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THE NBN, THE ECONOMY – AND THE FLOODS

Peter Gerrand
Editor-in-Chief

Since the massive floods began in Queensland in late December, there have been calls for the National Broadband Network (NBN) project to be abandoned, to make money available for repairing and/or replacing the damaged infrastructure, including uninsured private housing. When the damage bill is extended to include victims of additional floods in Victoria and Tasmania, it is estimated to reach \$5.6 billion.

These calls are remarkably ill conceived. For a start, our national ability to compensate individuals and businesses – and to replace damaged infrastructure – depends upon our having a strong national economy: and we have one. That is an essential difference between Australia and, for example, our neighbour Indonesia, which has recently suffered even greater natural disasters, but does not have a strong enough economy to fund its own major repairs and rebuilding.

Given Australia's work force of 11.5 million, the cost of the floods damage bill is no more than \$500 per working person. Easily paid for, whether by a levy or other means. And even better, the money spent on rebuilding the damaged infrastructure will stimulate further growth in our economy in two years' time.

Secondly, our current economy has been made strong by the mining boom, but this may not last for more than another ten years. Our future economy – and the diversification of our current, dysfunctional 'two-speed' economy – will depend upon the enabling infrastructure of high speed broadband, at internationally competitive speeds and access prices.

The NBN will make Australia competitive for the first time in high-speed broadband infrastructure, which will underpin all our industries and help them grow. By maintaining a strong overall economy, we can afford to keep cross-subsidising the replacement of lost infrastructure in future fires, floods and other disasters. We can even return to investing in green technologies to reduce the greenhouse gases that are accelerating those 'natural' disasters ...

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The interview in this issue with Malcolm Turnbull, the Australian Shadow Minister for Communications and Broadband, has been left largely uncut, to provide a more vivid portrait of the style of the man. Highly recommended reading!

* * *

Broadband innovation is the theme that will dominate all of TJA's four issues this year. In this issue we dedicate extra space to allow the online documentation of a trail-blazing project that could not wait for the NBN: Daniel Featherstone's 'Ngaanyatjarra Lands Telecommunications Project – a Quest for Broadband in the Western Desert' – the planning and implementation of an innovative terrestrial telecommunications network to provide broadband access to twelve isolated indigenous communities in Australia's Western Desert cultural bloc, an area of some 600,000 square kilometres.

This is followed by the first published report on end user experience with Australia's NBN, 'Broadband in the Home Pilot Study: Suburban Hobart', by Rowan Wilken, Michael Arnold and Bjorn Nansen.

The third broadband article in this issue, 'Impact of WTO regulations on NBN rules' by Tania Voon and Andrew Mitchell, makes the explosive suggestion that the NBN may not be compliant with Australia's obligations under World Trade Organization rules.

* * *

Our second major theme in this issue is that of **end user protection**. Authors Sarah Alderson (Australia) and Cosmo Graham (UK) independently analyse the enormous discrepancy in the consumer complaint rates in Australian and the UK to determine whether Australian telecommunication carriers are uniquely appalling in the way they treat their customers, or whether the UK complaints-handling process is effectively discouraging or otherwise artificially ruling out a large number of genuine complaints.

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This is the first issue of TJA to be published by Swinburne University of Technology's online journal service, Swinburne Online Journals (in Melbourne), replacing Monash University Publishing. I will be very pleased to receive direct feedback from you, our readers, on how you find the new design and processes for accessing the current and past issues of TJA, as well as comments on the contents of the Journal.

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MALCOLM TURNBULL

A FEISTY INTERVIEW WITH THE SHADOW MINISTER

Liz Fell

The Hon Malcolm Turnbull was first elected to the Federal House of Representatives in 2004 as the Liberal Party member for the Sydney electorate of Wentworth and became the Shadow Minister for Communications and Broadband in September 2010.

During the Howard government, Turnbull was first appointed as Parliamentary Secretary to the Prime Minister (Jan 06 - Jan 07) and Cabinet Minister for Environment and Water Resources (Jan 07 - Dec 07). When Labor took government after the 2007 election, Turnbull became Shadow Treasurer (Dec 07 - Sept 08), Leader of the Opposition and Parliamentary Leader of the Liberal Party (Sept 08 - Dec 09) and, after the 2010 election, Shadow Minister for Communications and Broadband.

Before entering Federal parliament, Turnbull practised as a journalist (1975 - 80), barrister and general counsel for Consolidated Press Holdings Ltd (1980s), and an investment banker with Whitlam Turnbull and Co Ltd. (1987 - 1990), Turnbull & Partners Ltd (1990 - 97), Goldman Sachs Australia (1997 - 2001) and Goldman Sachs and Co. (1998 - 2001).

After graduating from the University of Sydney with a BA (1977) LLB (1978), Turnbull won a Rhodes scholarship enabling him to complete a BCL (Hons) degree at the University of Oxford.

Freelance journalist, Liz Fell conducted this interview with Turnbull for the TJA in mid-January at his Edgecliff office in the electorate of Wentworth. Turnbull's media adviser, Jon Dart, was also present during the interview, which has been edited to cut back on its length.



Malcolm Turnbull

TJA: Before addressing your main concern, the National Broadband Network, can we touch on your long-term interest in communications technology and start-up companies, including your early adoption of web-based media? One colleague from your days as a legal student remembers your relationship with a pager that went off during law lectures when you were also working as a journalist. Is that correct?

Turnbull: Yes, that's right. I was working for Channel Nine, 2SM and the Nation Review – all three of them – and I can't remember who gave me the pager. I think it might have belonged to 2SM.

Turnbull: (to Jon Dart) You don't know what a pager is?

Dart: No.

Turnbull: A pager is a little device about that long and square (he demonstrates) and they could ring a number and that caused it to go beep, beep, beep. All it did was to tell you to go and ring home or ring the office. You just got a beep, there was no message.

TJA: You clearly enjoyed being a journalist! I admired one of the apocryphal stories: that you secured an interview with Rupert Murdoch by dialling each extension of the New York Post switchboard until he answered the phone!

Turnbull: That's right. I just worked through what I thought were the extensions until finally he picked up the phone. That was the first time I met him.

TJA: Then in 1997, when you were Chairman of the Internet service provider, OzEmail Ltd, I found you excited at the quality of a three-hour conference call with the US you had just had over the net.

Turnbull: Well, if OzEmail wasn't the first, it was one of the very first commercial Internet telephony businesses.

TJA: In the world?

Turnbull: Yes, in the world. OzEmail Interline was a technology almost entirely developed by Rick Spielrein from Melbourne – Rick and Sean (Howard). There were some other people involved, but Rick was the key guy. The way it worked, you used your telephone to dial into a node, say, in Sydney, which then routed the call over the Internet to a node, say, in New York, which then made a call to the number you wanted.

TJA: So there you were again, interested in technology. Is it fair to say you developed a certain amount of expertise in this area over the years?

Turnbull: I think it would be wrong to say I've got expertise. I'm not an engineer. I've got experience.

TJA: And as an experienced banker you invested in and/or advised a number of software and telco companies after OzEmail, including Unwired, for instance?

Turnbull: Yes.

TJA: Watching you on the stage last year at an election forum you chaired to argue against the Government's mandatory filtering policy, you were almost 'glued' to your iPad.

Turnbull: The iPad basically in large measure has replaced paper in my life. The great functionality for me is the fact that it's so good for reading documents. You spend so much time reading reports, and papers, you know.

TJA: Didn't you have a Kindle at one stage?

Turnbull: Yes, it's been said that now I've got the iPad, my Kindle is like the little....(To Dart: What's the little...?)

Dart: Woody, the cowboy.

