

Submission to Rural Telecommunications Review

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Introduction

This submission to the Rural Telecommunications Review has been prepared in an individual capacity, however it is informed by my recent experience (through August 2011) as the CEO of the Rural Health Education Foundation. The ideas and conclusions in this submission are my own. I have drawn parts of this submission from a paper which I presented to the Communications Policy and Research Forum (www.networkinsight.org/events/cprf2011.html) on November 7th. My original paper is available online here: <http://donperlgut.wordpress.com/2011/11/10/digital-inclusion-challenges-for-australia/>.

In this submission, I particularly focus on the looming “digital participation gap” in Australia, with specific reference to rural and remote Australia. This gap will soon become apparent if concerted efforts are not commenced soon to make certain that poor, remote and vulnerable communities in Australia are not actively included in the fast internet roll-out.

Now that Australia’s much-discussed National Broadband Network (NBN) is underway, many people have assumed that it is just a matter of time before we are all fully connected. The concept of “digital divide” has slipped from the public radar in recent years under the onslaught of smart phones, iPads, other “tablets” and the bewildering and growing collection of digital devices that will operate under the law of “if it can be connected, it probably will”. Unfortunately there appears to be little awareness that it will take a concerted public policy push – engaging the non-profit, philanthropic and private sectors – to create a “just digital society” in Australia.

The Experience of “Deep Exclusion” in Australian Society

Those Australians most at risk of digital exclusion are poor, Indigenous, elderly, disabled or living in rural or remote areas of Australia. According to Peter Saunders, in his book *Down and Out: Poverty and Exclusion in Australia* (2011)¹, there are five groups which are at particular risk:

- Unemployed people
- Public renters
- Lone parents
- Indigenous Australians
- Private renters

When a person, family or household falls into more than one of these groups, they are at particular risk of being excluded from Australian society. According to Saunders, “deep exclusion exists when individuals experience a number of different forms of exclusion simultaneously” (p. 223). Deep exclusion results from compounded economic, social and locational disadvantage.

Individuals living in rural and remote Australia are at significantly greater risk of “deep exclusion” than those living in metropolitan areas. The Digital Switchover Taskforce of the Department of Broadband, Communications and the Digital Economy has undertaken evaluations of the completed rural switchover activities. For regional Victoria, the report² noted that regional Victorian households were more likely than rest of Australia to:

- Be aged pensioner households (16% vs. 11%);
- Have main source of income is government pension/benefits (28% vs. 19%); and
- Less likely to have Pay TV (19% vs 30%).

These are significant differences, and indicate the substantial wealth differentiation (as well as telecommunications) between rural and metropolitan areas.³

Digital Inclusion and Digital Access

Digital inclusion is the ability of individuals and groups to access and use information and communication technologies, and includes:

- access to the Internet;
- availability of hardware and software;
- relevant content and services; and
- training for the digital literacy skills.

To achieve full participation in society – economic, educational, health and civic engagement, digital inclusion will be required.⁴ To achieve full digital participation, I operate from four assumptions adapted from the University of Washington *Digitally Inclusive Communities Framework*:

1. Broadband is a societal “game-changer”, with profound and long-lasting impacts.
2. Advanced digital technology can and will enable economic & social well-being.
3. Digital inclusiveness is a worthwhile public policy goal to mobilise public and private resources.
4. Digitally inclusive communities require the involvement of all sectors – public and private as well as the “third sector” (philanthropic).⁵

Broadband-Connected Australia

Table 1 below is adapted from the NBN *Corporate Plan* (exhibit 10.2, page 133) and provides detail that allows us to analyse the NBN roll-out assumptions. The “total possible” premises is a combination of both households and businesses and shows how many NBN

believes will be connected to the NBN at the end of the roll-out period (FY 2021) and in subsequent years. The NBN “Base Case” assumes approximately 4.6% of premises (0.6 million premises) will be served by non-NBN networks at FY2025 and thus I have adjusted the table to show that.

On the basis of these figures, it appears that the NBN is anticipating a “broadband connected” total of 76.6% of all Australian “premises” in 2025 (see third column, bottom row).

Table 1: Total uptake estimates – based on NBNC Co Corporate Plan; Deployment Schedule: NBNC Co premises to be connected

Premises	FY 2021	FY 2023	FY 2025	FY 2028	FY 2040
Total Connected	8,549	9,024	9,311	9,736	11,303
Total possible	12,202	12,568	12,931	13,467	15,435
% NBN connected	70.0%	71.8%	72.0%	72.2%	73.2%
Non-NBN Connected	n/a	n/a	600	n/a	n/a
Total connected	n/a	n/a	9,911	n/a	n/a
% total connected	-	-	76.6%	-	-

Table 1 notes:

1. Construction completed in December 2020 (as per Business Plan).
2. Wireless/satellite connections also continue to grow to 2025.
3. Table assumes “total possible” constitutes 100% of all Australian households as this was stated Government intention.

