Home Internet in Remote Indigenous Communities

Summary of Findings

June 2015

The Home Internet Project

The *Home Internet in Remote Indigenous Communities* project was the first comprehensive study of internet adoption and use in Australia's remote Aboriginal Communities. The research took place between 2010 and 2014, using a mixed methods approach, including a trial of home-based internet and ICT hardware in three outstations in the central Australia region, and case studies in two larger communities (one with a shared internet facility, the other with mobile coverage). The primary objectives of the project were to:

- Examine home internet in remote Indigenous communities in relation to household economics, ownership and digital literacy and compare with other regimes of access, including communal facilities and mobile devices.
- Generate knowledge on the challenges and opportunities involved in the Commonwealth Government meeting its national broadband policy goals in the remote Indigenous community context.

The project aimed to inform the successful provision of internet infrastructure, maintenance and training in remote areas by providing detailed qualitative analysis of how households in the three communities experienced the internet.

We are currently in the final stages of producing a research monograph and final report. The main findings of the project are summarised below.

Uneven patterns of internet access in remote Australia

A comparison of Australian census data between 2006 and 2011 shows that although Indigenous Australians are less likely to have access to the internet at home than other Australians[1], Indigenous Australians are adopting internet services at a faster rate than other households. However, vastly different rates of adoption are observable at the regional and local levels: Some communities have high rates of adoption while nearby communities are completely excluded. For instance, in the Barkly Shire, where much of our research took place, 40 per cent of households in areas with some level of mobile coverage had internet connections in 2011, compared to only 4 per cent of households in areas with no mobile coverage[2]. As Indigenous households in many of these communities share a similar socio-economic profile, we conclude that social exclusion is not necessarily the cause of digital exclusion.

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[1] 63% in 2011 compared with 77% of other households,
http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2076.0main+features702011

[2] We used Indigenous locations (ILOC) when analysing Census data.

The strikingly uneven patterns of internet adoption between remote communities corresponds to the availability mobile broadband and other government programs. Public-private partnerships in some regions have extended mobile coverage to larger remote communities. In addition, various publicly funded initiatives have provided a level of internet access, including computer rooms and training provided through the NT Libraries network and remote media organisations. Such programs have been designed to assist Aboriginal people to discover and learn about communication technology within community settings. Community payphones, provided through the former Indigenous Communications Program, are delivering internet to 300 small communities (with populations under 50 people). The expectation underpinning such programs is that once people are given a basic level of internet skills and experience they will eventually acquire internet services of their own accord. An unstated assumption is that those living in nearby communities will eventually learn about and adopt internet services through social network effects. However, our research indicates that this is not necessarily the case.

For many in remote communities internet adoption is not a linear trajectory from non-use to use, but something that people will fall in and out of when coverage and pre-paid credit permit[3]. Affordability is an issue in that the relative value of internet ICTs is likely to fluctuate depending on an individual's life circumstances; for example, when money is short, basics such as food, power and transport may take priority rather than fixing a computer/device or paying for subscriptions/data. Particular groups, including older people and those living in small communities, can remain completely excluded. As outlined below, factors such as an individual's mobility and avoidance relationships can play a significant role in internet adoption, use and skills transferral.

Digital Choices and the NBN

We set out to understand why digital exclusion is occurring in remote Australia despite government efforts to equalise the cost of broadband for all Australians regardless of where they live. We found that Indigenous households are generally only acquiring broadband services under certain conditions. Identifiable 'digital choices'[4] are informed by the practicalities and capacities of remote communities, and may be compounded by social norms.

Households in remote communities are choosing not to acquire satellite broadband services, preferring pre-paid mobile broadband in areas where there is mobile coverage. The consumer preference for pre-paid billing, as well as practical difficulties associated with satellite internet connections, means that households are more likely to go without internet than enter into satellite internet contracts. Our findings suggest that policy

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[3] In Ali Curung, 1 in 7 people that said they had used the internet at some point in the past were not using it at all at the time of the study (late 2013).

[4] A term often used in digital divide studies when explaining why some groups defy prediction.

objectives aimed at improving internet quality (such as faster speeds), although desirable for services and business in remote Australia, will not encourage residents of remote communities to adopt broadband. We question whether satellite internet – the Australian Government's response to internet access in very remote areas – can meet the needs of remote communities under current arrangements. However, changes to the way that satellite internet is sold and supported could make a significant difference.