Turnbull: Yes, Woody the cowboy in Toy Stories, the abandoned toy. (laughter)

TJA: Looking at your website with its iPhone App and all the social media you use to communicate including Twitter, Flickr, Facebook, MySpace, and YouTube, you must lead the political pack in the management of your 'brand' or 'reputation'. You certainly stimulate a lot of discussion about your policies which is not so evident with the Government.

Turnbull: Yes, well I think the big failing, particularly in the context of the NBN, is that the Government has been focused on the hardware side and really what they ought to be doing is more to promote the use of technology. You know, there's very little, for example, in terms of e-government and making government more efficient and accountable.

TJA: In the last issue of the TJA, Senator Kate Lundy talked about her activities to promote e-government ... but what do you suggest?

Turnbull: Well, I've been arguing this for a very long time, for five or six years at least. I think a very simple thing that governments can do, and this is a very basic thing, is that the government should provide every Australia with a free electronic pigeonhole.

TJA: Would this serve as an ID of some sort?

Turnbull: No, what it would be is a unique address, essentially like an electronic folder, an electronic mailbox. I call it a pigeonhole because I think you would want to limit its functionality so that it could only receive material from Government, and maybe from financial institutions.

TJA: Not friends?

Turnbull: No, this is something worth discussing, but my simple point is this. If you try and manage electronic databases as I do, one of the problems you have is that people change their email addresses, and they change them as often, if not more often, than their physical addresses. The cost of electronic communication is, you know, just a tiny percentage of snail mail etcetera, and one of the problems governments have is that they don't have a lot of people's email addresses.

TJA: Maybe some people don't want governments to have their address?

Turnbull: What I'm saying is that if you offer everybody the opportunity to be, say, malcolm.turnbull.dateofbirth@australia.gov.au or whatever. The government is then in a position to say, 'We'll give you that unlimited storage basically and we will then ensure that all government communication comes to you electronically.' Now the good thing about that is...

TJA: What...

Turnbull: Let me go on...

TJA: Yes, sure, briefly...

Turnbull: Briefly. Who is interviewing whom? Am I interviewing you?

TJA: No, go on please...

Turnbull: The virtue is that you not only have a huge saving in communications costs but it means that people know there will always be, in effect, an electronic filing cabinet with all of their correspondence from the taxation department, and all of their correspondence, say, with respect to their superannuation.

TJA: Would the private sector play a role?

Turnbull: Well, this is the thing. I mean you would certainly say that the electronic pigeonhole would be designed to receive communications from governments, you know, federal, state, local. One of the big problems is people losing track of their superannuation entitlements because they have changed jobs, so it would be commonsense to make it available to financial institutions. Now how far do you take it? Maybe you don't limit it, but that electronic pigeonhole would provide a permanent electronic record of communications and it would mean that you wouldn't have the risk of things going astray.

TJA: Will governments gather a lot of information about citizens?

Turnbull: No, they would only know what they had sent you. That's the argument. You see you could design a. . . (Turnbull walks to a white board at the other end of the room.)

TJA: We are not including visuals, and my recorder has to pick up your voice way down there so, please, could you come back?

Dart: (Laughing) This is why we need the GPS...

Turnbull: Alright, alright .The point is that there is literally no technical barrier to doing that at all, but it obviously would take a long time for people to get used to it.

TJA: Moving to the NBN, Prime Minister Gillard claims that your leader, Tony Abbott, told you to 'do anything you can to destroy it'. Is that correct?

Turnbull: No, no. What Abbott was referring to there was about attacking the argument. I've got no interest in destroying the NBN, or anything for that matter. My aim is simply to ensure, as far as I can, that we have the most cost-effective approach to solving the problem.

TJA: Do you agree with the concept of the NBN?

Turnbull: No, well, what is the concept?

TJA: I assume at this stage the concept is to build fibre to the home...

Turnbull: I don't agree with that.

TJA: What do you agree with?

Turnbull: What I'm saying is that all Australians should have access to fast broadband at an affordable price.

TJA: Fast?

Turnbull: Yes, absolutely. There are two questions then, at least. One is how do you define fast? The other is what is the best technology, or mix of technologies, to achieve that? Now I would think, in terms of the government providing subsidies and so forth, you clearly wouldn't say that every Australian should have at least a gigabit per second to the home. That would be absurd. And I think 100 megs is way above what the vast majority of people would ever be reasonably able to use...

TJA: Yet no-one knows what may happen in the future...

Turnbull: No, but this is the point, Liz. The bottom line, I would say, is that we should say that every Australian should be able to access broadband at not less than 12 megs.

TJA: Is that Coalition policy?

Turnbull: Well, it's the Government's policy too by the way...

TJA: At least 12 megs?

Turnbull: It's the Government's policy because what they're saying is that for the seven percent that can't get fibre to the home, 12 megs is good enough. Right? So 12 megabits per second will deliver any service that is currently available. There is nothing, you know, other than some... you get some crazy examples. We have these debates on Twitter. Someone will say, 'You know, well, what if I've got a family of five and we're all playing interactive karaoke separately in five separate rooms?' Well, OK, 12 megs might not be enough for you, but you're not typical, or not even remotely typical.

TJA: Isn't it difficult when technologies such as broadband satellite or terrestrial wireless determine the speed limit for the policy?

Turnbull: No, I don't think so. You've got to work out what you're trying to achieve.

TJA: Well, what is that?

Turnbull: Silence.

TJA: Please go ahead.

Turnbull: My proposition is this: that nobody seriously suggests that nowhere in Australia is there adequate broadband. The argument has always been that while there are some areas that have access to good broadband there are too many areas both in the cities and in regional areas that do not. Now what is adequate broadband? Obviously, there are millions of Australians who can get access to ADSL2 and ADSL2+ and even faster speeds over the HFC networks. So when you look at the sort of applications that are available, and likely to be available, and look at what the Government has done, they conclude that 12 megs is what people in regional Australia should be comfortable with.

TJA: Based on the limits of the existing technology though...

Turnbull: There is theoretically no limit to the speed you can make available between A and B. You can still have a gigantic pipe. In terms of the expense of this network, the big bucks are in the last mile, the fibre to the home or the fibre to the premises. What I'm saying is that I don't think that has been justified – I'm sure it hasn't been – and a better approach I think would be to ensure that all Australians have access to speeds that were comparable to, say, the best speeds available in the cities and then...

TJA: OK, so...

Turnbull: ...that's not saying that's the last word on the subject, but then you'll see what the market demands. And the big question – Liz, could you just stop talking over the top of me all the time...

TJA: I'm sorry, but I'm here to ask you questions.

Turnbull: You never let me finish a sentence. Go on, you talk, just talk. I have nothing further to say to you. On this topic, I have answered the question, you ask the next question.

TJA: Do you agree with the eventual privatisation of a publicly-funded NBN?

Turnbull: Well, I think the Government has asserted that the NBN will be commercially viable. I don't know anyone in the industry who believes that's feasible or credible. Again, this is one of the things we need to know. If you were to say everyone could have 100 megs per second, and it was not going to cost us anything – it was free and we could snap our

fingers – then I suppose we would do that and have perfect public transport, and wonderful hospitals, and great schools and all those other things. But we live in a world of scarce resources, so we've got to have a clear understanding of what the NBN is going to cost, what it's going to cost in net terms after taking account of the revenues, and then weigh that up. Because you see, you get a law of declining returns, Liz. I mean if you've got speed on that axis, right...

TJA: On the horizontal axis...

