THE IMPACT OF BROADBAND TECHNOLOGIES ON THE ECONOMIC DEVELOPMENT OF REGIONAL COMMUNITIES

RESEARCH REPORTS

Relationships between Broadband Adoption and Business and Community Development: Qualitative Analysis

DRAFT

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Executive Summary

In this research, qualitative data was collected to help scope and inform a subsequent survey of broadband users. Semi-structured interviews were conducted with four people in Gympie, three in Roma, and five in Longreach in order to explore their perceptions of broadband.

The main findings of the research are as follows:

It appears that broadband is most widely employed in Gympie, followed by Roma and then Longreach. However, broadband availability depends on exactly where a business is located – those outside the main centres have only recently have been able to access broadband. Respondents were aware of various government and telco promotions of broadband and knowledge of its availability was believed to be good.

Broadband is viewed as having potential to build communities, by breaking down communication barriers, to integrate local businesses, and to overcome problems of isolation. Potential negative impact of addiction and high costs were recognised, as was the issue of connecting older residents.

In business, broadband can cut costs, improve communication, give greater access to information, make bill paying and banking more convenient, and improve services offered. It is regarded as very important in tourism, but its value to other industries such as agriculture is less clear. While giving business the opportunity to access a wider range of potential customers, new products, and markets, it also allows potential customers to compare prices and shop elsewhere more easily.

Access to broadband remains an issue, particularly for those located out of town, or in disadvantaged groups. There is believed to be confusion about the contracts for broadband, and concerns were expressed over the cost and reliability of the system, and the treatment of telco competitors. However while technical issues in the initial connection were an issue shortage of skilled staff was not identified as a problem.

Broadband is seen as very important to each of the communities, with expected increased use in the future as connectivity is improved, costs reduced, and people become more familiar and adept with the technology. However support may be needed to ensure that access to available and affordable to all sectors of the communities.
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Introduction

The development of broadband technologies in regional areas is a major priority for state and Australian governments. Arguments are generally made that improving access will provide benefits to businesses and communities and that this type of infrastructure development is an important contributor to regional growth. While governments have provided the rollout and support for broadband development, it is not clear how the provision of technology infrastructure has affected regional communities.

To address these issues, in Queensland, a qualitative data collection process has been undertaken. This involved interviewing key stakeholders in their representative regional communities. Primary benefits of collecting qualitative data are that it helps to identify key issues and trends, provides a rich source of information from a representative sample of stakeholders, and allows direct interaction between researchers and the community of interest. In this project, the community interviews were conducted in the design stages of the project to help scope and inform the subsequent quantitative data collection. However, the results of the qualitative data collection are important in their own right, and are the subject of this report.

Semi-structured interviews were conducted with four people in Gympie, three in Roma and five in Longreach between 2 May and 5 May, 2006. The interviewees were business people including some representatives of Telstra, and people with an involvement in regional development including mayors, development officers and council employees. Interviews lasted for up to an hour with each of the participants.

Findings

Getting Connected

People in each area expressed differing views of how long broadband had been available, depending on where each person was located, what technologies made up broadband, and what their prevailing perceptions were concerning availability. Contrasts were made between ISDN and ADSL, transmission speeds and the cost structures of early connections. These appeared to impact on perceptions of availability. Those located outside the main town of Gympie and Roma were only recently connected. However, within the main centres, it appeared that broadband was most widely employed in Gympie, followed by Roma and then Longreach.
When asked about their knowledge of government connection and incentive programs, respondents in all three centres identified the HiBis program and they were familiar with the deals being offered by Telstra and alternative suppliers. One respondent mentioned Sky Mesh, and one noted the helpfulness of government websites:

Sky Mesh (satellite) was launched in October-November last year…. found out about it in the local newspaper...the federal government gives funding to any interested businesses through HIBIS; free installation.

In Longreach it was claimed that a promotion program some three years ago resulted in good uptake by cattle stations:

The uptake at cattle stations was initially good with the promotional deal 3 or so years back... HiBis scheme was good but does not get advertised any longer and ... the promotion is still running... If people are unaware of broadband technology and availability than they must be living under a rock...

