Jock Given

AUSTRALIA'S BROADBAND: HOW BIG IS THE PROBLEM?

Abstract

Four conclusions are drawn from the most recent data about broadband takeup in Australia and overseas. First, performance shouldn't be judged against a single criterion or against the same criteria over time. Second, on the simplest measure of fixed broadband takeup, Australia has caught up considerably after a slow start to a position now above the OECD average, but is still well behind top-ranked countries. Third, on other factors such as the availability of higher speeds, prices, bitcaps and the relationships between them, Australia does not perform as well, particularly on bitcaps. Fourth, even if Australia's performance has improved on some measures, few suggest existing infrastructure will be adequate to maintain that improvement in the years ahead on the measures that will matter.

When Kevin Rudd announced his plan to 'revolutionise Australia's internet infrastructure' in March 2007 (ALP, 2007), there were lots of questions about the policy detail but plenty of support for his views about the scale of the problem.

The policy said telecommunications carriers' plans for network development had remained unfulfilled for too long. Australia risked being 'left behind' in the most important form of infrastructure for the global economy of the twenty-first century. On 'entry level 256 kbps broadband' per 100 inhabitants, Australia was 17th out of 30 OECD countries, a position that hadn't improved in two years.

Rupert Murdoch thought the situation a 'disgrace'. James Packer said it was 'embarrassing'. Fairfax's David Kirk talked about 'fraudband' (ALP, 2007). Consultant Mark Pesce said Australia was 'basically an internet backwater … Broadband is merely the latest chapter in a very old story.'

Minister Helen Coonan questioned the OECD data on which the international broadband league table was based (Coonan, 2007b), but celebrated a subsequent publication by the same organisation (OECD, 2007) that showed Australia improving its position and scoring better on other measures (Coonan, 2007a).

This saga was not just a political squabble in an election year. It was a battle over the nature and extent of a problem that the election result means will now be the target of $4.7 billion of public money. The data told us something about the effectiveness of the hundreds of millions of taxpayer dollars already spent on Australia's telecommunications infrastructure. And the same data are going to be needed in the future to help us work out whether the money committed by

the new government was well spent. So it is good that there is a lively debate underway about what data have been collected and what they mean.

Just what does it all mean? The ALP policy highlighted several measures published by the World Economic Forum where Australia also scored poorly. The country ranked 15th in the world on the 'Networked Readiness Index', measuring 'the degree of preparation of a nation or community to participate in and benefit from ICT developments'. It had slipped from 11th in 2004/05 and is now 14th on the 2007/08 list (World Economic Forum, 2008). On 'available internet bandwidth', Australia was 25th in the world. This measures the total capacity of each country's international internet bandwidth in Mbps per 10 000 inhabitants. Australia slipped to 27th in 2006/07 (Dutta, 2007).

But broadband was the big story, and that is where the major policy initiative is aimed. The quarterly release of the OECD's statistics measuring various aspects of broadband services in the 30 member countries had become an occasion for national self-congratulation and hand-wringing around the world, especially in response to the explicit country rankings from best to worst on broadband subscribers per 100 inhabitants.

Coonan was delighted when telecommunications analyst firm Market Clarity released a report two months after Rudd's national broadband plan that identified major problems with the OECD's broadband statistics (Coonan, 2007c).

First, there were plain errors and misinterpretations of source data. When Market Clarity checked with the same national statisticians and telecommunications regulators, it got data that aligned fully with the OECD's June 2006 publication for only two of the 30 countries.

Second, Market Clarity found wide discrepancies in the definitions of broadband. The OECD claimed to be treating 256 kbps downstream (the speed at which customers can download data) as the minimum speed for broadband. In practice, 21 of the 30 countries either did not define the speed or defined it as at least 64, 128, 144 or 200 kbps, although actual broadband plans often start at speeds higher than the official country definition.

Third, the ranking that received so much attention, broadband subscribers per 100 inhabitants, was a controversial measure. The OECD aggregated the number of business and residential broadband services, whereas some argue household penetration alone is a more useful figure. The US Department of State complained about the use of subscribers as the benchmark, because it fails to take into account free users of the estimated 50 000 WiFi hotspots across the country, especially on college campuses, or to separately account for the numbers of broadband users working in large organisations (Gross, 2007). It was the lack of ubiquitous wireless connectivity that Mark Pesce had grown used to in North America which led him to conclude that Australia was a 'broadband backwater'. But according to the OECD's June 2007 league table, Australia, with 22.7 subscribers per 100 inhabitants, was doing better than the United States (22.1), though worse than Canada (25.0).

Fourth, there were timing inconsistencies, a common problem with cross-country comparisons, but a big one if the headline conclusion was a ranking that was supposed to apply at a particular time.

