

ROLLING OUT THE FUTURE: THE CURRENT STATUS OF THE AUSTRALIAN NBN AND ITS IMPACT FOR PROPERTY

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ABSTRACT

Problem/Purpose

The future functioning of the digital economy is inextricably linked to the use of high-speed broadband networks. As evidenced by recent Australian federal election campaigns, a focus has been on the rollout of the physical networks. The research seeks to determine the effectiveness of the current NBN rollout as a measure of Australia's progression towards a fully functioning digital economy.

Design/methodology/approach

The author examines submissions to the recent RTIRC Telecommunications Review 2015 in order to ascertain the NBN's current impact upon Australia's digital economy.

Findings

The research indicates that despite (governmental) assertions to the contrary, the transitioning of Australia to the digital economy is inhibited.

Research limitations/implications

Data available for analysis was limited. The analysis was constrained to publically accessible documentation and was finalised for prior to the government's response to the RTIRC Report.

Takeaway for practice

N/A

Originality/value

The research builds on prior research by the author in respect of the NBN's impact for property use and/or users. Its originality and value lies in its examination and analysis of the current status of the NBN and related government policy/ies.

Social Implications

As more government and private services are moved to the online environment, those with lower or no access to high-speed broadband will find themselves at a disadvantage. This lack of physical access also is likely to negatively affect property values. The progression of the NBN rollout therefore will have ongoing social consequences for Australia, as well as property related ones as rural and regional areas become less attractive places to live and or work.

Keywords: internet, NBN, broadband policy, access, digital divide, telecommunications, RTIRC

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INTRODUCTION

If individuals are enabled and supported to engage in the digital economy, this benefits them personally and the Australian economy more broadly. Increased internet use also can have flow on benefits for the environment and community as it enables telecommuting and distance education, with the time otherwise spent in travelling for work or study being able to be directed to the individuals' family and local community. This in turn will have positive impacts for property use, particularly in remote and regional areas (Craddock, 2011). If people have consistent and good quality access they are more likely to want to stay in these regions.

The ability of any individual to access the internet will be constrained by any negative physical and or personal circumstances, as well as by governmental regulation (Lodder, 2013). In order for individuals to be engaged in the digital economy they will require a minimum level of digital skills (Craddock, 2015). Notably, adverse personal circumstances include the lack of appropriate 'digital skills'. These skills require more than the capacity to turn on and off your computer or to access and read emails or texts. What is required is the *"the skills needed to take advantage of the possibilities offered by a digital society"* (European Commission 2015).

As more government and private services are moved to the online environment, those with lower or no access to high-speed broadband will find themselves at a disadvantage. This lack of physical access also is likely to negatively affect property values. The progression (or lack) of the National Broadband Network ('NBN') rollout will have ongoing social consequences for Australia, as well as property related ones. Financial and physical access constraints can impact upon an individual's ability to access the internet as well as their acquisition of digital skills and thus lead to an ever widening digital divide (Oozer, 2014). Digital skills, and financial capacity and physical access are all intertwined such that a lack in one area will adversely affect the other two (Craddock, 2015).

The paper begins by providing an overview of the relevant issues. The research methodology then is presented and relevant literature is reviewed. The paper considers submissions to the Regional Telecommunications Independent Review Committee ('RTIRC') *Telecommunications Review 2015* and concludes with observations as to what action the government must now take.

CONTEXT

The non-infrastructure aspects of access to the internet should be a more central concern of governments in the implementation of future networks. However, to date the focus of the development of the high-speed broadband networks has tended to be on the cost and practical issues of construction and physical access rather than the ability (personal skills) of individuals to access that infrastructure and engage with the internet services. This is reflected in the disparity evidenced in international jurisdictions between relatively high levels of physical access by households to the internet in comparison with low levels of basic digital skills (European Commission, 2015).

In Australia telecommunications provision, which includes broadband, is a matter for federal regulation. Currently, however, this is primarily directed to either oversight, or enablement, of the telecommunications providers (Craddock, 2013). What regulation there is that is directed to user or property related issues is not yet settled and is subject to current governmental reviews.³ Arguably, the scope and impact of such reviews, which in any event are not yet finalised, is limited as it remains there are a number of ongoing issues of particular relevance to individuals that need to be dealt with and for which a financial solution is required.