In Gympie, champions or advocates of broadband connectivity were identified in Tin Can Bay and Rainbow Beach, but otherwise the main impetus for broadband came from Telstra or government sponsored incentive schemes. In Roma, the key drivers of broadband derived from a combination of factors:

- Queensland Health

Queensland Health was the main instigator in achieving broadband access. Qld Health were initially using a 9.6 kb connection to transfer medical diagnostic reports (which are quite large in size) between service centres (medical facilities. The connection speed was extremely slow and inadequate for their requirements hence Queensland Health pushed for a faster service connection

- Transmission Rates

Email speed and capabilities...once businesses had experienced the speed difference, dial-up connection speeds were no longer acceptable.

In Longreach, Telstra, the government and other telcos were identified as main drivers promoting broadband.

Telstra were the initiators... public meetings were held to gauge the interest in Broadband and demand registers revealed when interested parties were great enough in number to justify the roll out.

Telstra were upgrading their own systems and government was actively engaged in enhancing “life” in rural/regional/remote areas to come in line with the city.

ISPs are aggressively promoting broadband uptake...other Teleco providers are promoting their own deals with some offering free modems or discounted rates for a set period etc

However, government use of technology was seen as distinct from that of the community, whereas in Roma, its use by Queensland Health was identified as a driver.
Impact on Communities

In Gympie, two of the respondents focused on the use of broadband in community building by breaking down communication barriers and considering the differences between the generations. An example given by one respondent was the community reaction to government announcements about the possibility of dams being built in the Gympie area:

*They want to create a dam in Mary Valley (flood the whole thing) and the Mary Valley community is now very active (re the proposed dam) on the net; better communication thanks to broadband. ‘Always-on’ function most important, more than speed; it enables people to constantly communicate. Dial-up keeps the phone busy. It’s not about broadband, it’s about communication. Every time there’s something up with the B&B, all clients get automatic updates online; can’t do that without broadband.*

Apart from community building, broadband is also seen as important in integrating rural businesses, easing restrictions on where to locate businesses, and allowing businesses to advertise as a group. Home businesses and micro businesses are identified as having much to gain from broadband use. With online shopping, time is saved which leaves more for family and other chores. While there may initially be a decrease in face-to-face interaction, it was felt that broadband will actually bring people together.

*Physical distance between communities cannot be changed however broadband connectivity overcomes that communication distance. Rural communities have a tendency to stick together and broadband access opens the communications and information of the outside world.*

Roma respondents had more mixed feelings about broadband. One respondent noted that there is much more networking since broadband was adopted and that it overcomes problems of isolation.

*Broadband connects isolated areas to the rest of the world. Roma is a hub; there’s nothing in the South, nothing in the West. Five hours to the North is Emerald and 3.5 hours to the East is Toowoomba. Before broadband Roma was very isolated, but not anymore thanks to broadband.*

Another respondent didn’t think it was particularly useful to farmers, or that businesses use it to its potential. The negative impacts identified included addiction to online shopping and gaming, high downloading charges causing financial distress, and increased time in front of computers and less time spent with family.

*Some staff members stay up all night bidding on ebay or gaming online and then struggle to complete the day’s work. Real problem is that ultimately employers bear the cost of staff that are unproductive / inefficient due to tiredness*

It was also suggested that older people were more likely to take a negative view of broadband.
Older people are afraid of new technology; they aren’t confident (afraid to press the wrong button etc.). They click on ads, get spy-ware and become paranoid. But you can’t teach people computers; it’s more about confidence/experience.

In Longreach, the impacts were viewed mainly as overcoming problems associated with isolation. Broadband was seen as providing the chance to improve education and access to knowledge, access better health services, improve library services and generally to allow people to connect with the world.

Broadband has increased educational prospects for home users whether it be through formal channels or simply the ability to access knowledge that was not available before... the Queensland Library is involved under an initiative ... that educates communities on computer use and internet access.

The Long Reach Shire Council and library are currently developing an educational program for the community on general computer use and internet access.

At this stage there may be some fear in the community about broadband, and usage is limited. Equity issues were raised regarding the availability of broadband to disadvantaged groups in the area.

Most of the community would have benefited with broadband increasing health services through enhanced ability to send and receive medical reports.