Turnbull: ... and you've got utility, productivity, on the vertical axis. Well you go from dial-up to one meg and you'll get a pretty solid increase in utility. Then you go from one meg to 12 megs, well that's still going up perhaps, but then 12 to 50, I don't know how much more useful that's going to be, and 50 to 100, probably not more useful at all. Now, of course, the difficulty is that as you go up in terms of speed, when you move out of using your existing last mile to fibre, the cost becomes considerably greater. So one of the things you've got to weigh up is the incremental cost of these greater speeds – given the need to have a new communications medium versus the utility. That's the point of the cost-benefit analysis. That's the thing, for example, that Robert Kenny looked at in that paper he wrote with his brother, Charles. Every major infrastructure should be the subject of a rigorous cost benefit analysis.

TJA: You just said, 'given the need to have a new communications medium'...

Turnbull: ... I'm not saying there isn't a need...

TJA: Is your party's position that there is a need to build some sort of new communications network for this century?

Turnbull: Well, I think the communications network is constantly being renewed and rebuilt and transformed.

TJA: But surely less so in regional and rural areas, at least by the private sector?

Turnbull: (Silence)

TJA: Would you agree with that?

Turnbull: No, I wouldn't. You are putting words in my mouth. Because of distances, you know, products like ADSL2 are not going to be available in areas where people are living very long distances from exchanges, as they're very likely to be doing in the country. So you need a variety of technologies. The general view has been that the best solution in regional and remote areas is a combination of fixed wireless and satellite. That's actually what the NBN is proposing, and that's what we proposed to do with OPEL. So there's common ground about the technological solutions in the bush as such.

TJA: Do you still see OPEL as worth building on or are you ready to let the NBN go ahead?

Turnbull: Well, OPEL is a thing of the past. The Government has abandoned that. You can't snap your fingers and bring that back to life. I think that the solution in the bush, in regional and remote Australia, is a combination of fixed wireless and satellite. It will require a government subsidy, and we're certainly committed to providing that. What is the most cost-effective way of delivering that? Well, that's something we would have to look at more closely as the election, you know, as time goes on.

TJA: What do you think of the current review of the Universal Service Obligation (USO). Do you have a position on that?

Turnbull: Well, basically, nobody is suggesting there should not be universal access to affordable broadband as well as voice, so the question then is: how do you define broadband and what is affordable? One of the concerns I have about the NBN is that because of what I believe is a massive overcapitalisation, and coupled with making it a government monopoly, that is inevitably going to put upward pressure on prices. It's no different from any other business: if you spend too much on your capital, you're going to have to try and recover that. Now if you're a monopolist it's easy to do that if you don't have competitors.

TJA: Can I move on to the questions you raised on your blog about the US Securities and Exchange Commission (SEC) findings that Alcatel subsidiaries were guilty of bribery in several developing nations? Are you suggesting NBNCo's CEO, Mike Quigley, and CFO, Jean-Pascal Beaufret, may have been involved because they are former Alcatel employees?

Turnbull: Well, the only issue I've raised is really that both Quigley and Beaufret need to explain what their knowledge was, what their role was, and how it came to happen. I mean, you've got to remember that Alcatel was being run by an executive committee of which Quigley was a very important member, and its chief financial officer, whose job is to know where all the money is going – both coming in and going out – was Mr Beaufret. So these were two very senior guys in a company that clearly had a systematic practice of paying bribes to people in developing countries in order to get contracts, and I think we are entitled to a full explanation.

TJA: Well, Quigley is quoted as saying...

Turnbull: Just keep talking, Liz, don't let me finish an answer.

TJA: Go on, please.

Turnbull: Alright. Quigley has said he didn't know anything about it, but it rather does beg the question of what were the systems, what was the accountability of people, what is the competence of people who could be running such a big company and then have what was clearly a systemic practice of corruption – I mean there's no question about that, it was operating in a whole range of countries – and so if they weren't aware that it was going on, why not?

TJA: A former Alcatel employee told me there was no doubt that Alcatel's culture was far from perfect and it wasn't till the merger with Lucent that this culture changed in line with the US legislation. It's quite complex isn't it, but when you were a partner of Goldman Sachs & Co., could you be held responsible for company actions in, say, Greece?

Turnbull: I wasn't involved in that. I had nothing to do with that.

TJA: Isn't that what Quigley is saying too?

Turnbull: No, no. It's very different. If I had been a member of the management committee or executive committee of Goldman Sachs and there were dreadful things going on within the company, people would be entitled to say: Why didn't you know about it? or, Didn't you fail in your duties by not being on top of this issue?

TJA: But apparently the culture of Alcatel didn't necessarily require answers to those questions...

Turnbull: That's not the point. The point is that you keep on talking over the top of me, you don't listen to what I'm saying, Liz. We'll have to wrap this up. I love you dearly, and you're a very old friend and everything...

TJA: Am I allowed to ask a few more questions?

Turnbull: No, you don't ask questions. Just let me finish. The point I was about to make, which I think is a very significant one, is that in some respects the person who really needs to make a clearer explanation of his role in all of this is Beaufret, because Quigley was a member of the executive committee, there's no question about that, and the executive committee, as the SEC has said, ran the company. That's how it operated. Quigley's argument seems to be: 'Well, I wasn't directly involved. I didn't have any oversight of these particular areas.' But Beaufret was the chief financial officer. Now if there were very substantial payments being made to consultants in these countries, shouldn't alarm bells have been ringing for him? We haven't heard anything from him.

TJA: I understand the SEC didn't talk to him.

Turnbull: That's what we've been told, and without hearing from the SEC, it's hard to know why that was the case. You've got to bear in mind, Liz, that these gentlemen have been at the very top of a company that was engaged in a systemic practice of corruption around the world. That company has now admitted its guilt and paid a huge fine of, I think, \$137 million. They are now running, between them, a company which will end up spending about A\$50 billion of taxpayers' money. What I would like to hear from Mr Beaufret is, for example, how it was at Alcatel that he, as chief financial officer, was not aware that millions of dollars were being paid out in bribes in these developing countries. And I would like to hear from Mr Quigley how it was that the executive committee of Alcatel, and he as a member of it, never became aware of these things. I'm not suggesting that either of them was party to making bribes, but it does raise question marks about, I think the SEC used the phrase, 'lax management practices'.

Dart : We'll have to wrap this up.

Dart (to TJA): He does have to go.

TJA: He was 30 minutes late and I did ask for an hour.

Turnbull: No, keep going, Liz,

TJA: Can we move on to Wikileaks? As a former journalist and the author of *Spycatcher*, does this new development excite you?

Turnbull: I have written quite a long piece about it in *The Age*. I don't know that it excites me.

TJA: Would it worry you if you were quoted in a cable, though I guess it could always be inaccurate, which would be worrying!

Turnbull: That's exactly right. I'm sure some people have been genuinely embarrassed by it, but so what? As I think I said in *The Age*, you can divide the material up into at least three categories. The area which is of great concern, and I do have very real concerns about Assange's ethics here, is material which either reveals, or is likely to reveal, the identity of people who are informants to the State Department, particularly in areas of terrorism and counter-terrorism. I won't repeat what I said in *The Age*, but can I just say that I think in one respect the single biggest issue here is how on earth could a very junior person download a quarter of a million documents! In any big corporation or government department nowadays it should be the case that you cannot put a thumb drive into a computer without an alert being sounded. If you're working for a bank, and you put a thumb drive into the system, you should get a call from Security within minutes saying: 'What are you doing?' So either this guy, Private Manning, was a genius hacker or the system is just laughingly lax. I know plenty of people who work for banks and government departments who are just aghast that this could happen. Let's face it, Liz, it wasn't just one document that was downloaded. It was a gigantic amount of material.

TJA: Given your experience with mainstream media, and as a banker you advised all three commercial TV channels, have you any thoughts on the Government's upcoming convergence review of media and communications regulation?