The consequence is that there remains a variety of matters – including issues of costs (of transition, new equipment and ongoing access); awareness raising of issues; availability of services and acquisition of appropriate digital literacy – that seem not yet to be adequately considered nor attended to. Until appropriately dealt with, these matters will have ongoing negative impacts upon individual Australians, the broader Australian community and economy, and for property and property uses.

3 For example, see the Reviews on the Migration Assurance Policy (<https://www.communications.gov.au/have-your-say/improving-transition-fixed-line-national-broadband-network>); the proposed changes to the Telecommunications Regulations (<https://www.communications.gov.au/have-your-say/proposed-regulatory-changes-enable-industry-manage-interference-between-next-generation-broadband>); and the Regional Telecommunications Independent Review Committee's (RTIRC) *Regional Telecommunications' Review 2015* <http://www.rtirc.gov.au/issues-paper/>

METHODOLOGY

The paper considers the current progress of the NBN and its impact upon property and users. It does this by undertaking a content analysis of submissions to the recent RTIRC *Telecommunications Review 2015*. These provide a unique insight directly from affected individuals and communities (as well as other interested stakeholders) as to the current affect of high-speed broadband rollout on rural and regional areas.

Limitations

Data available for analysis was limited. The analysis was constrained to publically accessible documentation. While, the RTIRC Report was delivered to the Australian Parliament on 23rd August 2015, it was not available until after tabling in Parliament on 22nd October. At this time, the government's response to the the RTIRC Report is not available. The author's primary analysis therefore was of relevant literature and those submissions where consent had been provided to their public release. It also was undertaken prior to the government's response to the RTIRC Report.

LITERATURE REVIEW

The literature reviewed primarily relates to issues arising regarding access to the internet. However, separate from a lack of access, it is noted that a variety of factors, such as health, education, location and trust, can act as a barrier to individuals' internet use (Newman et al., 2012; Notley and Foth, 2008). These matters also must be addressed in relevant programs in order to ensure individuals' engagement. Therefore, as the appropriate enablement and regulation of internet access cannot occur in isolation either from infrastructure implementation or ongoing access, it is appropriate to consider issues relevant for the establishment of, as well as those of access to, broadband; and for property uses.

One consideration for property and property use is that a lack of adequate access in rural and regional areas can impact on the desirability of those regions as a place to live and work (Craddock, 2015). The flow on economic affects is that employers will find it harder to attract qualified staff, that they will have to pay more to attract qualified staff, and that due to the lack of internet related services and access the best staff will not consider those regions when looking for jobs. This is reflected in the incentives that employers are offering to attract staff, as well as in the long-standing policy of requiring certain public employed professionals, notably newly qualified health care professionals and teachers, to undertake periods of 'country service'.

The physical nature of the various means of access to the internet has resulted in a level of individual domestic government regulation of internet-based behaviours, although not necessarily regulation that enables internet access, nor that which is universally or consistently applied. Similarly, the need to utilise existing infrastructure, more commonly those for telephony and other telecommunications services, has attracted a level of government regulation. Divergent domestic government policies, and often changes of government, mean that at any given time governments view access to the internet in numerous, and potentially inconsistent ways. This affects the existence, and content, of domestic policy and related legislation (Dutton et al., 2011).

Importantly, ensuring appropriate access to the internet for all Australians is not about telecommunication regulation or development. Similarly to other jurisdictions, enabling access to the internet is about working to engage, maintain and enable communities. As Oozeer (2014) observed "*the problem* [the digital divide now] *encompasses refers to the gap between people with effective access to digital and information technologies, in particular the Internet, and those with very limited or no access at all*" (p.348). More and better technologies and better or different access for selected groups, typically those with financial and skills capacity will serve only to further marginalised those who, save for want of access in the first place, the internet would support the most (Blanchard et al., 2008).