The community also has special needs access available with computers with disability aids for the physically and visually impaired

Business impacts

In all three areas, respondents identified how broadband is changing the way that business is conducted. Broadband expands the marketing capabilities of businesses, saves time and is more convenient for bill paying, cuts costs of data management, improves communication, gives greater access to information, and makes business owners more accessible. The importance of broadband in areas where there are no banks or post offices to conduct business was noted and it was claimed that it improves delivery in rural areas.

Broadband saves time; dial-up possible, but takes 5 times longer. A local lawn mowing contractor needed broadband due to client demand for provision of online payment of accounts, as bank statements come only once a month; he needs to check regularly who has paid him and who hasn’t. Especially further/remote communities capitalise on broadband; e.g. if there’s no bank/post office etc. in the town.

In all centres, most respondents agreed that broadband increases competition by giving potential customers access to additional information about other sources of goods and services and prices charged elsewhere. This does cause some problems for businesses as customers are able to search the Internet for competitively priced products and demand lower prices. One respondent claimed that he could not make any profit on goods which are advertised online as the recommended retail price barely covers his costs when freight costs are included.
[a retailer] has just ordered a quantity of printers for which his sale price for once will be below cost once freight costs have been taken into account. There is little he can do about this situation as the recommended retail prices for the printers are listed on the Canon website. Once again the main means of making any money out of such deals is through associated sales, in this case ink cartridges when the customer returns.

As a result of increased online sales, another respondent expects that retail sales will fall, warehousing types businesses will increase, and the nature of CBDs will change to become more socially oriented. While competitive pressure might increase, broadband also gives businesses more access to a wider range of potential suppliers and new products, allowing them to compete more effectively and efficiently with the outside world. It also has advantage in giving access to customers (e.g. in tourism for taking bookings over the Internet).

Business operators in the tourism industry have their internet on all the time now, for bookings etc. Tourists go to towns where there’s broadband

For individual businesses, broadband can provide a competitive advantage if competitors do not have access to it, but it was generally agreed that broadband did not increase the customer base. However, areas without broadband would not be able to compete as well.

[Respondent] does not believe broadband has increased his competition for businesses in the area in general but has definitely improved his contact customers/clients.

Access to broadband has had some competitive effect. [Respondent] is increasingly experiencing potential customers quoting product prices found on eBay as a benchmark when looking to purchase new phones/computers. Some of these prices are equal to Richard’s product line cost price which he cannot compete with… the potential customer may not necessarily purchase the item off eBay but that price is certainly used as the benchmark and they may shop around even as far as Brisbane (where they may plan to travel for the weekend etc) to obtain the product at a similar price.

Broadband does not appear to have any substantial effect on staffing needs. Younger people are perceived to be adept at using computers. Technical problems in the initial connection to broadband were an issue, but ongoing use does not need any special skills in staff. Older people may need some training because they are generally less knowledgeable and experienced users of computers and the Internet.

The number of staff needed may decrease in some jobs, but it is believed that more staff will be needed elsewhere:

Any skills that might be associated or necessary to use broadband is not an issue that impacts upon the unemployment rate. The skill shortage in the region remains predominantly within cleaning, waitstaff, trades/machinery operators.
Key Barriers

In Gympie, access to broadband was identified as an issue, particularly for those located out of town. Depending on location, respondents were using a variety of means of access, and these presented technical problems in initial connections.

[One respondent] reports that broadband access is not available at her property some thirty kilometres out of town with wireless being the only option and there is also no mobile phone coverage. [a second respondent] resides some 3 minutes from the town centre and has an ADSL connection. [A second respondent] however is a short distance out of town and is on wireless access. James adds that some small pockets on the southside of town are still without broadband access.

The ADSL service in town is still reasonable but the surrounding properties are still on dial-up connections although[respondent] believe[s] some properties have taken up the subsidised satellite offer.

There were also technical problems with the system in coping with increased demands. In Roma, as in Gympie, access within the town was not an issue, but there were access issues in rural areas. There were very critical comments about Telstra and its handling of applications for broadband connection.

The existing ADSL connection is “fixed / rigid”. Even the pending release of ADSL 2+ technology whilst presenting obvious speed benefits will still be restricted in application relative to distance for the exchange…a governing feature of existing ADSL. Further to this is that Telstra is under no real pressure to initiate ADSL 2+ while no viable competition exists. ADSL 2+ will come but most likely at Telstra’s leisure.