In other words, the NBN Business Plan appears to assume that 23.4% of Australian premises will NOT have broadband in 2025.

It is important to note that current (2011) household broadband connection estimates in Australia vary from approximately 68% (ACMA)⁶ to 87% (Swinburne “Internet in Australia” project), although it is most likely that the ACMA figures (based on Roy Morgan data) are the more reliable ones.

At the November 2011 Communications Policy and Research Forum – entitled “Regional Australians Engaging in the Digital Economy” – Joseph DiGregorio, the Manager of the Communications Analysis Section at the ACMA, presented June 2011 data on Australia household broadband connections.⁷ He presented data that show that the most “broadband-connected” homes in Australia (note that this is “homes” only, and not all “premises”, which also includes businesses, etc – as per NBN definitions):

The ACT comes in the winner at 75% broadband-connected (this makes a lot of sense, considering the relatively higher wealth and education of ACT residents, both factors being

associated with high broadband-connectivity). The ACT also leads with the most “internet-access” homes at 85%. Next comes Brisbane at 74% broadband connections (admittedly, a one percentage point difference may not actually be statistically significant), with 84% internet-connected. Next is Perth at 73% broadband connected (82% internet). Then comes Melbourne broadband homes at 72%, Darwin/Alice Springs (metro NT) at 71% and Sydney at 69%. I suggest that Sydney’s 69% IS statistically significant, compared to the ACT’s 75% connections.

What is even more telling – and troubling, but certainly not surprising – are those at the bottom of the Australian broadband connection percentages, indicating a substantial rural-metropolitan divide:

Tasmania outside of Hobart at 55% and Hobart at 61%, followed by rural South Australia sits at 62%, and rural Victoria and rural New South Wales sitting at 65%.

These metro/rural figures are significant, and consistently so. In fact, in every state the household broadband connectivity of non-capital city regions are about ten percentage points lower below than the major metropolitan areas. The one exception is Tasmania, primarily because the Hobart connection numbers are so low to begin with. Note that no figures are available for non-metro Northern Territory because of small numbers; if data were available, presumably these would be extremely low because of the large number of remote communities where connectivity is not high.

I also note that these figures are consistent with those presented by the Office of the United Kingdom Digital Champion, which estimates that 8.7 million adults in the UK never use technology, and people who are “offline” over-estimate the costs of being online by a factor of three.⁸ They believe that the “addressable market” (by business) in the UK is estimated to be 80% of the population: they will find their own way online. It’s the final 15 to 20% that really need the help, they believe.

Characteristics of Broadband Adoption

The major access dividing lines for broadband are education, income, age/disability, literacy, location (rural/remote) and – in the USA in particular – race. The following figures are taken from the report *Broadband Adoption and Use in America*, by John Horrigan (Washington, D.C.: Federal Communications Commission Omnibus Broadband Initiative Working Paper number 1, February 2010).⁹ They are broadly indicative of Australia’s situation as well.

Education

- 46 percent of adults whose highest level of education is a high school degree are broadband users at home.
- 82 percent of adults who have attended or graduated from university are broadband users at home.

Income

- 87 percent of households in USA with incomes above \$50,000 have broadband at home.

- 52 percent of households with incomes of less than \$50,000 have broadband at home.
- 40 percent of households with income below \$20,000 have broadband.

Race

- 75% of whites (compared to 65% of all Americans).
- 59% of African Americans – but 75% of African Americans under age 30 had broadband¹⁰ - a profound difference that means that elderly African-Americans are particularly vulnerable and “disconnected” – less than 21% of them have broadband access.
- 49% of Hispanics.
- Only 20% of Hispanics who primarily speak Spanish at home .

Age and Disability

- Only 42% of Americans with disabilities have broadband at home (some have argued to me that this figure is assuredly too high).
- Only 48% of Americans over age 65 are internet users of any sort.
- In Australia, 28 per cent of people with a disability have broadband access compared to 48 per cent of people who do not need assistance.¹¹

Rural and Remote

Only 50% of rural USA residents have broadband, due to lack of access, age and poverty (compared to 65% of all Americans). The situation in Australia is not much different. As the NBN website states:

Current data indicates that the number of Australians who have never used the internet is higher among those people living in regional and remote areas. For example, 34 per cent of people from outer regional and remote areas aged 15 and over did not use the internet in 2008-09, compared with only 23 per cent of people in Australia’s major cities. Data indicates that 29.7 per cent of businesses located outside of capital cities have a web presence, compared with 39.5 per cent of business located in capital cities.¹²

Of course, see the ACMA figures presented above. A team from Edith Cowan University in Western Australia has studied Internet usage in rural Australia, and concluded:

The take-up of national broadband facilities, particularly in regional and remote areas, is a complex, multi-factorial scenario in which personal and organizational decisions are shaped by physical, cultural, economic and political elements. The vast distances and extremes of climate in the Australian outback provide physical obstacles, the sparse population reduces the economic viability of these services and the community based culture of an aging population resists computer-mediated communication.¹³

These issues all need consideration by the Inquiry.