One means by which internet-access can be achieved is by extending the universal service obligation (USO) implemented in respect of telephony services (OECD, 2012). However, the effectiveness of a USO will depend upon its exact nature and scope. This in turn will depend upon the particular jurisdiction, their level of development and their existing technology and infrastructure (Blackman and Srivastava, 2011). A USO is designed to ensure telephony service provision to consumers in areas that are otherwise hard to service due to lack of demand or prohibitive costs (Berg, Jiang and Lin, 2011). In various instances designated funding covers the cost of USO services with the effect that this cost is borne equally by all users (Rauen et al., 2011). However, many jurisdictions merely make services available without providing the extra financial

assistance that, even with the USO concession, some individuals require in order to be able to engage with (Eardley et al., 2009).

The extension of a USO to internet-access in combination with an effective financial aid program would mean that all individuals, irrespective of location will be able to attain and maintain access to the internet (Craddock, 2015). This would have positive flow on economic benefits to the wider community (Prasad, 2013). In most instances, however, it is the telephony aspect that remains the current policy focus (ITU, 2012). Regretfully, not all jurisdictions have taken the opportunity to extend their USO to either the internet or to broadband (OECD, 2012). Canada for example decided to rely on existing policies and target speeds instead (Ryan, 2012). In Australia, where telephony “*access and affordability ... [were] implemented as later add-ons to the original universal service regimes*” (Morsillo, 2012, 80.12), the current position is that the USO does not apply to the internet or the NBN. This is a matter about which several parties made submissions the RTIRC Review.

Access costs have a significant impact on the ability of an individual to acquire the basic digital skills necessary to engage in the digital economy. For example, although relatively close physically, the skills difference between residents of the United Kingdom and Ireland is noticeable. In the United Kingdom the percentage of an individual’s income needed to pay for fixed access is 0.85%, with 73% of its citizens having basic digital skills; in comparison in Ireland, where 2.2% of an individual’s income is required, only 53% have basic digital skills (European Commission, 2015). Similarly, Bulgaria (2.1% cost), and Croatia (3% cost) and Cyprus (3% cost) correspondingly have low (34%, 39% and 48%) levels of citizens with basic digital skills (European Commission, 2015). This serves to reinforce Helsper’s (2008) findings that “[t]here is a continued need to support people and communities in accessing technology and in acquiring the literacy skills required to consume and produce digital media both at home and in the workplace” (p.15). In the circumstances of rural and regional areas, submitters to the RTIRC Review noted that these costs are being higher than in urban areas.

Many jurisdictions now have the minimum level of appropriate infrastructure to enable internet access. As such should be considering the “*policies and strategies ... which make the Internet widely available, accessible and affordable for all*” (Tully, 2014, p.185). However, even with appropriate skills, financial constraints can impact upon an individual’s access as well as their acquisition of more than basic skills and thus lead to an ever widening digital divide (Oozeer, 2014). This divide continues to exist not merely between developed and developing countries (Martin, 2012; Warschauer, 2003) but also within developed countries (Unwin, 2013; Tsatsou, 2011); and between (Willis and Tranter 2006) and within age groups (Humphry, 2013). In the Australian context, for example, while mobile phone ownership generally may be relatively high, this does not necessarily translate into effective access to and use of those devices to access the internet. This is particularly so for those with financial constraints (Goodwin-Smith and Myatt, 2013).

It remains that it is governments’ role to take the lead to bridge the divide (Kummer, 2012) and ensure that their citizens are not disadvantaged through lack of basic skills (Newman, Biedrzycki and Baum, 2012). This will mean that individuals must be supported in order to make the most of the current infrastructure and access mechanisms (OECD, 2013). While such government support will come at a cost for the jurisdiction, it is one that citizens are prepared to bear (Global Scan, 2010). In some countries this has translated to specific internet access legislation and or policies. A ‘right’ of access, however, does not guarantee enablement.

Estonia was one of the first jurisdictions to view internet access as a form of ‘right’. In 2003 it prescribed a right of internet access by means of provisions that enable internet access in public libraries as well as access to select categories of public information. Access is facilitated through procedures established in Section 15 of the Public Libraries Act. Its recognition of this right places Estonia ahead of many comparable post-Soviet jurisdictions (Liebert, Condrey and Goncharov, 2013; Woodward, 2003), however while access is free, it is limited in terms of what information is accessible and the needs (and priority) of others who also may seek access. Further, in comparison to other European jurisdictions, the existence of this right does not translate into a proportionally higher level of citizens with basic digital skills (69%) (European Commission, 2015).