There were also comments that decisions by Telstra on technical issues are reducing connection speed to new estates. In Longreach access was a major issue outside the town. The lack of power in remote communities, the need for expensive satellite connections, and the lack of access to computers in small businesses and indigenous communities are all seen as obstacles to broadband use.

Power supply is an issue for many remote communities as not all have grid supply
Satellite installations are a barrier as the sign up costs (like a minimum of a 4 year deal) equates to circa $4800- and the dish/service is not transferable between parties
Some small businesses do not have access to computer and given recent droughts and financial constraints that many in these areas are subjected to, they are unlikely to outlay for a computer.
Indigenous do not have access to computers.

There were differing opinions among the Gympie respondents about whether people can understand the potential usefulness of broadband or are confident to use it, and it was believed that marketing was not providing the most useful information to potential customers.
[One respondent] further adds that the marketing potential that broadband allows is possibly largely unrealised...Telstra’s marketing campaign focuses on the speed of image uploads with bagpipes in the background...this may have little meaning to many.

Roma respondents though that people were concerned about security, and that older people in particular lacked the confidence and experience to use broadband. One respondent suggested that social dialogue is different in the country and would rely more on personal interactions, and that basic dial-up would serve the needs of many people.

*A traditional country upbringing presents different social dialogues than that found in the city and communication methods of doing business is different following more traditional means such as physical meetings or phone calls...that one on one personal interaction is still a strong feature of business in the bush. This is probably particularly a barrier for any uptake of broadband by businesses owned/operated by older generation people. The husband and wife may generally not be as computer or broadband savvy but the children are generally pretty clued up in the use of both.

They may also not consider broadband because they were aware of the high costs of access in earlier years.

*Costs of broadband access were higher in the early days so a lot of people do not give any consideration to broadband access down the track. Also in some circumstances at least the basic dial-up access serves the purpose required...checking email and the odd search for information...some may not see the need for broadband access let alone consider any potential speed of access of any great benefit.

In Longreach as in Roma, older people were identified as perhaps needing more support, and comments were made about the difficult of understanding contracts.

*Probably older business people (who don’t uptake broadband) see negatives.

This is probably particularly a barrier for any uptake of broadband by businesses owned/operated by older generation people. The husband and wife may generally not be as computer or broadband savvy but the children are generally pretty clued up in the use of both.

**Major broadband issues**

The main concerns in Gympie were about how broadband use could be expanded or used more effectively. One respondent focused on the need for customers to trust the broadband provider on issues such as security and then to learn to manage their computer systems, files, and time.

*As a customer you need to trust the company (that provides broadband). There could be security issues, but it’s mainly a perception thing for new users. It’s just like a bank e.g.; you need to trust the institution.

Other respondents discussed how to develop more interest in broadband by school children, older people, local businesses and other members of the community. The need to control misuse was also mentioned.

*The younger generation/school aged kids are typically more adept at computer use and generally don’t have a problem with computer or use of broadband.*
You keep learning from mistakes (like losing data); you need to keep upgrading yourself with computers/new technology.

You need to plan your time, as broadband brings more information; you need to prioritise.

In Roma, the cost and reliability of the system was the major issue. Telstra is described as having a virtual monopoly and their system can be cut, leaving businesses offline for days.

Broadband plans are too expensive and the market is not big enough to warrant any competitors leaving Telstra with a monopoly on the market.

Their prices were also criticised. As with Gympie, control of spamming was an issue. It was noted that most businesses do not have a website and that the community website is inadequate.

The accessibility of broadband needs to be managed appropriately as the introduction of broadband has increased issues such as spamming etc.

One Longreach respondent was very critical of Telstra, accusing it of lacking ethics in the way that they operate and treat competitors. The company was also accused of taking longer than their stated standard time to process applications and connect customers.

Telstra’s ethics are lacking and does not like the way they operate. Telstra have not realised that or refuses to acknowledge that competitors have fixed priced plans…Telstra own the infrastructure so why not operate on a level playing field with other ISPs. Telstra market the hardest but have also lost many customers and are now actively trying to draw those customers back.

Potential problems were noted in the reliability of their service although there have been dramatic improvements with upgrades infrastructure. There was comment that Telstra is losing out from the Demand Aggregate Project. Another respondent noted the lack of computer knowledge in the area, and the issues arising because many websites now are geared for broadband connections.

