

Submission for the Committee of the Regional Telecommunications Review

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I was unaware of the recent regional telecommunications public consultations, but even if I did, the closest meeting was at Ceduna which is 350kms away.

However, I just wished to point out some practicalities and observations I have regarding telecommunications across rural and regional Australia, and my particularly region in particular.

REVIEW

Late 90s Telstra's CDMA network was operating. however, data devices were generally not easy to obtain, it was slow, expensive, and had limited coverage

The progress in data/internet connections have slowly been progressing generally from initially no availability- around 2000

early 2000s limited dial up

mid-2000s the cost of dial up drops allowing more extensive use
ADSL begins to be rolled out in metropolitan, and larger regional centres

late 2000s Subsidies two satellite services become available-- a big improvement from dialup, was almost comparable to the slower adsl speed at the time, but was generally much more expensive, and generally unflexible, and not at all mobile or relocatable

Parallel to this, was the rollout of 3g network, particularly telstra next g network, which allowed for reasonable data speeds. However, this was significantly expensive for the first ~4 years that it was on the market. Additionally coverage issues are significant, and often times, Telstra cellular network. The use of 850mhz, combined with the extended timeout options with the service, allowed for longer distances to be covered by individual cell towers

Other 3g networks by competitors (3,Optus,Vodafone) which were a lot more cost effective, yet lack significant coverage in regional areas, plus they initially launched on 2100mhz networks which while have a lot of bandwidth, lack the penetration and propagation abilities of the 850mhz networks

2010- Telstra started to drop the cost of data services connected through their Next G network.

2010-- Optus (and to a limited extent Vodafone), have started to significantly invest in Regional Australia, in areas that previously only had limited Telstra Next G service

Summary

Since 2010, I have been installing 3g services for friends, family, and neighbours as the telstra 3g/next g connection cost have come down, using a combination of careful identification of specific

celltower locations, and using data modems with external aerial connector jacks together with directional Yagi aerial to obtain internet connections 20 to 30km away from towers into locations that would not normally receive any phone coverage. I have done this both on the Telstra network, but also on the Optus 900mhz network. This delivers a vastly superior service to the two-way satellite services people had previously both in terms of quality of service and its cost effectiveness (both for the consumer, and also the federal government—who tends to end up subsidising satellite connections)

I would wish that information about how to do this and what is involved including tower location, the different hardware bit and pieces that are needed, and the general positive aspects of using this approach to get an internet connection, should be more widely know and publicised. Only by reading online forum, and other research did I become aware that this was possible

Additionally, I wish to **commend** Optus for their recent investment into the region I live in Eyre Peninsula in regard to a large number of cell phone towers which would currently cover at least 90% of the area of the telstra network in the district and is still expanding. Having said that, the Telstra coverage is in itself, far from satisfactory, and Telstra seem reluctant to further invest to bring its service to a significant number of people and business in the productive agricultural regions of Eyre Peninsula. Telstra would currently have over 95% of the mobile phone business, but if people actually knew able the availability,coverage, and cost effectiveness of the Optus network, I think more people would switch.

Country people are a pragmatic lot, with most people I know, specifically purchasing mobile phone with aerial jacks (though unfortunately they only appear on cheap phones not on more modern smart phones which is a problem in itself), and will have an external aerial for their phone on the roof of their house, cars, utes, tractors, and harvesters. However, this delivers far from continuous services, and particularly with some of the developing agricultural machinery, the ability to have a continuous IP (internet connection) is starting to be a significant consideration. When you have harvesting machinery which is worth half a million dollars, to have some of its functionality not available in our area is significant.

In the district I live and work in , agricultural enterprises, and those working with them are significant businesses with large annual revenues, and they appreciate the value of the technology. However, they pay for phones and plans that might only work 40% of the time, which does not always feature in the cost-benefit analysis of installing additional cellular towers. Often times the initial towers that telstra placed into the regions where installed on the cheap into coastal towns, and lack sufficient geographical advantages or even actual towers. In the long run, while this brought a service to the coastal parts of the district quicker than it would have been possible, in the long run, in has hamstrung the region by cherry picking the denser population centres while leaving it even more uneconomic for the rest of the district.

Unfortunately what is lack, is mechanism to involve the community (or different concerned communities) in way to may it easier for telecommunication companies to invest locally. There is many both private and public goods with have sufficient mobile cellular coverage, if there was a way for both local communities and local businesses to co-invest into establishing or initiating the establishment of improved cellular coverage, it should be investigated with the telecommunication companies. Whether this is something like, locally sources discounted capital, or easy mechanism for local communities to 'fund raise' into aspects (land,power etc) of the establishment of a local tower this should be looked into.