The recognition by Greece of a legislated right to access the internet occurred on May 27th 2008, when the Constitution of Greece was revised by Parliamentary resolution. Encompassed within its new right that “All persons have the right to participate in the Information Society”, as contained within Article 5A, is the right of citizens to participate in the “Information Society”. This right is enabled by the fact that “[f]acilitation of access to electronically transmitted information, as well as of the production, exchange and diffusion thereof” is an obligation imposed upon the State (Article 5A.2). However, the fact of the mere existence of

such right for some seven years does not translate into a more active digital economy; as only 45% of the population of 16-74 year olds have basic digital skills (European Commission, 2015).

The ability to effectively access the internet is crucial for the future. To suggest your choice of supplier or the type of network you are able to connect to would inhibit your ability to access electricity or water is ludicrous. It is equally so to continue to permit internet-access to be similarly restricted. It is incumbent on governments to facilitate internet access for all. Accordingly internet access should be protected as an essential utility service (Weiss, 2011; Wu and Lessig, 2003). As the UK House of Lords recognised there is a need to “*define the internet as a utility service that is available for all to access and use*” (House of Lords, 2015, p.2 [43]). For our collective future this is a suggestion the Australia parliament should adopt.

RTIRC REVIEW 2015

The *Telecommunications Review 2015* was undertaken pursuant to Section 158P of the *Telecommunications (Consumer Protection and Service Standards) Act 1999*, as to the current “*adequacy of telecommunications services in regional, rural and remote parts of Australia*” (Section 158P(1)). The Review’s Issues Paper was released on 17th June 2015, with the closing date for submissions being 15th July 2015. Written submissions were sought from all stakeholders, Public consultations also were undertaken by means of webinars.

As part of the Review, the RTIRC sought “*views on how the Australian Government and other levels of government, industry and the community can support access to telecommunications services that meet the needs of people living in regional, rural and remote parts of Australia*” (RTRIC, 2015, p.2). The Issues Paper posed 13 Key Questions, divided into four separate Chapters, for this purpose. Submissions were invited address the specific questions asked, however, submitters also were able to provide separate comment. To facilitate submissions, an option was available for submitters to provide a short online submission to each Chapter.

SUBMISSIONS TO RTIRC REVIEW 2015

There were 322 publically accessible submissions to the review. These were made by a variety of parties including individuals, telecommunications organisations, local government authorities, community and other groups. Each submission was qualitative in nature due to the nature of the questions posed and the open-endedness of the comment sought by the Issues Paper.

The two questions were of specific relevance for this paper, these are:

Question 1: Do people in regional Australia believe their reliance on telecommunications differs from those in urban areas? How does it differ and can you provide examples?

Question 12: Are there new or other services, the availability of which should be underpinned by consumer safeguards?

The relevant Chapters holistically sought feedback on:

Chapter 1 – How does the demand for telecommunications services inform this Review?

Chapter 4 – Consumer safeguards

A number of submitters elected to submit by using the online submission form. As such, this limited the number of question specific submissions. Further, a number of industry submitters elected not to respond to the ‘consumer’ related questions, resulting in either one or both of these questions not being answered. The paper presents not quantitative data but rather a snapshot of qualitative responses, separated between those made in respect of the relevant Chapters above, with those made in response to a specific question noted.

Chapter 1

Responses to this chapter reflect the benefit of appropriate access on the ability of those in rural and regional areas to connect with their ‘local’ and broader communities. For example, David Abrahams submitted that:

In my work I rely on quality broadband to be able to work from home and increasingly important part of working life. This enables me to reduce the need to commute along congested highways and railway lines. It also allows me to participate better in family and community matters.

Consistently with Mr Abrahams, in its summary in response to Question 1, the Australian Communications and Consumer Action Network (ACCAN) observed that:

Regional consumers are more reliant and have more to gain from telecommunication services. Where telecommunications services are not available regional consumers need to travel greater distances for work, to purchase goods, education, social interaction and essential services.

Of greatest concern was that individuals reported on the impact of the isolation they felt when their access was not available. In this regard Narelle Doherty reports:

If our mobile, landline or internet service goes down, people in rural areas can be totally isolated. As someone who works from home, I rely on these communication tools to make a living - when they don't work, I lose income.