The Importance of Literacy

The Australian Bureau of Statistics (ABS) identifies four adult literacy domains: prose, document, numeracy and problem-solving. Of those four, two - prose and document literacy are most closely associated with digital literacy. Some 17% of adult Australians have poor “prose” literacy and 18% poor document literacy – sufficiently poor to impact on daily life. (However only 4% actually recognised these poor skills.) Thus literacy is a key element in preventing full digital participation.¹⁴ This has particular relevance to Indigenous Australians (see next section).

Broadband and Indigenous Australians

Aboriginal and Torres Strait Islander (Indigenous) Australians face particular problems in accessing telecommunications services. As a group, they experience multidimensional poverty through a combination of extreme poverty, poor housing, poor health (with life expectancies up to twelve years lower than non-Indigenous people), poor educational attainment and poor security, in addition to cultural and other social and cultural differences. Literacy levels are also well below non-Indigenous Australians; these figures have been well-documented. Indigenous Australians make up approximately 550,000 population (2.5% of all Australians), but only 32% live in capital cities – again an additional factor which adds to their digital and telecommunications disadvantage as a group.

Research presented at the CPRF conference by Swinburne University researchers indicates that only a fraction of remote Indigenous Australians use the internet, much less have access to broadband.¹⁵

As the Indigenous Literacy Foundation reports:

- There is an enormous gap in the English literacy rates of Indigenous and non-Indigenous people in Australia. The gap is even wider for Indigenous people living in remote and isolated communities.
- The gap between Indigenous and non-Indigenous students emerges early. In the Northern Territory by Year 7, just 15% achieved expected standards, 47 percentage points behind their metropolitan-based Indigenous peers and 74 percent less than non-Indigenous students.
- Nutrition and health are closely connected to educational achievement and literacy skills. The health status of Australia’s Indigenous population is poor by world standards, with life expectancies up to twelve years lower than non-Indigenous Australians, and health equivalent to the population of Bangladesh.¹⁶

Non-Adoption of Broadband

According to the Horrigan report for the FCC (2010),¹⁷ there are three reasons for not adopting broadband in the USA:

1. 36% cite cost (15% monthly bill too high; 10% cost of computer; 9% do not want long-term service contract or cost of installation; 2% combination of factors);
2. 22% lack of digital literacy (they are worried about the bad things) – and tend to be older; and
3. 19% say broadband is not relevant to their lives.

Non-adopting Americans fall into four categories:

- “digitally distant” (10%) see no point in being online;
- “digital hopefuls” (8%) want to be online but lack resources and/or comfort;
- “digitally uncomfortable” (7%) have resources but lack skills and interest; and
- “near converts” (10%) want to be online and already have dial-up access, are younger but worried about the monthly cost.

These four categories are important because different strategies will be required for those falling into different segments, and are helpful in working out strategies for Australia.

Conclusions

I submit the following conclusions to the Inquiry:

- Within five years, digital exclusion will rival all other social and economic determinants, and may become the major social justice challenge of our time.
- Digital inclusion cannot be separated from economic and social inclusion, and will become a major factor in assisting (or losing) social and economic justice.
- In the digital world, place still matters – rural/remote as well as locational access to education, health and economic opportunity.
- Indigenous peoples, along with those who are under-educated, poor, elderly, disabled and living in rural and remote locations are all uniquely vulnerable.
- A “whole of society” effort required for proper inclusion – simply putting it all on “government” is not the answer. However, Government will need to take the lead and set the tone.

Recommendations

In the last week, The Parliamentary Joint Committee on the National Broadband Network presented its *Second Report on the Six Monthly Review of the Rollout of the National Broadband Network*.¹⁸ Recommendation 5 of this report states:

The committee recommends that the Department of Broadband, Communications and the Digital Economy and the NBN Co undertake a study of methods to improve access for low income households and other disadvantaged groups to the National Broadband Network and report its findings to the committee; in conducting the study, include examination of community proposals for measures which would support a basic broadband account and a broadband low income measure scheme.

I strongly endorse this recommendation, and add a number of my own.