Needs/vision for Broadband

In Gympie, the respondents see the provision of broadband as essential in the area. People coming through the education system using computers and the internet will take up broadband, and those moving to the area with new skills will be able to combine them with the technology. Businesses may be forced to use the technology by their customers, but it also presents new opportunities to compete using online businesses. Those who do not have broadband will be at a competitive disadvantage. Broadband connectivity will help to overcome issues of distance and will also allow small businesses to work together to keep them viable. While use of broadband is increasing, there will be much greater use in the future. Integrated broadband technology/services (3G) and wireless will take over.
Changing market: In the U.S ~75% of personal computer sales are notebooks/laptops compared to ~50% in Australia. In Roma this figure would be approximately 25%. The mobility of 3G technology is likely to increase the sales of mobile components.

Online security cameras are an area of great interest and enquiry...such systems really require a faster network to run at optimum and 3G technology will meet this requirement.

Roma respondents also believe that the future will see much greater use of broadband. Current technology is limiting what can be done, and Telstra may eventually introduce higher speed technology, but the major advance will be with 3G technology. Tourism is seen as the industry that is leading adoption, and other industries will follow as people become more adept and familiar with the technology. Resistance to its use will fall. It will be used increasingly for networking.

In Longreach, the big changes will be in improvements in technology and lower prices. Fibre optic cable, 3G and ADSL2+ will bring higher speeds and lower prices.

Fibre optics cable runs from Winton to Longreach but cannot see cable being the mainstream connection.

The near future will see the initiation of ADSL 2+ with greater availability and lower priced plans and higher download limits.

Satellite costs will be on par with ADSL and will have increased reliability.

Integrated phone calls with bb (VOIP) will decrease costs although this would only really benefit people who make a lot of long distance calls.

Broadband and telecos are really “going places” and speeds are up and prices are coming down...bring it on.

Government funding is needed to market broadband in the community to increase usage.

There is the suggestion that a Regional IT Alliance should be formed.

Discussion and Conclusions

Broadband is available to some residents in all of the communities surveyed, but access remains an issue outside the main centres. Participants in the interviews perceived that there are major advantages of broadband over dial-up access to the Internet, and expect that new technology will bring additional benefits of higher speed and lower costs in the future. However, there appear to be concerns, particularly in Roma and Longreach, that Telstra is dominating the market for broadband through its ownership of the infrastructure, and failing to provide a timely, low-cost, high-speed access to customers. The reliability of broadband supply to Roma and Longreach was also identified as a potential problem. In Longreach there are also concerns about equity in providing access.
Respondents in all communities see broadband as a means of connecting their communities to the world. In Longreach this may bring opportunities to access basic services, better education and improved health services. In Gympie where there appears to be more users with more experience, a major benefit is in community building and networking. Negative impacts were identified, but generally broadband was viewed very positively.

Respondents in all three centres saw major advantages for businesses, although not necessarily in all industries. Businesses could be expected to reduce costs and increase productivity through online transactions, as well as achieving better communication, greater access to information and more efficient operations. Broadband increase competition by giving customers more information about alternative products, suppliers and their prices, but also gives businesses access to broader markets, new products, and lower cost suppliers. It was felt that home based and small businesses would gain substantial benefits from using broadband. It was recognised that businesses would tend to locate in the towns that do have broadband.

The training of staff for using broadband is not a major issue for the respondents, as they see no need for special skills to use it. Younger people are learning to use computers and the Internet at school, and some skilling may be necessary for older people. Broadband is also being made available to the community through public libraries. However, in Longreach, the level of computer knowledge is low, businesses have been hard hit by drought and they do not have the finances to invest in computers. They may therefore require more support than is necessary in other areas.

There were a number of factors identified which would affect broadband adoption in business. It was recognised that some industries such as tourism might gain substantial benefits from broadband, but there was some scepticism expressed about its usefulness in farming businesses. There were mixed opinions about how well small business owners understand the potential benefits of broadband. It was believed that marketing programs are not clearly informing potential users about the benefits of broadband, and the contracts may be confusing. It was mentioned that some business owners may not consider using broadband because they had investigated the possibility earlier when access was more costly.