The tangible outcomes of internet use

Many of the participants believed there are benefits to being online. Everyday uses such as online banking and shopping can provide a significant level of agency and autonomy for individuals. Checking bank balances and welfare payments emerged as one of the most popular uses of the internet, including use by 'proxy users' (those that experience the benefits of the internet by having others perform certain tasks for them). Internet shopping, entertainment and staying in touch with family via social networking were also common – made more significant when we consider how difficult it can be for those living in remote communities to undertake these activities through other means given their limited transport and telecommunication options. As very few organisations or agencies attempted to use online communication to reach the residents over the four-year period we were unable to determine whether internet access can reduce the costs of service provision to outstations[5].

During the course of our research, cyber-bullying was reported within some central Australian communities and towns. Network-level filtering and terms of use that reflects the specific concerns of elders and residents could be implemented in conjunction with the installation of community wi-fi networks in remote communities and settlements.

Older generations found cyber-bullying and cyber-safety issues particularly challenging to understand and address. Developing digital proficiency in using social media and ICTs across different age groups is crucial to empowering remote community members to manage these issues. Implementing policies that prevent or discourage internet provision and access are not a viable or equitable solution to cyber-safety issues (as occurred under the Northern Territory Emergency Response in relation to the surveillance and supervision of publicly provided computers).

Factors influencing the adoption of paid internet services

We recommend that internet service providers investigate and implement more flexible and user-friendly arrangements and administrative processes for satellite internet, particularly in regard to installation and billing.

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[5] With the exception of Central Land Council.

Difficulties dealing with ISPs

During the course of the research, three small communities were provided with satellite internet services for two years[6]. At the conclusion of the trial period, we continued to monitor those households that chose to progress to the NBN Interim Satellite Scheme (over half of total households). Facilitating the application process for NBNCo Interim Satellite Service (ISS) services proved to be time intensive for our project team members in the Centre for Appropriate Technology. In our view, without such assistance very few households in remote Indigenous communities would manage to arrange NBN ISS services. It is unrealistic to expect households to carry out the various steps independently given their limited access to telephones and knowledge of the processes, combined with the NBNCo and ISP staff's relatively uninformed perceptions of remote community circumstances.

Billing

Billing proved to be one of the biggest obstacles to satellite internet services. Despite the willingness of some community members to allocate a portion of household budgets to internet services, navigating and managing the ISP's billing mechanisms was difficult. About half the computer owners struggled over the first six months to maintain sufficient balances in their nominated bank accounts to support the monthly payments when they became due, resulting in temporary or permanent loss of internet access in some cases. For others, direct debits of large, unexpected amounts occurred if bills had been unpaid in previous months.

Our research in Ali Curung[7], a community with mobile coverage, confirmed that people are prepared to pay for the internet under the right circumstances: All interviewees that were paying for internet access were paying for pre-paid mobile broadband even though satellite internet was available at cheaper rates.

Shared facilities versus home internet

When we commenced the project there was an assumption in policy and academic analysis that shared facilities were the most appropriate form of internet access for remote communities. In the intervening years, government-funded and NGO programs

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[6] Under the ABG scheme. During our initial scoping of the project, we made the decision to provide internet in the most cost-effective way, on the principle that whatever system we installed would be the most affordable for the communities should they choose to continue to keep the internet when the ABA funding ran out. The model we implemented involved using as few satellite dishes as possible, with a point-to-point wi-fi network connecting all participating households. Each household that chose to have a computer and internet connection made that decision with the full knowledge that they would be actively participating in the study.

[7] The research involved interviews with approximately 100 people in Ali Curung in late 2013, with representation from half of all households.

(including RIPIA[8], the DOC's community phones project and work by organisations such as CAYLUS[9]) have moved increasingly towards public wi-fi.

A core focus of our work was whether home internet (the norm for mainstream Australia) was viable, particularly for communities too small to justify telecentres. We also tested shared, community-managed wi-fi by placing some computers in communal spaces (at the residents' request) and monitoring how they were shared and maintained. We considered practical matters to do with housing, including living arrangements, the condition of the houses and whether residents were home enough to want a permanent connection to the internet; documented how long PCs and related electronics could withstand the heat, dust and vermin; and assessed ownership patterns (both Western ownership and traditional systems of demand sharing).