Turnbull: Well, there are some very big issues around this. The free-to-air networks, for example, would be saying, 'Twenty years ago we were paying licence fees for the only way of getting something directly into someone's home', in effect, a monopoly. Now people can access video material from hundreds of different providers courtesy of the Internet and other technologies. So there has been a dramatic change.

TJA: What about Telstra's involvement in this area? You must have known Telstra's business quite well when you were at Goldman Sachs advising the Government on the T2 share offer.

Turnbull: Well, I'm not unfamiliar with it. Telstra's in the content business now.

TJA: Do you agree with the structural separation of Telstra?

Turnbull: Yes. I talked to Telstra about this a very long time ago. The problem is that once the Government had decided to sell Telstra as an integrated telco it was very hard for the Government to direct any change. I think that Telstra would actually have enhanced its shareholders' value if it had separated its network from the retail businesses, but that's not a unique view. There are plenty of other advisers and, indeed, executives at Telstra, who have held that view over the years. Obviously, you would have to get a satisfactory regulatory regime, and certainty about pricing and so forth, but you've got to ask yourself, Liz, would Telstra be stronger and more financially strong if its senior executives hadn't spent the last ten years fighting tooth and claw with the Government and the regulator and, instead, concentrated on expanding the business and focusing on new products? There's been a lot of missed products, I think, because they have been, in effect, under siege over this issue of vertical integration.

TJA: Wasn't some of this uncertainty related to building some type of next generation fibre network as well as Telstra extending its dominant position by remaining vertically integrated?

Turnbull: Well, if the NBN goes ahead, Telstra will be structurally separated because the customer access network will be NBN. It won't be Telstra's copper. This is a critically important point. If vertical integration is the problem and structural separation is the answer – which I believe it is – you don't need an NBN to achieve that.

TJA: How would you have gone about Telstra's structural separation?

Turnbull: I would ensure there was a separate company, a CANCo or Customer Access Network Company, and it becomes a regulated utility and every year they would rock up to the ACCC or an IPART-type entity and say, 'OK, we've spent \$2 billion and for that reason, in order to get a reasonable return on our capital, we need these prices' just like Sydney Water or the electricity companies do.

TJA: How do you view the enormous task facing the NBN as it begins to build as well as prepares to operate a wholesale access network?

Turnbull: Look, there will be enormous engineering and technical and operational challenges for the NBN. I'm not suggesting for a minute, that the enterprise, from a technical or engineering point of view, is not feasible. I'm sure it can be built.

TJA: But it needs a cost-benefit analysis!

Turnbull: There are two big questions. Number 1 is the cost effectiveness of it: are we spending vastly more money than we need to achieve the objective of universal affordable broadband? Number 2, there's also the industry structure issue which, in some respects, is just as important in that we are now creating another government-owned monopoly. If we believe that competition is important, why is NBN contracting with Telstra to prevent Telstra from offering broadband and voice services over its HFC network that passes three million homes or thereabouts and would provide real facilities-based competition. Now that's going to be made unlawful by this scheme.

TJA: You've said the NBN is 'a bit of a dream' and 'appeals to dreamers'. Do you still hold to these statements?

Turnbull: Well, I think whenever politicians talk about nation-building infrastructure, you want to start reaching for your wallet. I'm not suggesting that there isn't a role for infrastructure that helps build a nation – all infrastructure does that – but all too often they use that term to justify projects that haven't been well thought through. Again, Liz, I'm not against it. I'm madly in favour of broadband, indeed passionately in favour of it. My concern is simply cost-effectiveness. If we could deliver, for example, ADSL2+ speeds or better across Australia for a fraction of the NBN cost, why wouldn't we do that and then see where technology went? I mean Conroy talks about this on the basis of what demand may be in 30 years' time. We have no idea. Cast your mind back – 30 years was 1981 for goodness sake!

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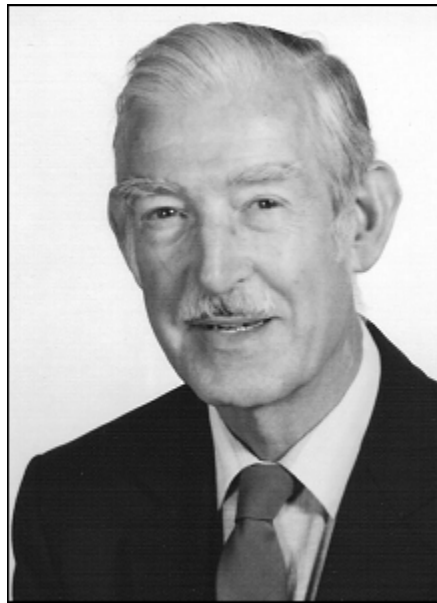


A TELECOMMUNICATIONS STALWART

RON KITCHENN: 1920 – 2010

Blair Feenaghty

Telecommunications Journal of Australia



Ron Kitchenn

Ronald Grayley Kitchenn was born in Letchworth, Hertfordshire on 17 March 1920 and educated at Pixmore County Council and Letchworth Grammar Schools.

He joined the British Post Office as a Youth-in-Training in 1936 and studied part time to achieve the degree of BSc (Engineering), from London University in 1948, leaving in 1951 to join the Australian Post Office (APO). His service with the BPO covered all fields of communications and included seven years with the Engineer-in-Chief's Office in the Telegraphs, Training (as Lecturer in Transmission) and Local Lines and Wire Broadcasting Branches. While in the latter Branch, as Executive Engineer, he was awarded the British Institution of Radio Engineers (now the Institution of Electronic and Radio Engineers) 1951 premium for "the most outstanding paper in the field of broadcasting" published in that Institution's Journal. He was Secretary for an IEE Sub-Section, a member of the British IRE Programmes and Papers Committee and a member of that Institution's General Council.

In 1951 he joined the APO's NSW Radio Section working with National and commercial broadcasting stations and studios until 1955, when after a period as Divisional Engineer, Engineering Studies, NSW, he transferred to Radio Section in Central Office, moving to Headquarters Planning as Sectional Engineer, Trunk Networks in January, 1958. Here, as one of the notable 'Forty Philosophers', he was responsible for the determination of transmission performance objectives and planning rules for the public and private telecommunication networks provided by the APO.

In the international sphere, Ron was active in the CCITT (International Consultative Council for Telegraphy and Telephony – the technical arm of the International Telecommunications Union) as Special Rapporteur for studies on the transmission characteristics of circuits in the switched international network and on stability and echo. His expertise and character were recognised by his election as Vice-Chairman of CCITT Study Group XVI for the study period 1976-80.

CONTRIBUTIONS TO THE TSA AND TJA

Ron Kitchenn is remembered particularly by the *Telecommunications Journal of Australia* and the ACS-TSA not only for his frequent contributions to the Journal, but primarily for his 13 years as General Secretary of the Telecommunication Society of Australia.

Ron was originally appointed Secretary of the Postal Electrical Society of Victoria in 1958, then in its 50th year of existence, at a time when the 23-year-old *Telecommunication Journal of Australia* was ailing through lack of readers and contributors. Ron quickly observed that although the Journal had had a national reputation ever since publication commenced in 1935, had drawn papers from all over Australia and was widely distributed overseas, it was produced by a Victorian Society with no formal interstate connections.

The Telecommunication Society of Australia was formed to take over from the Postal Electrical Society of Victoria in October 1959; and Ron became its first General Secretary. Under his guidance it was decided to modernise the Journal, and as a consequence the circulation was almost trebled in the following two years, placing it on a sound financial footing and with its world-wide reputation greatly enhanced. A few years later the sister Journal, *Australian Telecommunication Research*, was founded to publish the more academic papers of the Society.

Ron retired in mid-1982 after some 30 years of service with the Postmaster General's Department and Telecom Australia. When he relinquished his post as General Secretary in 1972, the TSA awarded him an Honorary Life Membership in appreciation of his contributions to the Society.