Market Clarity did some re-rating of Australia's performance, but overall it was less interested in where Australia sat on some simple league table than in questioning the role of league tables:

> Australia's broadband debate should not focus on international comparisons, but on establishing clear goals which serve Australia's business, government and community requirements. A notional international broadband 'space race', based on flawed data and unsound assumptions, should not form the basis of policies of such profound financial and regulatory importance. (Market Clarity, 2007: 7).

Coonan praised the report as 'a new and robust assessment of Australia's broadband performance', claiming the new work showed Australia should be ranked 'much higher' in the OECD's broadband rankings: '11th for total broadband subscribers … ninth … if only broadband over 256 kbps is measured and as high as a record sixth position globally if new statistical banding is adopted'. These new data 'sinks [Labor's] claim that Australia is a broadband backwater' (Coonan, 2007c). She would be writing to the OECD to express concerns about its methodologies 'and question the weight given to any one single indicator of broadband performance' (Coonan, 2007b).

Two months later, the minister was happier with the OECD, trumpeting the 'strong report card' she said was given to Australia by the 2007 *OECD Communications Outlook*. The country had the third-highest level of internet subscribers in December 2005: 34 per 100 inhabitants, behind only Switzerland and Sweden. It also had the fourth-highest level of investment per capita in public telecommunications networks, behind only Iceland, Norway and the United Kingdom, and the sixth-cheapest broadband plan measured by price per megabit. Overall national performance, said the minister, 'must be considered as a whole using a range of indicators'. On most, Australia was 'performing in the middle to upper range' (Coonan, 2007a). Only one, however, told us anything directly about broadband.

What *can* we conclude about the nature and extent of Australia's broadband problem and what needs to be done about it? I think several things.

First, Coonan was right that the issue has many dimensions. Performance shouldn't be judged against a single criterion. Nor should it necessarily be judged against the same criteria over time. New factors are certain to arise or become more important in the future that matter at least as much as anything that has been measured in the past. The availability of free or cheap wireless broadband seems a likely contender. But that means better data and more sophisticated analysis of it, not rejecting international comparisons altogether.

The OECD is responding to this and now publishes data on its broadband portal covering five areas: penetration (actual lines); usage (household and business penetration); coverage and geography (especially reflecting different population densities); prices; and services and speeds. This reflects the increasingly complex nature of broadband services offered in markets around the world.

Second, using the simplest measure with all its flaws — entry-level broadband subscribers per 100 inhabitants — it is clear that Australia was a slow starter but has caught up significantly to a position now above the OECD average. It is,

however, still well behind the countries that score best on this measure, although it uses one of the most demanding definitions of entry-level broadband.

Third, other factors may be at least as important as the proportion of entry-level subscribers. These include higher speeds, prices, bitcaps and the relationships between them. They are much harder to compare accurately, and anecdotal evidence from people who have used services in different countries is powerful. The OECD concluded that the average advertised speed of broadband plans in Australia was the 9th fastest of the 30 OECD countries in October 2007 but still below the average. The average monthly price paid, however, was the 10th highest. Integrating speed and price, Australia's average monthly price per advertised Mbps was the eighth most expensive, and seven times that of the market leader, Japan.

It was bitcaps where Australia's performance was really notable. It was one of only four countries where all the broadband plans surveyed were capped. Further, caps in Australia were smaller than average and the amount charged for excess data was much higher than average. Ten OECD countries had no capped plans at all: Finland, France, Germany, Italy, Japan, Korea, the Netherlands, Norway, Sweden and the United States. These are large and crucial differences in the level of service experienced by users.

Fourth, even if Australia's performance has improved on some measures, few suggest the existing infrastructure will be adequate to maintain that improvement in the years ahead on all the measures that will matter most.

While we may be still some way from complete agreement about the nature and scale of the problem today, we are much closer on the broad outline of what to do about it for the future. There is widespread support for the view that a big part of the answer lies in extending deeper into fixed line networks the optic fibre that already carries so much telecommunications traffic across long-haul and back-haul routes. The harder questions are how far, who should do it, and on what terms?

These are the questions that lay behind those we asked the other four contributors to this issue's Policy Briefs: what can we learn from overseas experience with broadband takeup (John de Ridder); why has FTTN/FTTH acquired Holy Grail status as the solution to broadband futures (David Barbagallo); and how should it be regulated (Leith Campbell and Jim Holmes; Simon Molloy)?

Note: These Policy Briefs were finalised just as the government released its National Broadband Network Request for Proposals in April.

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Jock Given *is Professor of Media and Communications at Swinburne University's Institute for Social Research.*