In regard to the NBN, I do not think enough information has been made available regarding the technologies intended for rural and regional Australia. My local district (Ungarra) has been slated for neither fiber or Wireless. While I understand the reasons for not having fiber here, I do think more work should be undertaken to make sure as much area is coverage by the wireless part of the NBN as possible because the install cost of so many satellite NBN services, would be many times greater with the population density we have even in this district, than it could possibly be to install wireless base-station equipment. Additionally, while I understand that there has been significant progress in Satellite internet delivery technology, I can not ever envisage a time where this will be able to compete in latency speed, and cost effectiveness of terrestrial based systems therefore I would urge those involve to not so quickly to condemn us to a suboptimal solution if it is not absolutely necessary

Finally I would encourage you to ensure telecommunications companies publish their coverage maps in the most user friendly formate as possible. Vodaphone overlays their coverage maps with 'a Google Map Aerial' underneath, and recently Optus have start doing something similar with their coverage maps though they just used the road network, but Telstra coverage maps are the least user friendly , and it makes it difficult in emergency management situations which I have previously been involved in the anticipated where and when remote workers might get coverage.

Question 1. How is the use of telecommunications services; and information and communication technology (ICT) evolving in different industry sectors and what is the impact of these changes in regional Australia?

I work in Agricultural, and Agricultural and NRM consultancy. ICT has allowed for the increase in the amount, and timeliness of information regarding to marketing, business management, disease and pest outbreaks, and general correspondence. However, parallel to this is the rising expectation of other industries and sectors that we work with that we will be available to do business for of the time, which is a marked change from when a lot of business correspondence was handled out of hours.

Question 2. What is needed to extend and accelerate the role of telecommunications services and ICT in delivering benefits to regional economies?

Tailored and district specific information is often lacking. I can get the world news on the net a lot easier than local news. Also general connectivity is a problem. Because the 'out of the box' solutions for ICT deliver don't generally work in regional economies, often times people are unaware of them , or just assume that it isn't relevant. Better mobile telephony coverage and reception would go a long way to improving the role of ICT. SMS technology is generally pretty well received as it doesn't necessarily require continuous coverage and can send mass messages to people. In terms of agricultural smart-phone applications, I think there is tremendous potentially for these, though at the moment, this is still very much in it infancy. Unfortunately these style phone tend to have poor reception and lack external aerial jacks.

Question 3. The committee would like to hear from businesses and organisations about their participation in, experiences of, and expectations about, the digital economy. Examples could

relate to specific sectors such as agriculture, mining, manufacturing or retail; business-to-business activities; productivity; teleworking; and the development of new knowledge-based industries.

I've routinely research products and services that might not be available locally, or for which little information is known. In terms of connecting with suppliers and customer, I think that area is yet to fully take off especially in business-to-business situations. I know of people in the region that have small e-commerce businesses supplying things like boutique fibres for garments. Generally connectivity does limit the flexibility of such business as they require people to be very desk bound in a region with the rest of the occupations rely on people being mobile.

Question 4. The NBN will help the range of online government services to continue to expand. The committee is interested in views and experiences about engaging with government services online, whether local, state or federal.

The BOM has an excellent website but often times you have to know what you are looking for, but often times other government website are rather poorly layout to streamline direction to the material needed. Web seminars and discussion forums may become more important into the future. I think of how I missed the public consultation for this Regional Telecommunications Review, and consider how exercisers like this might be more availability into the future with the resources of the NBN

Question 5. What are some examples of what you want to see happen to encourage greater participation in the digital economy by people living and working in regional Australia?

Maintenance of good postal service is importance as this is often the 'hard face of the digital economy'. It would be good to foster somehow, 'communities of digital innovation in regional Australia' and to share idea regarding problems, frustrations, and challenges of working in the area. Case studies of regional people using collaboration tools would be good. It would be good to have a institution or agency that could advocate for different way people could use the technology, and also advocate for regional Australia with the telecommunications companies

Question 6. What are the main barriers to regional communities increasing their use of information and communications technologies and do you have any ideas for ways in which regional communities could progressively overcome these barriers?

Mobile Converge and critical mass to develop either tailor solutions or give example of adaptation of current technologies to the particular issues of regional Australia

Question 7. Do you have ideas for ways in which high-speed broadband could enhance the

delivery of education and healthcare outcomes in regional communities?

In terms of education, high-speed broadband would allow more educational material to be a two way interaction, and also in an increased non-text based form, be that live lectures and tutorials, more recordings, and online real-time problem solving.

Question 8. The committee would like to hear from individuals and organisations about their participation in, experiences of, and expectations about, online health and education service delivery.

I've participated in Online/distance universities units and courses, and I have to say they are generally inferior to on-campus version, but this has often to do with them lacking vauble classroom interactions-even with on-line discussion boards and the like . The scope of topic you can study in e-learning are generally quite small in the more technical fields so it would be good if more effort was put into working out ways to teach these better using online methods. It would be good to promote communities to take an interest in their own 'online presence' ie the local communities/town/historical wikipedia pages

9: Are there examples of the internet being used by Indigenous Australians in ways that take advantage of economic, social or cultural opportunities?

