



1997-98

New
Issue

8133.0

BUSINESS USE OF INFORMATION TECHNOLOGY

AUSTRALIA
PRELIMINARY

EMBARGO: 11:30AM (CANBERRA TIME) FRI 30 APR 1999

CONTENTS

	<i>page</i>
Notes	2
Main findings	3
TABLES	
1 Employing businesses with IT&T usage, by industry, 30 June	5
2 Employing businesses with IT&T usage, by business size, 30 June	5
3 Selected IT&T ratios, by industry, 30 June	6
4 Selected IT&T ratios, by business size, 30 June	6
ADDITIONAL INFORMATION	
Explanatory notes	7
Glossary	10

- For further information about these and related statistics, contact Annette Scott on Melbourne 03 9615 7977 or refer to the back cover of this publication.

NOTES

ABOUT THIS PUBLICATION

This publication presents preliminary summary results, in respect of the 1997–98 financial year, from an Australian Bureau of Statistics (ABS) survey on the use of information technology and telecommunications (IT&T) by business. This is the second ABS survey of IT&T use by business with the previous collection being conducted in respect of the 1993–94 financial year. The 1993–94 survey mainly focused on issues related to computer use, while the 1997–98 survey has collected a broader range of data with particular emphasis on Internet use by business. For details on the most recent issue of other ABS publications on the use and production of information technology and telecommunication goods and services in Australia see paragraph 14 of the Explanatory Notes.

ESTIMATES IN THIS PUBLICATION

The preliminary results from the 1997–98 Business Technology Survey contained in this publication provide summary information on IT&T use and are based on an 86% response rate at the time of preparing the publication. Therefore, these preliminary results may be subject to revision as a result of further responses and more comprehensive editing of the data.

COMMENTS ON THIS PUBLICATION

The ABS welcomes comments and suggestions from users regarding data items for inclusion in future surveys. Comments should be addressed to the Director, Small Business and Science and Technology Section, Australian Bureau of Statistics, PO Box 10 Belconnen, ACT, 2616.

SYMBOLS AND OTHER USAGES

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
IT&T	information technology and telecommunications
LAN	local area network
n.a.	not available
PC	personal computer
SE	standard error
RSE	relative standard error
WAN	wide area network
*	subject to sampling variability too high for most practical purposes
**	subject to sampling variability too high for practical purposes

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

W. McLennan
Australian Statistician

MAIN FINDINGS

INTRODUCTION

At the end of June 1998, 64% of all employing businesses in Australia used personal computers (PCs). This has increased since the end of June 1994 when 49% of businesses used PCs.

Of the businesses with PCs at the end of June 1998, almost half had access to the Internet (30% of all businesses) and less than a third had either local area networks (LAN) and/or wide area computer networks (WAN) (20% of all businesses). The proportion of businesses using email closely matched the proportion of businesses with web browser capabilities (29% and 26% of all businesses respectively).

There were three PCs for every ten persons employed at the end of June 1998. The ratio of PCs to users was higher, with eight PCs for every ten users.

IT&T employees providing in-house or external IT&T services accounted for less than 3% of total employment. On average, every in-house IT&T employee supported 27 PC users.

IT&T BY INDUSTRY

Computer use While 64% of businesses used PCs, the highest usage by business occurred in the Mining industry (80%), Property and business services industry (79%) and the Wholesale trade industry (76%). While the overall PC usage in the Communication services industry was 73%, the Telecommunication services sector reported 100%. Conversely, the lowest usage of PCs by business occurred in the Personal and other services industry (44%) and the Accommodation, cafes and restaurants industry (47%). The proportion of businesses using LAN/WAN was consistently higher among industries with a high incidence of PC use.

Internet access The two industries with the highest proportion of PC use also had the highest proportion of businesses with Internet access, email and/or web browser access.

Access to the Internet was highest in Mining (47%), Property and business services (46%), and Communication services (45%). In contrast, industries such as Accommodation, cafes and restaurants (16%), Retail trade (17%), Construction (20%) and Transport and storage (20%) were among those with the lowest proportion of Internet access.

The proportion of businesses with email and/or web browser access was highest in the Mining industry (email 46% and web browser 42%), Property and business services industry (email 45% and web browser 41%), and the Communication services industry (email 45% and web browser 38%).

