

**UNITED NATIONS STATISTICAL COMMISSION and
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CONFERENCE OF EUROPEAN STATISTICIANS**

Workshop on the dissemination of census results
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COMMUNICATING AUSTRALIAN BUREAU OF STATISTICS' (ABS) CENSUS RESULTS

Submitted by Australian Bureau of Statistics¹

1 SETTING THE SCENE ...

1.1 In 2005 - as part of its Centenary celebrations - the ABS made all data on its website available free of charge. Then in 2006 the ABS did three things:

- upgraded its website to reflect the principles of layering, contextual linking and writing for on-screen use - in line with the principles conveyed in this article on Data Communication:
<http://iospress.metapress.com/content/h24h766q6t3r/?p=9cc618f2f0564489b0c9d0604c768caa&pi=0>
- reviewed other product pricing and in many cases reduced it - to reflect the free data availability - see our pricing policy on the website -
<http://www.abs.gov.au/websitedbs/d3310114.nsf/51c9a3d36edfd0dfca256acb00118404/12bb13b927110e44ca2569a80013bec1!OpenDocument>
- and then we ran a Census of Population and Housing.

These things, in conjunction with technical advances, created an opportunity to present an amazing array of census data in a variety of ways. Most is able to be accessed freely by visitors to the web and the price of costed products was significantly reduced.

2 PLANNING THE OUTPUTS

2.1 The ABS dissemination strategy aimed to:

- provide appropriate products which met the needs of different types of users of census data
- provide a wider range of census data as standard products than for the previous two censuses and
- improve the usability of census data.

2.2 Our website was the means of accomplishing this, electronic dissemination allowing the data delivery to be tailored to the level of sophistication of the customer and increasing the customers' ability to help themselves. In line with this the number of printed publications was significantly reduced. Given that we completely redesigned the dissemination tools for the 2006 Census to incorporate a wide range of mapping and searching facilities we progressively made available to the public the new features - with 2001 Census data - in advance of the 2006 data. This allowed users to familiarise themselves with the products and gave them a short time series in the new formats and it worked well.

2.3 We aimed to produce functionality to satisfy different levels of customers and for that functionality to be seamless - from simple to sophisticated - with customers being led by the nature of their query or analysis they wished to undertake. Users were grouped as:

- Tourists - Novice/Infrequent Users
 - majority of public users
 - limited number of decisions/choices to be made

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- low level of complexity
- ease of use essential - accessibility over functionality
- Harvesters - Intermediate/Frequent Users
 - medium level of complexity
 - willing to sacrifice some ease of use for power
 - power needs to be controllable
 - choices/decisions easy to make
- Miners - Expert Users
 - technical
 - limited audience
 - on line analysis
 - want to be able to do everything.

3 DATA RELEASES

3.1 Based on the above, free online products developed include those which are already available:

- Quickstats - for tourists - an easy to use overview of the main census statistics by geographical area, providing key data on basic census topics.
- Mapstats - for tourists - another easy to use product for those who want to visually explore the spatial distribution of a census topic. A thematic map is generated on screen.
- Census Tables - for the more advanced user - allows them to select a geographical area and topic and download an Excel file containing the data.
- Community Profiles - again for the more advanced user/researcher, allows them to obtain a comprehensive statistical picture of an area in Excel format. Designed for researching, planning and analysing small and large geographic areas, and enabling comparisons.
- Socio-Economic Indexes for Areas (SEIFA) - a planning tool which allows users to develop socio-economic indexes that allow ranking of areas by level of social and economic wellbeing.

3.2 We are currently working on CDATE online - the most comprehensive free online product in the range. It is due for release in July and combines census data with dynamic mapping software and integrates tables, graphs and thematic maps. It allows user-defined tables for single CDs or Australia, with more freedom to select and combine variables and capacity for basic manipulation.

3.3 There are also costed products:

- Census Datapacks - a CD ROM product containing the community profile series data and digital boundaries.
- Census Sample File - a comprehensive Confidentialised Unit Record File (CURF) for experienced users and statistical purposes such as regression analysis and data modelling. This is due for release later in 2008.
- TableBuilder - a subscription service for the experienced user, giving remote access to a complete CURF and the ability to produce tables, graphs and thematic maps. At this stage, due for release in 2009.