Question 10. What further initiatives should the committee consider to improve awareness within Indigenous communities of the opportunities provided by improved broadband services?

Maybe something like a Indigenous Youtube channel, and resources (hardware) for more remote communities to generate 'content' to be shared across indigenous communities

Question 11: What recommendations do you have for remote communities to take advantage of the progressive increase in availability of high-speed broadband?

I would like to see some level of government funding go towards, assisting committees and boards adjust to maybe having some level of teleconferencing occurring as a mainstream reality. Most groups, even if they know that some of these technologies and techniques are possible, unless they have first had exposure to them, there will be a reluctance to take them up. Something like a small CRC for remote eduction, health, and community functional could possibly be the simulator/catalysis for pushing forward in this area, and for Australia to be a world leader in this area

Question 12: What more could be done to improve digital literacy amongst Indigenous Australians and within Indigenous communities?

Start with something Indigenous communities can use, and take with them. Start with mobile phones and work up.. or use 'flash game' approach to introduce them to being familiar to using the technology while teaching and introducing health promotion

13. Have you been able to readily obtain information to improve your mobile phone coverage, such as using an external antenna or choosing particular phones that are better suited to rural or remote coverage?

No, it is actually quite hard to obtain information about the use of external aerials and antenna. On all the phones I've looked at, none of them detail on the retail box whether they support an external aerial or not. There are some phone sold by Telstra that do, but none so far that are sold by Optus. I'm not sure if it a problem with it not being a bit issue in other markets around the world, but it is a big problem for us. Thankfully most 'USB data dongle' do support these, (and I'm currently using one at the moment)but often times, it is quite involved to track down the specific adaptor need for your particular model. Importantly, Smart phone tend not to (I have yet to find one that actually does) support external aerial, and while it is possible to use passive induction, in my experience these do not really work. All in all, the amount of documentation, and literature to help people set up aerial and antenna is actually really poor, and I would love to see the whole thing better explained and the fact that it is the same issue both with telstra's next G (850mhz) and Optus yes G (900mhz network). I recently showed some neighbours of mine how they could obtain a good (1mbs) internet connection by using approach like this to receive a net connect from an optus tower 25kms where they previously had only been using dialup on their one phone line. They were able to go from barely getting emails to being able to actually open a 'Youtube' clip. However, if I didn't have experience in this and was willing to take the time to check (I would note that the local Optus shop lent me some equipment, and I supplied the rest), they would have continued to struggle with the dial-up service

Question 14. Are you aware of emerging technologies or initiatives that could be used to improve mobile phone coverage in regional Australia?

The Key to improved coverage is more towers in any cellular network. If LTE moves to 700mhz it might help with more bandwidth, but at the moment, more towers are the key, and well placed towers. Clear and transparent costs for setting up a tower would be useful as then telecommunications companies can not hide behind the statement ' that is just isn't economically viable.. or that it is just too expensive' . With increasing amounts of telecommunication hardware being made in China, and deceasing unit costs, the buy in for cellular towers isn't what it used to be.

Question 15. What have been your experiences with satellite mobile phones?

Limited, and prone to problems I'm afraid,

Question 16. Are there any significant consumer issues specific to rural and remote communities that you consider are not being addressed?

Question 17. Do people in regional areas, particularly those in vulnerable or disadvantaged groups, have appropriate access to information about their consumer rights and the service options available to them?

Well, people often pay for mobile telephony services that actually don't work very well, but still get charged the same as if they had near continuous services..

Question 18. If not, what additional strategies could be put in place to assist individuals and groups to better understand their consumer rights and responsibilities?

Question 19: Are there specific cybersafety challenges that arise from the way that communications technologies are being used by regional, rural or remote communities?

non

Question 20: How can education and awareness of the risks of using mobile devices, such as smartphones, be improved for consumers in regional areas?

Unsure what risks you are referring to in particular

Question 21. Are there any other issues relating to telecommunications services in regional Australia that you would like to bring to the committee's attention?

As ADSL D-slams are taken out of exchanges when the NBN rolls out, is it possible that some of these could be re-located to communities that do not have any broadband yet, and aren't due to receive faster connections till somewhat later? My town and community, Ungarra, on Eyre Peninsula, could benefit from having a Dslam placed in its exchange as people would be able to get broadband straight away. It would be close to getting the 100 or so account demanded by Telstra a couple of years ago when it was installing DSLAMS, but it was never promoted. The exchange

already has fibre back haul so that wouldn't be a problem. Again, I would like to see the MAXIMUM amount of towns and communities receive NBN wireless, because in the long run this has to be more cost effective, and more future proof than even the best satellite connection. Even if the wireless connections only run at 20mbs, this will still be noticeably better than the satellite connection at 10mbs.