Staff & computers Although the Finance and insurance and Communication services industries did not have the highest usage of PCs they did have high ratios of PCs to persons employed. In the Finance and insurance industry there were nine PCs for every ten persons employed while in the Communication services industry there were seven PCs for every ten persons employed. The industries with a low ratio of PCs to persons employed were Accommodation, cafes and restaurants (one computer for every ten persons employed), Retail trade and Health and community services (both with two PCs for every ten persons employed).

Most industries had ratios of PCs to users close to one. The industries with a low ratio of PCs to users were Retail trade (five PCs for every ten users) and Accommodation, cafes and restaurants (six PCs for every ten users).

IT&T employment The industries with the highest proportion of IT&T employees providing services to either internal or external businesses were Property and business services (8.6% of total employment), Communication services (4.6%), Finance and insurance (4.5%) and Wholesale trade (3.6%). For all other industries this proportion was no more than 1.5% of total employment.

IT&T BY BUSINESS SIZE

Computer use The proportion of businesses using PCs increases with the size of the business. Nearly all businesses employing 100 or more persons used PCs at the end of June 1998 (99.8%). Of these businesses, 78% were connected to either a LAN or WAN. In contrast, only 55% of businesses employing 1-4 persons used PCs, with a fifth of these businesses being connected to a computer network (11.3% of all businesses of this size).

Internet access Larger businesses were more likely to have Internet access and email and/or web browser access. Of businesses employing 100 or more persons, 90% had access to the Internet. This compares with 26% of businesses employing 1-4 persons, 33% of businesses employing 5-19 persons and 57% of businesses employing 20-99 persons.

Staff & computers The ratios of PCs to persons employed and PCs to users did not vary greatly with the size of the business.

IT&T employment The proportion of IT&T staff was highest for businesses employing 100 or more persons, representing 3.4% of total employment. The proportion for businesses employing 1-4 persons, 5-9 persons and 20-99 persons were 2.3%, 2.2% and 1.5% respectively.

1

EMPLOYING BUSINESSES WITH IT&T USAGE, BY INDUSTRY—30 JUNE

	PCs	LAN/WAN	Internet access	Email access	Web browser access
	%	%	%	%	%
Mining	80.4	38.0	46.8	46.3	42.4
Manufacturing	70.8	20.1	31.5	29.9	25.3
Electricity, gas & water supply	n.a.	n.a.	n.a.	n.a.	n.a.
Construction	55.9	8.2	20.2	18.9	16.2
Wholesale trade	75.8	31.1	40.9	40.1	36.3
Retail trade	53.0	17.7	16.9	16.7	13.6
Accommodation, cafes & restaurants	46.9	8.6	16.4	13.7	14.9
Transport & storage	52.9	15.8	20.0	19.8	16.4
Communication services(a)	72.7	*16.5	44.5	44.5	*37.7
Finance & insurance	72.8	22.7	39.6	38.3	34.6
Property & business services	78.6	31.4	46.4	44.7	40.9
Health & community services	67.8	19.9	31.7	31.0	29.9
Cultural & recreational services	64.3	17.2	35.0	34.8	30.8
Personal & other services	43.8	13.5	21.8	21.0	19.0
Total	63.9	20.4	30.1	29.1	26.0

(a) Includes telecommunication services and postal and courier services.

2

EMPLOYING BUSINESSES WITH IT&T USAGE, BY BUSINESS SIZE—30 JUNE

	Employment size				Total
	1-4 persons	5-19 persons	20-99 persons	100 or more persons	
	%	%	%	%	%
PCs	55.2	78.1	90.7	99.8	63.9
LAN/WAN	11.3	33.8	50.6	77.9	20.4
Internet access	25.6	32.9	56.6	90.2	30.1
Email access	24.4	32.3	54.6	89.2	29.1
Web browser access	21.9	28.6	49.0	83.2	26.0

3

SELECTED IT&T RATIOS, BY INDUSTRY—30 JUNE

	<i>PCs to total employment</i>	<i>PCs to PC users</i>	<i>IT&T employees to total employment</i>	<i>PC users to in-house IT&T employees</i>
	<i>no.</i>	<i>no.</i>	<i>%</i>	<i>no.</i>
Mining	0.4	0.9	1.1	46.4
Manufacturing	0.3	0.8	1.4	28.5
Electricity, gas & water supply	n.a.	n.a.	n.a.	n.a.
Construction	0.3	0.9	*0.6	*67.1
Wholesale trade	0.4	0.8	3.6	27.2
Retail trade	0.2	0.5	**0.6	*126.6
Accommodation, cafes & restaurants	0.1	0.6	0.8	*22.7
Transport & storage	0.3	0.8	1.3	31.9
Communication services(a)	0.7	1.0	4.6	21.1
Finance & insurance	0.9	1.1	4.5	18.5
Property & business services	0.5	1.0	*8.6	15.6
Health & community services	0.2	0.7	0.6	60.6
Cultural & recreational services	0.4	1.1	1.5	24.4
Personal & other services	0.4	0.9	*0.9	*44.5
Total	0.3	0.8	2.6	27.1

(a) Includes telecommunication services and postal and courier services.

