survey Australia: Detailed Expenditure Items (Cat. no. 6535.0).

## Other household technologies

Households with access to mobile phones increased from 48% in 1998 to 64% in 2000. Digital mobile phones are by far the most popular type, with 60% of households having access to these. Other communications technologies (identified in the Household Use of Information Technology Survey) present in Victorian households were answering machines (48%) and fax machines (17%).



The Australian Communications Authority (ACA) reports that the mobile phone analogue network closed on 3 October 2000, in favour of the digital network. The ACA reported that at the end of 2000–01, 30% of all Australian mobile phone users were sending short message service (SMS) messages. It was only in April 2000 that the carriers agreed to allow their subscribers to message each other, although SMS had been available since 1993. In contrast, only 5% of mobile phone users in 2000–01 used wireless application protocol (WAP), which allows mobile users to access data services (including the Internet). Mobile phone numbers became portable after September 2001, making it easier to switch carriers. Nationally, there were more mobile phone connections than fixed line connections for the first time in 2000–01.

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