RON'S OTHER INTERESTS

Ron was active in many other fields – he was a former Secretary and first Life Member of the Diamond Valley Bushwalking Club, a former secretary of the Superannuated Commonwealth Officers' Association (SCOA) and an active and articulate worker in DOGS – the Australian Council for the Defence of Government Schools. An accomplished public speaker, Ron was a highly esteemed Freeman of Rostrum who contributed generously in all positions for over 50 years, including National President in 1981-83. Rostrum Victoria named its premier public speaking award the Ron Kitchenn Trophy, and as recently as July 2010 Ron was able not only to present the trophy to the current year's winner, but also to make a well-received humorous speech titled “Sprites in the Night”.



Ron Kitchen presents the 2010 Ron Kitchenn Trophy to Nick Adams

Ron was also an enthusiastic practitioner of one of the minor arts, filling the role of Foodmaster of the Wine and Food Society of the APO/ Telecom Headquarters. The members came to highly esteem Ron's palate and views on good eating, as well as his seriousness and dedication. Energetic in all his activities, some of his colleagues fondly recollect the speed at which he walked, exhausting companions many years his junior.

In his professional life Ron was an outstanding mentor – his courtesy and consideration for younger engineers who did not share his deep understanding of transmission theory was greatly appreciated. Ron was one of those rare people who are able to be precise without being pedantic, and who leavened his outstanding knowledge and understanding with humour.



Ron exercising his palate in Paris

We reproduce below some verse (Ron would never have claimed it as poetry!) which accompanied a paper he wrote for the Journal back in 1977:

THE LOSS ACROSS A HYBRID

The loss across a hybrid's of a very funny sort.
The theory says it's three dB from two to four-wire port;
It's also three from four to two, so I hope you will agree
That from four to two, then back to four, the loss is two times three.

So six dB's the smallest loss between the four-wire ports,
But another factor intervenes to cause some second thoughts.
You see, transformers are not pure (at least, this side of heaven)
So the minimum's always more than six –in fact, it's close to seven.

It's fortunate for stability there's another loss in store
Which adds to the three plus three plus one and makes transhybrid more.

Balance return loss is the name, so, according to reports,
You add it to the seven to give the loss between the four-wire ports.

If balance Z and two-wire Z are equal, one to t'other
Then balance return loss's infinite and so's transhybrid, brother.
'Cos when you add infinity to seven dB, you see,
Infinity is still the sum, mathematicians will agree.

But in real life this case is rare; we can ignore it, I am sure:
'Tween five and thirty's more the mark; transhybrid loss is seven more.
So that's the way we work it out; but alas, it isn't good enough
For cases where precise results are needed, not too rough.

Three other factors enter now if you really want precision:
Two you add, and one subtract, before you end your mission.
Reflection losses, these three are, and the first two we define
Are 'tween balance Z and four-wire Z and 'tween (four-wire Z), (Z line)

You've added those? That's very good. Now take the other pair:
Reflection loss 'tween balance and line; subtract it, then you're there!
These three reflection losses•are usually rather small
And for many, many cases can be neglected, after all

They'll mostly total rather less than 2 dB or so
But three times this is sometimes found so you cannot always throw
Those little error terms away when working on your slate
To calculate trans-hybrid loss, so consider well their fate!

Ron is survived by his wife, Beryl; two sons Ian and Guy; a daughter-in law Carol; two grandsons and two great grandsons.

The *Telecommunications Journal of Australia* and ACS/TSA would like to express their great appreciation of the life and work of Ron Kitchenn and to offer our condolences to the members of his family.

Blair Feenaghty is Executive Editor of the Telecommunications Journal of Australia and was a colleague of Ron Kitchenn in the late 1960s and early 1970s.

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THE NGAANYATJARRA LANDS TELECOMMUNICATIONS PROJECT: A QUEST FOR BROADBAND IN THE WESTERN DESERT

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Vast regions in Australia still have limited access to adequate telecommunications. With the rollout of the National Broadband Network underway, remote Indigenous Australia risks being left out, increasing its isolation and widening the 'digital divide'.

In the past, the vast Ngaanyatjarra Lands of south-eastern Western Australia have had one of the poorest levels of telecommunications service in Australia. However, the regional shire, land council and the community media organisation have worked together with the WA Government to address this problem. This effective collaboration led to the Ngaanyatjarra Lands Telecommunications Project (NLTP): a fibre optic network connecting six remote desert communities, a broadband satellite solution to connect the remaining six outer communities and community-wide WiFi in all twelve sites. This article describes the process of creating the NLTP and some of the flow-on benefits for the region and Yarnangu (Ngaanyatjarra people).

INTRODUCTION:

A 2001 report on the state of telecommunications in the Ngaanyatjarra (Ng) Lands of WA reported:

It is extraordinary that in such a developed nation as Australia that the people of the Ngaanyatjarra Lands have such limited access to basic items as telephones. What limited numbers of desk and home telephones that are in place are mainly accessible only to non-Indigenous staff members. With few exceptions, houses occupied by Aboriginal people on the Lands are without residential telephones. ([Farr et al 2001](#), 30)

The Shire of Ngaanyatjarraku and Ng Council submission to the 2002 Estens Regional Telecommunications Inquiry made a strong case for the importance of telecommunications in remote Indigenous communities:

Telecommunications infrastructure and services in the Ngaanyatjarra Lands are grossly inadequate. The current telecommunications infrastructure and services are preventing people and organisations in the Ngaanyatjarra Lands from realising the social and economic opportunities available to them. [If not addressed...] welfare dependency will prevail and, in the longer term, increase. ([Thurtell 2002](#), 5)

When I began working as Coordinator of Ngaanyatjarra Media, the regional media and communications organisation based in Irrunytju community, in late 2001, the main Internet connection used in the region was via dial-up at less than 9.6 kbps. In some communities, including the regional centre of Warburton, there was no Internet capability. I was employed

to support local language radio broadcasting and cultural video production but quickly found that the higher priority for Yarnangu (Ngaanyatjarra people) was on getting telephones in their homes. When Ng Media started setting up codecs in community radio studios to enable live broadcast link-up to the regional radio network 5NPY, we discovered that the codecs would not work over the DRCS microwave network in the region. Also there were no spare phone lines at the exchange in most communities. With the increasing convergence of media and ICT, it became obvious that we could not develop the media program without improved telecommunications infrastructure. Ng Council and the Shire of Ngaanyatjarraku had been lobbying for improved telecommunications for some time, with several reports highlighting the issue, but little changed.

In November 2003, consultant John Thurtell (who wrote the submission to the Estens Inquiry) and I attended the Regional Communications Forum in Canberra, on behalf of Ng Council, to advocate for improved telecommunications in the region. In one session of the Forum there was debate among delegates about what speed should be defined as broadband: 256 or 512 kbps or faster. I commented that the discussion was largely irrelevant to the remote communities of the Ngaanyatjarra Lands, where there is virtually no Internet access and in many communities fax machines don't work over the existing phone lines. We were on the distant side of the 'digital divide'.

A WA government delegation at the Forum (including Sheryl Siekierka of the Department of Industry and Resources) outlined a proposal to establish state government facilities and services in the Kimberleys and Ngaanyatjarra Lands, including multi-function police facilities in the region at Warburton and Warakurna. These facilities, as well as schools and health clinics, required improved broadband communications for on-line networking and service delivery. We met to discuss working together on a joint application to establish broadband infrastructure in the Ngaanyatjarra Lands, which would meet the needs of the government service providers, community organisations and Yarnangu.