4

SELECTED IT&T RATIOS, BY BUSINESS SIZE—30 JUNE

	<i>Employment size</i>				<i>Total</i>
	<i>1–4 persons</i>	<i>5–19 persons</i>	<i>20–99 persons</i>	<i>100 or more persons</i>	
PCs to total employment (no.)	0.4	0.3	0.2	0.4	0.3
PCs to PC users (no.)	0.9	0.8	0.8	0.9	0.8
IT&T employees to total employment (%)	2.3	2.2	1.5	*3.4	2.6
PC users to in-house IT&T employees (no.)	*51.1	*25.0	24.8	25.0	27.1

EXPLANATORY NOTES

- PRELIMINARY PUBLICATION** **1** This publication contains preliminary results from the 1997–98 Business Technology Survey which focused on measuring business use of information technology and telecommunications, including the Internet. It has been released to provide summary information on IT&T use and is based on an 86% response rate at the time of preparing the publication. These preliminary results may be subject to revision as a result of further responses and more comprehensive editing of the data.
- FINAL PUBLICATION** **2** A publication, *Business Use of Information Technology, Australia, 1997–98* (Cat. no. 8129.0) will be released in October 1999 and will provide final and more detailed statistics. Other related publications on this subject are listed in paragraph 14 of the Explanatory Notes.
- SURVEY SCOPE AND METHODOLOGY** **3** The survey results are based on a stratified random sample of the businesses recorded on the ABS Business Register with the population frame consisting of all business units in the Australian economy except for:
- agricultural businesses (defined in Division A of ANZSIC);
 - education organisations (defined in Division N of ANZSIC);
 - businesses classified to the General Government sector (noting that Public Trading Enterprises are included in the survey); and
 - non-employing businesses in all industries.
- STATISTICAL UNIT** **4** The unit for which statistics were reported in the survey was the management unit. The management unit is the highest-level accounting unit within a business or organisation, having regard to the required level of industry homogeneity, for which a set of accounts are maintained. 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** **5** This publication presents statistics classified according to the *Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993* (Cat. no. 1292.0). Each business 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.
- RELIABILITY OF ESTIMATES** **6** The estimates presented in this publication are subject to sampling and non-sampling error.

SAMPLING ERROR

7 A sample of management units (including all units with more than 500 employees) was selected for this survey. Consequently, the estimates in this publication are subject to sampling variability, that is they 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), 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 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 errors likely to have occurred due to sampling, and this avoids the need to refer also to the size of the estimate.

10 The table below contains estimates of RSEs for a selection of statistics presented in this publication.

RELATIVE STANDARD ERRORS IT&T USAGE—By Industry: **30 June**

	<i>Businesses</i>				
	<i>PCs</i>	<i>LAN/ WAN</i>	<i>Internet access</i>	<i>Email access</i>	<i>Web browser access</i>
	%	%	%	%	%
Mining	4	9	8	8	8
Manufacturing	6	13	12	13	14
Electricity, gas & water supply	n.a.	n.a.	n.a.	n.a.	n.a.
Construction	7	22	15	15	16
Wholesale trade	4	11	9	9	10
Retail trade	7	15	16	16	17
Accommodation, cafes & restaurants	7	19	15	16	16
Transport & storage	6	14	13	13	15
Communication services	14	36	23	23	26
Finance & insurance	10	22	19	19	20
Property & business services	4	10	8	8	9
Health & community services	5	15	11	11	11
Cultural & recreational services	6	16	11	11	12
Personal & other services	7	16	12	12	13
Total	2	5	4	4	4

SAMPLING ERROR *continued*

11 As an example of the above, an estimate of the percentage of businesses with PCs in the Mining division is 80.4% and the RSE is 4%, giving a SE of 3.2%. Therefore, there would be two chances in three that, if all units had been included in the survey, a figure in the range of 77.2% to 83.6% 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 74.0% to 86.8%.

