

ABS Electronic Commerce Statistics and Methodological Issues

Tim POWER

Australian Bureau of Statistics

PO Box 10

Belconnen ACT 2616 Australia

tim.power@abs.gov.au

1. Introduction

This paper describes the electronic commerce statistics collected by the Australian Bureau of Statistics (ABS) and outlines some of the methodological problems and issues encountered in their collection. Since 1994, the ABS has collected details on the use of IT by households/individuals, businesses and government organisations via specific IT surveys and a variety of other surveys. The range of information collected has developed over the years from an initial focus on simple computer use, to more complex data relating to Internet use, web-site use and electronic commerce. While there is a variety of IT use statistics available, this paper has focused on the electronic commerce statistics available from the ABS Household Technology Survey and Business Technology Survey.

2. Household (use of) Technology Survey

Overview of survey

Quarterly household technology use surveys were conducted via the ABS Population Survey Monitor (PSM) in February 1994 and all quarters of 1996, 1998, 1999 and 2000. The PSM was an 'omnibus' type household survey and collected information on a range of topics from just over 3,000 households each quarter. Independent multi-stage area samples of private dwellings were used for each quarter of the survey. Information was collected by undertaking a face-to-face interview with a randomly chosen adult member of selected households (ie a persons 18 years and older). Household data were collected on a number of topics relating to the use of computers, the Internet and other technologies. Data were also collected on the selected adults' use of computers and the Internet at home, work and other places, their Internet purchases, their electronic financial transactions and working from home activities.

Methodological issues

Over the years only minor methodological issues have risen with the Household Technology Survey. The relatively small sample size used on a quarterly basis have generally restricted quarterly output to the main aggregates. For the February quarter 2000 survey selected adults found it too difficult to provide reliable information on other household member's use of IT. There appears to not have been any major recall problems associated with questions asking about the last 12 months.

Results from survey

One in every ten Australian adults purchased or ordered goods or services for their own private use via the Internet in the 12 months to November 2000 (9.6%). Books and magazines (36% of Internet shoppers), music (20%), computer software (18%) and entertainment or tickets to entertainment (16%) were the most popular types of goods or services that were purchased/ordered. The estimated value of private Internet purchases of adults was \$962 million for the 12 months to November 2000 (this represents only 0.6% of the \$150,000 million total retail turnover in Australia). Around 70% of Internet purchases are bought from Australian sources. Only a small proportion of the Australian adult population use the Internet to pay bills or transfer funds (13% of all adults in the November quarter 2000). However, there has been a strong take up of other forms of electronic transaction facilities such as automatic teller machines (ATMs) and electronic funds transfer at point of sale terminals (EFTPOS). In the November quarter 2000, 74% of Australian adults transferred or withdrew funds via ATMs and 67% paid bills or withdrew funds via EFTPOS.

3. Business (use of) Technology Survey

Overview of survey

The ABS has conducted economy wide surveys on the use of IT by employing businesses in respect of 1993-94, 1997-98 and 1999-2000 (and now annually). The scope of the surveys is all employing business units in the Australian economy except for Agriculture, Forestry and Fishing

businesses, Government Administration and Defence organisations, and Education and Religious organisations. Data on farm use of IT has been obtained by including questions onto the annual Agricultural Commodity Survey and data on government use of IT has been obtained by a specific biennial Government Technology Survey.

Methodological issues

For the 1993-94 survey, a stratified random sample of 8,500 businesses was drawn from the ABS business register. The focus of the 1993-94 survey was mainly on issues related to computer use and IT income, expenditure and staff usage.

The 1997-98 survey approached 6,800 businesses and collected a wider range of data with an emphasis for the first time on Internet use by business, including details on Internet activities/services used and barriers to Internet access. An attempt was also made to collect a value for Internet sales transactions. The main difficulty with estimates were high standard errors as the details related to small population groups not well represented by the small sample. Responses to a number of data items were considered of insufficient quality to publish - eg value of Internet sales was not published. Only 315 of the 6,800 employing businesses selected answered positively to receiving sales orders via the Internet. Of this number, only 300 were able to give the value of sales orders received with a large percentage of these having made estimates as primary data were not available. Only 79 were able to provide a percentage of sales orders paid for on-line.

The 1999-00 survey approached 15,500 businesses and the definition of Internet sales was retained as 'on-line sales orders received via the Internet regardless of method of delivery or payment'. A number of questions were dropped from the previous survey (eg IT income and expenditure and number of employees using IT) and others were added (eg web-sites and their use). The main problems encountered were that some respondents were confused about what should be included in Internet sales - particularly businesses which acted as agents (eg stock brokers and travel agents) with some reporting commission earnings and others reporting the whole transaction value. Some businesses were not able to separately provide details for their Internet sales orders. A large number of businesses did not provide a response to the 'total value of sales orders' question as the terminology was confusing to businesses in service industries. There were 910 contributors to the Internet sales orders question.

For the 2000-01 survey, around 14,200 businesses are being approached with the data content much the same as for the 1999-00 survey. However, there has been a change in the approach to measuring Internet sales values. Because of the difficulty that respondents had with the 'value of Internet sales orders for goods and services' terminology, the emphasis has been changed to an income basis, i.e. 'income earned from the sale of goods or services ordered via the Internet or web'. This should enable a generalised form approach to be maintained for all businesses regardless of industry. Questions on the total income of businesses (to give a measure of size for comparing 'Internet sales') and the benefits from receiving orders for goods or services via the Internet or web have also been included.

Results from survey

While 46% of Australian businesses were Internet business active at June 2000, only 6% were Internet commerce active. At June 2000, 8% of Australian businesses received orders for goods and services via the Internet (3% at June 1998) and 10% sent orders for goods and services (5% at June 1998). The estimated value of sales/orders received by businesses via the Internet for the year ending 30 June 2000 was \$5.1 billion. This represented approximately 0.4% of total sales/orders received for goods and services for the industries surveyed.

REFERENCES

ABS publications on the use of IT in Australia are *Use of the Internet by Householders, Australia* (Catalogue no. 8147.0), *Household Use of Information Technology, Australia* (Catalogue no. 8146.0), *Business Use of Information Technology, Australia* (Catalogue no. 8129.0), *Use of Information Technology on Farms, Australia* (Catalogue no. 8150.0) and *Government Use of Information Technology, Australia* (Catalogue no. 8119.0). The Information technology theme page on the ABS web-site can be accessed by going to www.abs.gov.au and selecting 'Themes' from the menu shown on the left side and then selecting the 'Information Technology' theme page.