Following the forum, I distributed a Regional Telecommunications Strategy discussion paper, outlining five key elements:

1. Design and establish a broadband telecommunications network to service all Ngaanyatjarra communities
2. Build a regional Media and Communications Centre
3. Establish on-line access centres in each of the 12 communities
4. Establish a regional ICT training and technical support program
5. Develop culturally appropriate on-line content and resources.

It was a highly ambitious plan, given the history of telecommunications in the region. Since first receiving basic telephony services in the late 1980s little had changed, with all telecommunications services provided at the minimal requirements of the Universal Service Obligation (USO). However, within five years, all of these five aims had been achieved.

In April 2008, the WA Minister for Industry and Enterprise, Francis Logan, officially launched the Ngaanyatjarra Lands Telecommunications Project (NLTP), which provides broadband communications via fibre optic cables to six of the most remote Indigenous communities in Western Australia. In September 2008, Ng Media opened the regional Media and Communications Centre in Irrunytju as a hub for the twelve on-line media centres in the region. In 2010, Ng Media completed Stage 2 of the NLTP project, providing a broadband satellite service to the remaining six communities and shared WiFi network in all twelve communities.

This article provides an outline of how the NLTP project came about, including a description of communications in the region prior to the project and the impact that the broadband communications network has had for the Ngaanyatjarra Lands and people. The project was an effective collaboration of all levels of government working with community organisations and a corporate provider to develop a mutually beneficial infrastructure project. It offers a model for other remote Indigenous communities with last-mile sharing of services via WiFi, community owned and managed IT facilities, and skills development for culturally appropriate and relevant outcomes for Indigenous people.

THE NGAANYATJARRA LANDS

The Ngaanyatjarra Lands cover an area of approximately 250,000 square km in the Great Victorian and Gibson Desert region of Western Australia, adjoining the Northern Territory and South Australian borders and spanning the Shires of Ngaanyatjarraku, East Pilbara and Laverton. The unsealed Great Central Road bisects the region, linking Alice Springs (1,000 km north east of Warburton) to Kalgoorlie (900 km south west of Warburton).

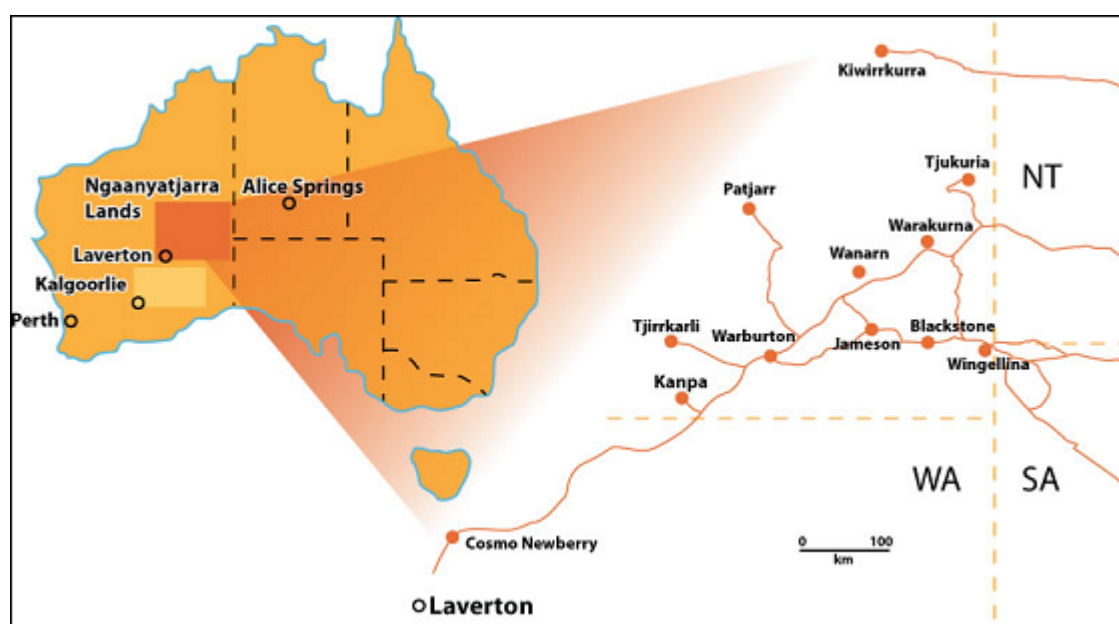


Figure 1 - Location of Ngaanyatjarra Lands

Yarnangu (Ngaanyatjarra people) have maintained a continuous association with their country and comprise the majority resident population. The regional population of approximately 2,000 people are distributed in the twelve remote Indigenous communities within the region: Warburton (the regional centre), Warakurna, Tjukurla, Wanarn, Papulankutja (Blackstone), Mantamaru (Jameson), Irrunytju (Wingellina), Kiwirrkurra, Tjirrkarli, Cosmo Newberry, Karilywara (Patjarr), Pira-Kata (Kanpa). Apart from Warburton Community, which had operated as a mission from the early 1930s, most of the communities were established as part of the ‘homeland movement’¹ since the mid 1970s. The region maintains a high level of cultural and linguistic integrity and political unity. There is limited industry in the region, with no pastoralism or large-scale mining activity.

The Ngaanyatjarra Land Council, which was established in 1981, holds some of this land as 99-year and 50-year leases and Aboriginal Reserves. In 2005 the largest native title determination in Western Australia to that time, covering an area of 188,000 square km, was handed to the Ngaanyatjarra people. The Ngaanyatjarra Region is also Australia’s largest Indigenous Protected Area. Ngaanyatjarra Media is based in Irrunytju community, 260 km east of Warburton and about 10 km from the tri-state border of WA, SA and NT.

TELECOMMUNICATIONS INFRASTRUCTURE PRIOR TO THE NLTP

The HF Radiocommunications system, which was initially set up for the Royal Flying Doctor Service (RFDS), had been used in the Ngaanyatjarra Lands since the 1940s and was the only form of telecommunications for most communities to connect to Alice Springs or Kalgoorlie up until the late 1980s². HF Radio was a popular form of communications for Yarnangu, who used it for group conversations across the lands, and to arrange cultural business and regional meetings and events. The service was free, mobile and easily accessible, with an HF radio set available day and night in a public meeting shelter in the centre of each community as well as in most community vehicles. People would even transmit music or radio programs over the network.

The HF Radphone system (which allowed an operator-assisted connection to a telephone) had only one public channel available, with calls having to be booked and all calls able to be heard across the network. Use of the emergency channel by Yarnangu led to complaints from the Royal Flying Doctor Service. In the mid 1980s other HF frequencies were made available, one to talk to Department of Aboriginal Affairs (later ATSIC), one for Pitjantjatjara Council use, and two each (RX and TX) for RFDS Alice Springs and RFDS Kalgoorlie.