Non-sampling error

12 Errors other than those due to sampling may occur because of deficiencies in the register of units from which the sample was selected, non-response, and imperfections in reporting by respondents. Inaccuracies of this kind are referred to as non-sampling errors and they may occur in any collection, whether it be a census or a sample. Every effort has been made to reduce non-sampling error to a minimum by careful design and testing of questionnaires and efficient operating procedures and systems used to compile the statistics.

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 The most recent issue of other ABS publications on the use and production of information technology and telecommunication goods and services in Australia are listed below:

Business Use of Information Technology, Australia, 1993–94
(Cat. no. 8129.0)

Computing Services Industry, Australia, 1995–96 (Cat. no. 8669.0)

Government Information Technology, Australia, 1993–94
(Cat. no. 8119.0)

Household Use of Information Technology, Australia, February 1998
(Cat. no. 8128.0)

Household Use of Information Technology, Australia, February and May 1998 (Cat. no. 8146.0)

Information Technology, Australia, 1995–96 (Cat. no. 8126.0)

Telecommunication Services, Australia, 1996–97 (Cat. no. 8145.0)

Use of Information Technology in Regional Australia, 1997–98
(Cat. no. 8150.0) (to be released later in 1999)

Use of the Internet by Householders, Australia, November 1998
(Cat. no. 8147.0)

Year 2000 Problem, Australia, October 1998 (Cat. no. 8152.0)

GLOSSARY

Email	Electronic mail is a facility which allows network users locally and world-wide to exchange messages, including text and attachments.
Personal computers (PCs)	These are PC workstations, both IBM compatible and Macintosh/Apple systems, such as desktops, portables, laptops, notebooks, hand held and pen-based machines, and other similar single user devices with high graphic capabilities. It excludes mainframes, super computers, minicomputers with their associated terminals and PCs used solely as servers. PCs located at a home address were not considered to be operated by the business unless related computer expenses were claimed by the business.
PC users	Refers to all employees and working proprietors and partners with authorised access to PCs.
In-house IT&T employees	This includes those employees and working proprietors and partners providing IT&T services mainly to computer users within the organisation.
Internet	This is a world-wide public computer network. Organisations and individuals can connect their computers to this network and exchange information across a country and/or across the world. The Internet provides access to a number of communication services including the World Wide Web and carries email, news, entertainment and data files.
Information technology and telecommunications (IT&T)	Refers to the services and technologies that enable information to be accessed, stored, processed, transformed, manipulated and disseminated, including the transmission or communication of voice and/or data over a variety of transmission media. Transmission media include telephone, facsimile, Internet, data lines, satellite, microwave, radio, etc.
IT&T employees	Refers to all employees and working proprietors and partners which are predominantly engaged in IT&T work of a support nature to system users. They could mainly be providing services to users within the business or to external organisations/persons. Excluded are employees predominantly engaged in manufacturing, sales and/or performing data capture/entry and keying. Also excluded are contractors for whom PAYE tax is not deducted.
Local Area Network (LAN)	Refers to a network of computers and devices installed within a single physical property area.
Total employment	Includes working proprietors, working partners, permanent, part-time, temporary and casual staff (including managerial and executive employees) working for the business. Employees on paid leave are also included.
Web browser	A program specifically designed for navigating the Internet, including the World Wide Web.
Wide Area Network (WAN)	Refers to computers connected to a decentralised network.

SELF-HELP ACCESS TO STATISTICS

DIAL-A-STATISTIC For current and historical Consumer Price Index data, call 1902 981 074.
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.
These calls cost 75c per minute.

INTERNET www.abs.gov.au

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.

WHY NOT SUBSCRIBE?

PHONE +61 1300 366 323

FAX +61 3 9615 7848

CONSULTANCY SERVICES

ABS offers consultancy services on a user pays basis to help you access published and unpublished data. Data that are already published and can be provided within 5 minutes is free of charge. Statistical methodological services are also available. Please contact:

<i>City</i>	<i>By phone</i>	<i>By fax</i>
Canberra	02 6252 6627	02 6207 0282
Sydney	02 9268 4611	02 9268 4668
Melbourne	03 9615 7755	03 9615 7798
Brisbane	07 3222 6351	07 3222 6283
Perth	08 9360 5140	08 9360 5955
Adelaide	08 8237 7400	08 8237 7566
Hobart	03 6222 5800	03 6222 5995
Darwin	08 8943 2111	08 8981 1218

POST Client Services, ABS, PO Box 10, Belconnen ACT 2616

EMAIL client.services@abs.gov.au



2813300007970
ISBN 0 642 27499 1

RRP \$15.00