As the RDA Barossa submitted, lack of access can have a detrimental affect for regions:

RDA Barossa sees the key issue as one where the regional/rural businesses needing fast internet and telecommunications to survive, grow and sustain jobs most, are generally those with the least access.

...

Failure to deliver high speed internet and telecommunications capability to regions concurrently with cities may actually accelerate regional decline.

The negative impact on lack of access to emergency services also was noted. For example, Catriona Ertz submitted that:

As a matter of safety, it is vital that we can contact emergency services from isolated and rural areas, particularly where natural hazards are more common such as snakes/flooding/fire or farm and agricultural-related accidents, and especially as we have 2 young children.

Chapter 4

Interestingly, a number of submitters did not respond to this Chapter in the online short format, or specifically to Question 12. One theme from those who did submit was that the Glasson Report's (2008) suggested model of a Communication Service Standard, should be adopted now. For example, as the Pastoralists' Association submitted:

A CSS that encompasses voice and data services in a technology neutral manner with appropriate standards for each service may provide an effective and useful framework for safeguarding consumer interests particularly in regional and remote Australia.

DigEcon Research also suggested that the Sinclair committee's recommendations regarding uniform national pricing. The Telecommunications Industry Ombudsman suggested a model for a CSS that:

encompasses voice and data services in a technology neutral manner with appropriate standards for each service may provide an effective and useful framework for safeguarding consumer interests particularly in regional and remote Australia.

Another issue identified was the need that adopted safeguards should include those to protect privacy and user security (Peter Crispin).

A more concerning aspect for the government, providers, the Telecommunications Industry Ombudsman and consumer protection groups is the observation of Jeffrey Davidson (similar to that of others) that:

The inability to raise concerns about the poor internet service with a responsible person or agency can be frustrating. No one seems to want to take any responsibility. I ended writing to my federal member of parliament to raise my concerns over the poor service we are receiving.

As Mark Lenny submits, this issue is one that is perhaps best address proactively:

Telcos should guarantee a reasonably reliable service of adequate speed for the customers location before signing up to a contract

DISCUSSION

The Telecommunications Industry Ombudsman in its response to the *Telecommunications Review 2015* succinctly described the issue for rural and regional Australia. That is:

In our experience, consumers (both residential and small businesses) in regional and remote Australia use and rely on telecommunications services in ways that are both similar and different to their counterparts in major cities. The similarities revolve around billing, credit management, customer service and complaint handling issues. The differences lie in the seriousness that no or poor quality services can have on the lives, livelihood and personal safety of consumers in regional and remote Australia.

A lack of access to high-speed broadband will have flow on adverse impacts for property use as without the core population to sustain regions, and to provide a minimum level of customers, essential services are unlikely to be provided. Enabling appropriate and sustained rural, regional and individual access to the internet should be a core component of any relevant government policies. As submitters to the RTIRC note, current programs and access may not adequately address the ongoing needs of all Australians. This is consistent with both past (Willis and Tranter, 2006) and more recent research (Craddock, 2015). This is a concern for the regions involved, as well as for Australia as a whole. As Unwin (2013) noted “*the Internet, alongside other digital technologies, has increasingly marginalised those without access to it*” (p. 1).

Where users are not already engaged in the digital economy they will need more than just cute lady bugs as seen in recent advertising campaigns to encourage adoption. Broad funding of programs for individual enablement will be required in addition to Government information campaigns focussed on accurate and timely and time-focussed information provision. What is required is clear, targeted, community based awareness-raising and training as to the types the services, content and sites that will be available, how to access them and what equipment will be required in order so to do.⁴ Information brochures must be easy to understand and targeted to what must be done and providers must be easily accessible.

Assistance may need to be provided on an ongoing basis. An appropriate policy could enable the provision of financial assistance packages to ensure that eligible Australians are able to adopt as well as maintain high-speed broadband access. This could provide subsidies to eligible persons to assist them to acquire hardware and software, cover in-home training to enable them to undertake broadband-specific and general computer skills training, and enable them to maintain their connection. As previous European experience shows, specific attention needs to be given to those in rural areas (European Commission, 2007). Extra financial assistance may be required for those living in remote areas and will be required for Australians with disabilities to enable their access.