In about 1987, Telstra (then Telecom Australia) set up the first telephony system in the region using a Digital Radio Concentrator System (DRCS) solar-powered microwave repeater network. A series of large towers were constructed across the lands at 40-50 km intervals enabling lines of up to 13 repeaters to extend from the exchange to communities up to 600 km away. The DRCS exchanges were designed to carry up to 127 lines of voice and low speed data traffic (maximum 9.6kbps, typically 4.8kbps) enabling fax (used for distributing public notices and written information) and basic dial-up Internet access. Wingellina, Blackstone, Jameson, Warburton, Kanpa and Tjirrkarli were connected to an exchange at Amata in the APY lands, with Warakurna, Tjukurla and Wanarn serviced by an exchange at Yulara. Cosmo Newberry was serviced from Laverton and Kiwirrkura was connected to the DRCS exchange at Papunya in the Northern Territory. ([Thurtell 2002](#), 23)

The introduction of telephones was greatly appreciated by staff and service providers in the region, who could now have private conversations without queues or time limits and competing with other users to communicate. However, the DRCS exchanges were soon stretched beyond their design capacity and had numerous issues: insufficient number of lines to meet community needs; solar powered batteries going flat after two or three overcast days; frequent breakdowns and outages; clicks and echoes causing regular dropouts; data speed barely able to handle facsimile transmissions let alone Internet, data exchange or EFTPOS equipment. By the mid-1990s the DRCS exchanges had become hopelessly overloaded and unable to meet the increasing demand. ([Thurtell 2002](#), 23)

In 1999, Telstra sought to address the congestion by: 1) extending the fibre-optic cable that extended through the APY Lands from Pipalyatjara community to the two eastern-most Ngaanyatjarra communities Irrunytju and Blackstone; and 2) Taking Warburton off the DRCS exchange and installing a Rapid Switching Stage exchange fed by an ITERRA satellite station. This did provide short term relief to the DRCS network, but as Thurtell described, the ITERRA system was “abysmal” and “outages, clicks, echoes and dropouts are still the norm, as is a data transmission speed of 2.4 kbps” making Internet access impossible (Thurtell 2002:24). The ITERRA system was intended to be a temporary solution, to be superseded by a planned extension of optic fibre cable from Blackstone to Warburton, but the extension did not occur and the satellite system was still in place until 2004.

Despite having fibre to the exchange at Irrunytju and Blackstone, the exchanges at both sites were only used for POTS³ with no capacity for ISDN or ADSL. It was not until 2002, after extensive lobbying, that Telstra installed ISDN capability in Irrunytju to enable use of the videoconferencing unit supplied to the Irrunytju School. An early test on this facility drove community demand for a public videoconferencing facility for link-ups with institutionalised family members in prison or hospital.

In late 2003, Telstra upgraded the DRCS microwave telephony network to a Higher Capacity Radio Concentrator (HCRC) Swing system under the USO, providing a more reliable and faster⁴ POTS service and a small increase in the number of lines across the region. However, exchange upgrades were not carried out to meet the community demand for additional phone lines. Several of the smaller and more remote communities rely on satellite telephony.

Following the partial privatisation of Telstra (T1) in 1997 and the T2 sale in 1999, the Australian Government rolled out several programs aimed at ensuring equitable and affordable access to modern communications technology for remote and regional Australia. These included the establishment of the Universal Service Obligation (USO) contract in 1998 and the \$352 million *Networking the Nation* (NTN) funding program from 1998-2005.

In 2000, Ng Council commissioned consultant Peter Farr and Associates to undertake a telecommunications needs audit and strategy for the region, to be used as part of a submission for Networking the Nation funding. The *Networking the Ngaanyatjarra Lands* report noted:

The remoteness of the Lands to major service centres such as Alice Springs, Kalgoorlie and Perth, the great distances between communities, the area's severely limited infrastructure, and the costs of physical movement of people and things, intensifies the need for alternative methods of service provision. ([Farr et al 2001](#), 8)

The major recommendation of the report was to extend the fibre optic network from Blackstone to other communities in the Ng Lands in order to provide a back-haul framework to support further initiatives. However this was not funded by NTN as it was not using 'innovative' technology, was too costly (estimated at \$2.63 million) and was considered to be the responsibility of an existing telecommunications provider under the USO (i.e. Telstra). Only two recommendations of the Farr report were funded – a Virtual Private Network for the region (used to network the Ng Health Service clinics via two-way satellite to the Communicare patient records database) and a UHF Radio network – while those proposals dependent on existing broadband infrastructure were not funded. As a result, the Ngaanyatjarra Lands received relatively little benefit from the NTN.

The Evaluation Report of the Networking the Nation program cited a number of respondents in remote, sparsely populated areas complaining that the "NTN's resources were insufficient to address the very large infrastructure requirements of more remote areas" ([DCITA 2005](#), 46). Several Western Australian and Northern Territory respondents expressed the view "that those who benefited least were remote Indigenous communities, where there is still a high degree of expectation and unmet demand" ([DCITA 2005](#), 60).

Lack of existing infrastructure issue also impeded the outcomes of the NTN-funded iConnect project initiated by Pitjantjatjara Yankunytjatjara (PY) Media in 2001. This project aimed at rolling out pre-paid phone services to community houses across the APY and Ngaanyatjarra Lands using pre-paid cards, eliminating the risk of billed phone services not being paid. PY Media worked with communities to coordinate the orders and facilitated the rollout of services with Telstra. Ng Media worked with PY Media to extend the project into Ng communities to address the high demand from Yarnangu for home phones. However, of the 199 requests by Ngaanyatjarra households in 2003, only 35 services were rolled out by Telstra due to lack of adequate infrastructure, including nine communities having no line availability. Telstra argued that they were not bound by the USO requirement of installation

within three months of ordering because the USO only applied to billed services, not pre-paid services.

The NTN-funded UHF radio network was installed by the Shire of Ngaanyatjaraku in early 2003, with a repeater network reaching most of the Ngaanyatjarra Lands⁵. Within weeks Yarnangu were using the UHF network day and night, as their main form of communications, mostly in language and with several discussions going at once: 'true Yarnangu radio'. Handsets were prized items, with the high demand for AAA batteries being the main issue. The UHF radio network proved a highly effective communications system for Yarnangu, enabling communications across the region via a repeater channel (as well as multiple local use channels), affordable user-friendly handsets, and emergency communications on roads in case of breakdowns or accidents.

Unfortunately the UHF repeater network lasted less than three years due to lack of operational funding for maintenance, damage to towers by camels and difficult access to towers on top of hills to maintain batteries. The issue of ongoing viability of the facilities set up under capital infrastructure programs such as NTN in remote areas is a common one, with many examples of one-off capital projects ceasing operations due to lack of ongoing operational and maintenance funding.

Prior to 2002, the only Internet access in the region was in schools, clinics and the Shire office, using expensive satellite services. In 2002-3, Telstra rolled out two-way Internet satellites (under the government-funded Extended Zones Untimed Local Calls Tender), which made a huge difference in the region, enabling affordable and reliable Internet access in communities for the first time. The subsidy covered installation and equipment costs with a reduced usage cost⁶. However, while this service met the basic needs of most users initially, the service was over-subscribed, slowing down during peak use periods, and the limitations of the two-way satellite soon became apparent. Issues included: Low download limits and high excess costs leading to large bills; services not designed to be networked, requiring a dedicated account for each computer; software not Mac compatible; signal loss in thick cloud or dust conditions; requirement of phone line to set up; asymmetrical service limiting two-way applications (e.g. videoconferencing); and excessive latency.

Local government, schools, health clinics and police had problems accessing on-line servers for records retrieval and communications due to latency issues over satellite Internet. These applications included the WA Police 'Briefcase' records access, the Communicare patient records database used by Ngaanyatjarra Health Service clinics and videoconferencing facilities for court hearings, education or tele-health. The Education Department had set up a costly broadband satellite Internet service at each school, but was unwilling to share this with other community users due to security concerns.

There was a growing need for a terrestrial broadband network in the region to avoid latency and the high cost of broadband satellite usage. A coordinated telecommunications plan was needed to ensure efficiency of cost, inter-connectivity and capacity for future growth. There were also other factors that needed to be considered in determining appropriate infrastructure and services for Yarnangu, including: low socio-economic base; affordability of services; operational and maintenance costs; scalability of infrastructure to meet future needs; mobility of Yarnangu between houses or communities; viability of smaller communities; provision of community access IT facilities, training, technical support, relevant content and resources; Internet banking access and training (with CDEP wages and Centrelink payments paid directly into bank accounts from 2004); access to videoconferencing (enabling family link-ups with those in distant institutions - prison, hospital, aged care – as well as meetings, e-health, training delivery and court hearings, reducing costly travel); cultural and social impact of introduction of more western media and values via broadband, requiring skills development to support Yarnangu communication, language and cultural maintenance, education and empowerment; on-line risks including pornography/inappropriate content,

Internet fraud, viruses & worms; low literacy and English as a second (or third, fourth or fifth) language (audio-visual and icon-based programs more effective than text-based applications).