3.4 The ABS has almost completely moved away from hardcopy publications but we are producing:

- The 2006 Social Atlas series (a common set of 28 maps which map key census characteristics for capital cities and selected regional centres). These were released in March 2008 and are also freely available on the website.
- A comprehensive overview of the 2006 Census - titled the Statistician's Report. It will contain key census information in tables, graphs and thematic maps, with analytical commentary about the statistics presented. This is due for release in August and will also be freely available on the website.

4 AS AN ASIDE - eCENSUS COLLECTION

4.1 The most notable change with respect to census collection for the 2006 Census was that people could complete their census forms online - and 776,000 or 9% of the estimated number of dwellings submitted eCensus forms. There were a number of statistical and technical issues that needed to be resolved to make this possible: it was important to ensure that each person and household was included in the census - and not counted more than once; that people could supply their information with confidence - knowing that it would be kept secure and confidential; and that there would be sufficient capacity to handle the volume of people wanting to use the system on census night.

4.2 Technical issues revolved around ensuring the highest possible security for the eCensus system, in order to protect the confidentiality of all information supplied, and providing sufficient capacity to handle the volume of eCensus returns expected on and around census night. Implementation of the system was undertaken by an external contractor. Census data were encrypted end-to-end and only ABS staff were able to decrypt the data. The contractor's staff had no access to the data.

4.3 The public reaction to the eCensus was overwhelmingly positive, although a small number of people experienced problems in accessing the system. Related to data collection via eforms was the issue of local census collectors keeping records of forms delivered and received - very difficult when forms are submitted online. To address this a comprehensive field communications system was developed using mobile technology and SMS messaging, to inform collectors of electronic forms, or where paper forms had been mailed back, immediately the forms were received.

5 DATA RELEASE

5.1 The ABS website is large - over 875,000 pages of static content. We normally handle a million hits a day. On the day the interactive census content was released (June 2007) there were almost 1.7 million hits in three hours (9,400 per minute). Response times on the maps and tables - the more difficult downloads - were on average between four and ten seconds.

6 CHALLENGES AND LESSONS LEARNED

6.1 We set ourselves some significant challenges in terms of product development and release timetables. Unfortunately we have failed to meet a couple of these. In order to reach the timeframes for release of the initial products, work on the later products was allowed to slip - actually to cease completely. This means that while we got the first releases out on time and delivered the promised products, we have failed to meet deadlines for CDATA and Census TableBuilder. In both cases we had planned to deliver 2001 data in these formats in the first half of 2007. We have now scrapped those plans and are working to a CDATA 2006 release in July. At the time of writing we are unsure whether this will be met. We are considering our position in relation to Census TableBuilder and whether or not to proceed with its development. This is a difficult situation for the ABS as we have disappointed a number of our important customers who were expecting these products.

6.2 What have we learnt from this? Interestingly in our risk assessments we had identified a number of the factors - some of which resulted in the delays - but we did not manage them effectively enough:

- We were working in partnership with a third party who has since admitted promising delivery dates they could not meet so that we kept working with them.
- We knew there may be problems integrating some of the new software into the ABS environment - and there were.
- Our methodologists had to assure themselves that data was protected and that access was fit for purpose - as some of this has involved perturbation and additivity there are still some issues here.
- Just the load testing and tweaking of the website to allow interactive use of the data took weeks.

So despite massive efforts, the timeframes just blew out.

6.3 That being said, on the positive side we have a number of new products out there and generally a very happy customer base. We have provided training in use of the new products and supported our customers in their use of the products. And we did manage our way through a number of identified risks and overcame them.

7 WHERE TO NOW ?

7.1 First, we need to finalise communication of the 2006 Census then undertake a review of the effectiveness of the products. As the ABS is facing significant budget constraints, at this stage we are not planning to develop new products for the 2011 Census - rather to produce that census data in the same products as the 2006 Census, possibly with some small improvements as a result of the review. Should the budget situation improve we may be in a position to consider new or significantly enhanced products.