Australians with financial or physical difficulties may not be the only ones requiring assistance. General information and assistance from reputable suppliers may need to be made available to all Australian.⁵ This could be provided on the basis that, for the payment of a fixed, nominal fee, a qualified person would attend at the individual’s home to review their current access methods, computer equipment and software, and make recommendations for upgrading as necessary. To ensure safety, impartiality and privacy, the qualified person should not be permitted to refer to any business with which they have an association, and would have confidentiality conditions imposed by the terms of their appointment contract.

Individuals need direct, easy to read and location-specific information provided to them as to what, when and how they will access the NBN or any other high-speed broadband connection. In the circumstances of the ongoing variations to Telstra’s Migration Plan as regards Disconnection Dates,⁶ it is imperative that individuals are properly and proactively to be informed directly by the Government (through the Department of Communications) as to what is happening and what to expect in the process. Primarily, however, and very simply we all need the same high quality and reliable access and we need it now.

4 For example the Tourism Tasmania, ‘Digital Coach Program’.

5 For example the former Queensland *ClimateSmart Home Smart* http://www.climatesmarthome.com/home_service.html

6 *Telstra Migration Plan and the transitional arrangements for In –Train Orders July 2015*, 27 July 2015 <http://www.accc.gov.au/system/files/Telstra%20Migration%20Plan%20and%20the%20transitional%20arrangements%20for%20In%20E2%80%93Train%20Orders.pdf>

CONCLUSION

As more government and private services are moved to the online environment, those with lower or no access to high-speed broadband will find themselves at a disadvantage. This lack of physical access also is likely to negatively affect property values, which the author will seek to examine in future research. The progression of the NBN rollout therefore will have ongoing social consequences for Australia, as well as property related ones. The research indicates that despite assertions to the contrary, the transitioning of Australia to the digital economy is inhibited.

Societally, the problem for which we must find a solution is to how to ensure access to the internet to all while working to ensure the continuing development of the physical networks needed to support the internet and high-speed broadband. The solution is two-fold. The first phase is to afford access to the internet the same international recognition as other fundamental human rights. Achieving this leads to the second phase, although this is not dependant entirely upon successful attainment of the first, which is the adoption of relevant domestic government policies and enactment of related laws to protect and promote access to the internet. It is the second phase, which is the role of the Australian government.

POSTSCRIPT

The final report from the RTIRC was delivered after the original of this paper had been submitted for peer review. The Report was delivered by the RTIRC on 23rd August 2015 (RTIRC, 2015A), however, it was not made public until after it was tabled in the Australian Parliament on 22nd October 2015. It made 12 Recommendations, which included *inter alia*:

Recommendation 4 – The Australian Government should consider co-investing with state governments and carriers to support upgrades to regional state-based public safety wireless networks that could also deliver mobile coverage improvements.

Recommendation 5 – To make the most efficient use of Australian Government funding of major public infrastructure in regional Australia (such as transport corridors and utility facilities), there should be a requirement to incorporate a telecommunications deployment or upgrade plan as a precondition of that funding.

Recommendation 8 – Current consumer safeguards as they relate to the STS are increasingly irrelevant. The Australian Government, in consultation with industry and consumer groups, should develop a new Consumer Communication Standard for voice and data which sets technology neutral standards in terms of availability, accessibility, affordability, performance and reliability.

Recommendation 9 – The Australian Government should establish, in consultation with industry and consumer groups, a new funding mechanism, the Consumer Communication Fund. The Fund would replace the current levy and support loss-making regional infrastructure and services with scope to include subsidy arrangements for the non-commercial NBN services (Satellite and Fixed Wireless) as well as social equity elements that merit funding under the proposed Consumer Communication Standard...

Recommendation 11 – NBN Co and the Department of Communications should examine ways of providing better information on the timing and the range of technologies being rolled out across Australia.

The effectiveness of these recommendations is yet to be ascertained as the federal government has not yet responded. The author expects that the financial implications will impact significantly on that response. How or in what form, or with what time frame for implementation of any of the recommendations, the government will respond remains to be seen. And in the meantime we wait, and wait, and ...

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