Contrary to the idea that the 'caring and sharing' ethic associated with Aboriginal culture requires shared or communal internet facilities, we found that individuals wanted to identify as the 'owners' of the computers. Access, and by extension usage, was largely restricted to the household/immediate family members, with the owner determining who could use the PC. Avoidance relationships between families and the emphasis on discrete family ownership and use of ICT resulted in certain family groups often dominating access to computers in shared spaces and excluding others, a finding that was corroborated at the telecentre at Papunya. Location, access and usage are therefore important considerations for remote Aboriginal owners.

These findings have implications in considering models for the provision of ICT and internet access in remote communities. Specifically, telecentre or 'internet café' type arrangements which are run by Indigenous community members may not be the most suitable mechanism for providing equitable access to the broader community, owing to family and other cultural obligations (kinship). For example, in one of the larger communities we visited, the death of a young man who had been supervising a computer centre meant that others in his networks were unwilling to use it.

While in theory the home computing model provided ICT access for the whole family, ranging from grandparents to young, pre-school children, the dynamics of inter-familial, gender and age relationships influenced community members' access to and use of the ICTs. The higher profile and level of participation of women in the home computing model suggests that locating computers and internet access within household space might lead to a stronger association of digital technology with a female-coded domain and technical activities, with positive flow-on effects in facilitating greater ICT usage by women and children. By contrast, at the Papunya telecentre, the main room became so closely identified with young men that a separate space was created for women to access computers and the internet. To ensure equitable ICT access, the ways that different age, gender and family groups became aligned with particular social spaces within remote Aboriginal contexts needs to be considered in ICT planning.

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[8] The Remote Indigenous Public Internet Access programme, delivered through the Northern Territory Library service from 2009.

[9] The Central Australian Youth Link Up Service.

Residents' degree of mobility both within and outside the community has implications for ICT provision in relation to access, ownership, management of billing and sustainability. ICT arrangements need to be flexible in response to residential mobility, and some devices and equipment may be more suitable than others depending on community members' degree of mobility. For instance, residents moved houses within the community for a range of reasons, including available housing stock, maintenance issues in some houses, the cost of power, and cultural customs surrounding death. Such inter-community mobility has consequences for fixed infrastructure costs such as satellite dishes.

The high level of mobility does not necessarily equate to a preference or requirement for mobile devices. PCs can be easier to manage in the domestic setting. In contrast, there is a high degree of sharing of mobile devices.

Equitable IT maintenance and training support

Much less sharing and helping occurred between households than we anticipated, not only in relation to access and use, but in overcoming ICT issues and sharing skills and knowledge. We did not find support for notions that providing physical access to ICT or the presence of a sufficient critical mass of ICT users would be sufficient to ameliorate the digital divide without providing ICT support and training. The tendency towards discrete family/household and even highly personalised use, together with the social and cultural relationships between different groups, needs to be considered in providing ICT education and training to ensure equity of access in remote communities.

Contrary to views that Aboriginal people prefer group-learning because they are communally-oriented, we found that community members generally preferred learning opportunities that were flexible enough to accommodate their lifestyle and priorities, and were provided within their homes, often on an individual basis. Although logistically challenging and resource intensive, a flexible, opportunistic approach that tailors learning opportunities to the individual's needs and takes place within private, safe spaces rather than formal, structured group learning is more likely to be effective in these circumstances. These observations were supported by the experience of Papunya Computer Room, which mostly offered one-on-one training in response to the failure of attempts at group program delivery.

Overcoming the digital divide

Digital exclusion in remote Australia should not be seen as an intractable problem. In communities where satellite internet is the only available internet, innovative solutions are still possible.

For instance, externally-maintained wi-fi services that provide satellite-delivered internet within communities are possible under current regulatory and retail arrangements. Such services overcome the need for a fixed connection to the home, resolving access for those that may not reside in community on a permanent basis, or where post-paid billing is not feasible for households. Such services would need to be managed by an intermediary organisation or commercial enterprise with experience working in remote communities. Sustainable models might involve payment systems that enable people to pre-pay for data allowances in advance (similar to hotel wi-fi systems), covering service, download and power costs. An added benefit is that elders could selectively restrict access if inappropriate use (such as cyber-bullying) emerged.

Our final report from the project discusses wi-fi and other options, including micro-telcos and low-cost mobile extension infrastructure such as CAT's mobile hotspots project.