- Comprehensive research into broadband adoption in Australia is needed, including the characteristics of non-adopters and the barriers to adoption.
- We also need to consider a fully subsidised broadband service for everyone over age 65, as that group is particularly vulnerable, and there are already precedents and systems in place.
- Comprehensive digital inclusion plan is needed that will parallel and complement the NBN roll-out and incorporate current pilot DBCDE efforts.
- It is important to identify one national government organisation with responsibility for promoting digital inclusion: I nominate the Australian Communications and Media Authority (ACMA), as it has an “outward-facing” capability and is already operating in the area.
- National efforts can only be successful with on-the-ground activities provided by and through local government, a sector which has not yet been fully engaged by digital participation efforts.¹⁹

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Notes follow:

¹ Peter Saunders, *Down and Out: Poverty and Exclusion in Australia*. Bristol, United Kingdom: The Policy Press. See pp. 223-234.

² *Switchover Evaluation Report – Regional Victoria*. Prepared for the Department of Broadband, Communications and the Digital Economy by Newspoll, 5-8 May 2011. www.digitalready.gov.au/Content/Documents/Digital-tracker-reports/PDF/Regional-Vic-post-switchover-report.aspx

³ I have not attempted to summarise the data on rural disadvantage.

⁴ Taken from the *Proposed Framework for Digitally Inclusive Communities*, the Institute of Museum and Library Services, University of Washington and the International City/County Management Association. <http://www.imls.gov/assets/1/AssetManager/DIC-FrameworkReport.pdf>

⁵ Ibid.

⁶ Presentation by Joseph di Gregorio, Manager, Communications Analysis, Australian Communications and Media Authority, presentation at the CPRF, November 8, 2011.

Presentation by Scott Ewing and Julian Thomas, Institute for Social Research, Swinburne University, CPRF, November 8, 2011.

⁷ For a copy of his presentation, see <http://www.slideshare.net/acmaSlideShare/cprf-2011-josephdigregorio>.

⁸ See <http://raceonline2012.org/>

⁹ Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf.

¹⁰ Also see *Designing Broadband Adoption Policies to Enhance African American Competitiveness in the Job Market – Linking Policy Solutions with Local Services*, by Madura Wijewardena, Chanelle Hardy and Valerie Wilson. Washington, DC: National Urban League Policy Institute, October 2011. Also see *Place Really Matter? Broadband Availability, Race and Income*. JC MTI Working Paper – 01 by Ying Li, Nicol Turner-Lee, Samir Gambhir and Mikyung Baek. Washington, DC: Joint Center for Political and Economic Studies, April 2011.

¹¹ See <http://www.nbn.gov.au/for-households/where-are-we-now/>.

¹² See <http://www.nbn.gov.au/regional-australia/>.

¹³ From the report *Examining Rural Adoption of Broadband – Critical Realist Perspectives*, by Philip Dobson, Paul Jackson and Denise Gengatharen, Edith Cowan University, 2011. Available at <http://www.pacis-net.org/file/2011/PACIS2011-046.pdf>.

¹⁴ Source:

<http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/4228.0Main%20Features22006%20%28Reissue%29?opendocument&tabname=Summary&prodno=4228.0&issue=2006%20%28Reissue%29&num=&view=>.

A good summary of digital literacy is contained in a February 2010 paper by Lesley Osbourne (ACMA): go to

http://www.acma.gov.au/webwr/_assets/main/lib310665/digital%20communications%20literacy%20iic%20qatar.pdf.

¹⁵ See http://www.sisr.net/Flagships/communications/projects/Home_Inter.html and the Australian Communications Consumer Action Network report on *Home Internet for Remote Indigenous Communities* (July 2010) located at http://accan.org.au/index.php?option=com_content&view=article&id=345:home-internet-for-remote-indigenous-communities&catid=96:broadband&Itemid=208

An older (2005) paper entitled “Indigenous Australians and the „digital divide” by Katrina Samaras is available at <http://www.librijournal.org/pdf/2005-2-3pp84-95.pdf> also provides important detail.

¹⁶ Sources: <http://www.indigenouliteracyfoundation.org.au/About/IndigenousLiteracy> and <http://www.healthinfonet.ecu.edu.au/health-facts/overviews/mortality>.

¹⁷ Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf.

¹⁸ See <http://www.aph.gov.au/house/committee/jcnbn/report2/fullreport.pdf>.

¹⁹ Coffs Harbour Council in northern NSW has commenced major digital participation and economy strategic planning (see <http://www.coffsharbour.nsw.gov.au/learning-and-prospering/Business-In-Coffs/Pages/Digital%20Economy.aspx>). The Sunshine Coast Council (Queensland) has also taken the lead in putting together the “Broadband Today” Alliance of local councils – see <http://www.broadbandtoday.com.au/>.