OPTIONS FOR BROADBAND LONG HAUL

Ng Council, Shire of Ngaanyatjarraku, Ng Health Service and Ng Media devoted significant time and effort in 2002-3 exploring the options for getting broadband telecommunications into the region. The key options for long haul broadband services were:

1. **Satellite:** The benefits of satellite are: relatively inexpensive and easy to install, works in the most remote locations, and enables basic needs for email and Internet. The downside was latency, usage and excess download costs, limited regional network capability, and not suitable for higher bandwidth or symmetrical applications. Seen as a short-term solution by most stakeholders until terrestrial infrastructure could be established.
2. **Fibre Optic:** Benefits include low latency, robust infrastructure, capacity for high speed and bandwidth, relatively affordable services and ability to use as backhaul framework for other infrastructure, such as mobile telephony or extension to other sites via microwave. The only downside was the high cost of installing cable (costed in 2003 at over \$5 million to extend the fibre network 200 km from Blackstone to Warburton and up to \$15 million to extend along the Great Central Road to Wanarn, Warakurna and Docker River)⁷, requiring government funding and an external company to install and maintain a fibre-optic network.
3. **Microwave:** This had become a more realistic option, with new technology repeaters enabling higher bandwidth and longer ‘hops’ of up to 60 km (reducing the number of towers and power supplies required) and lower capital cost than fibre. While independent advice suggested this was the most cost-effective solution, a proposal by NDC costed a regional microwave network at \$6 million to reach four inner communities and an extra \$7 million to reach a further three sites, leaving five sites not linked.

Factors	Satellite	Microwave	Fibre Optic
Cost - Capital (Capex)	Low	Medium	High
Cost - Installation	Low	Medium	High
Cost - R&M	Low-Medium	Medium	Low
Cost - Usage (Opex)	Medium	Low	Low
High use/ excess download	High	Low	Low
Latency	High	Low-Medium (depends on distance)	Low
Max Speed/Bandwidth	Up to 1Mbps	Up to 12Mbps	Up to 100Mbps
Download limitations	Up to 15GB/mth	Can be unlimited, but will affect speed	Can be unlimited
Back-haul	Satellite	Via fibre optic from Blackstone &/or Docker River	Fibre optic

Factors	Satellite	Microwave	Fibre Optic
Range of services	Internet, email	POTS, Internet (ADSL or equivalent)	POTS, ADSL, ISDN, BDSL, GBIP
Videoconferencing capability	No	Yes	Yes
Communities reached	All	Most likely 7-9 of 12	Most likely only 6 of 12
Telco ownership/ Competition or locally owned	Multiple providers- BigPond, Optus, Newsat, etc	Telstra or locally owned and managed	Telstra
Exchange upgrade requirements	No, direct-to-building service	Yes, may need new node facilities	Yes, to enable new services to be added
Portability	Can be easily relocated	Can be relocated but towers are fixed	No, fixed underground cable to exchange
Scalability	Can easily upgrade services or add more dishes	Would need to replace repeater equipment, all else scalable	Already has high capacity to meet future needs
Ability for regional wide area network (WAN)	Not easily	Yes, for communities linked	Yes, but through Telstra product

Table 1 - Comparison of the primary broadband options

The regional consensus was that a terrestrial communications network – via fibre optic cable or microwave transmission – was the best option in terms of ongoing cost to the communities, reducing latency issues and enabling videoconferencing and future applications. However, both solutions required significant up-front infrastructure funding. Based on the costing received, broadband microwave transmission network was the most cost-effective solution to deliver the range of services and applications and most likely to gain funding.

Ng Media proposed that Ngaanyatjarra Council seek funding for a Ngaanyatjarra-owned and managed microwave broadband data delivery network, with savings by building on the Ngaanyatjarra-owned UHF network infrastructure (which was in planning phase with eleven towers to be built across the Lands). By owning the infrastructure, intra-regional communications would be effectively free (apart from maintenance costs), with payment only for use of the Telstra fibre backhaul ([Featherstone 2003](#)).

However, Ngaanyatjarra Council and Shire of Ngaanyatjarraku representatives were not enthusiastic about owning and managing telecommunications infrastructure, preferring to have any infrastructure installed and managed by Telstra, the existing telecommunications service provider for the region. The Shire of Ngaanyatjarraku even offered to contribute some funds to Telstra towards infrastructure costs. But Telstra Countrywide were not prepared to cover any capital costs of installing terrestrial broadband infrastructure (fibre optic or microwave) in the Lands as the returns from the region were not commercially viable, noting that their service obligation was fulfilled by the provision of two-way satellite services. Telstra suggested that Ngaanyatjarra Council seek government funding.

With applications closed for the NTN program, no alternative broadband infrastructure program available, and DCITA⁸ advice that they would not fund infrastructure projects that were considered the responsibility of the telecommunications service provider, Ng Council was in a quandary. It was with this conundrum in our minds that John Thurtell and I headed to the Regional Communications Forum in Canberra in October 2003.

THE NLTP PROJECT BEGINS

Following the Regional Communications Forum, Ng Council, the Shire of Ngaanyatjarraku, Ng Media and the WA Government all began to work together on a joint submission to deliver broadband in the region. The WA Department of Industry and Resources (DOIR) applied for the Coordinated Communications Infrastructure Fund through DCITA. The bid was successful for the maximum \$2 million funding, which was matched by WA Government funding of \$2 million, with Shire of Ngaanyatjarraku also contributing \$750K to extend the outcomes of the project. The total project budget was \$5.8 million, comprising the \$4.75 million funding and anticipated expenditure on telecommunications services by stakeholders over 4 years of \$1.05 million.

Beginning in May 2004, the Ngaanyatjarra Lands Telecommunications Project (NLTP) was a four-year collaborative project with the aim of providing enhanced broadband telecommunications services to the twelve Ngaanyatjarra communities and improving government service delivery to the region. The NLTP Steering Committee comprised representatives from the key WA Government departments (Industry and Resources (DoIR), Treasury and Finance (DTF), Western Australian Police Service (WAPS), Education and Training (DET), the Attorney General, Justice (DoJ), Local Government & Regional Development (DLGRD) and Community Development (DCD) as well as regional stakeholders Shire of Ngaanyatjarraku, Ng Council and Ng Health Service.

The project was managed by Anson Cheng, a former telecommunications engineer employed by DoIR, who did an outstanding job in coordinating the project, communicating with all stakeholders throughout the process and seeking to gain the maximum possible ‘bang for the buck’ from the project. The telecommunications needs of each stakeholder were identified, along with the likely expenditure on services to help make up the case for the negotiation. \$4 million was allocated for the infrastructure and 5-year service contract, with the remaining \$750K budgeted for additional services and project management costs.

A Request for Proposals was put out to the market in early 2005. The contract was non-technology specific with the requirement that the solution be capable of handling “email and Internet, videoconferencing and voice communications and high-speed high volume business applications” (Cheng 2005, Slide 20). The respondents had to propose a sound infrastructure solution (with demonstration of ‘proof of concept, commitment to ‘buy-local’ for goods or services where possible, and a proven track record to deliver projects of this scale on time and budget. The successful contractor would be responsible for design, construction, commissioning, operating and maintaining the network infrastructure, with ownership of the infrastructure and equipment granted at the end of the 5-year contract period (Cheng 2005, Slide 19). Several respondents argued that the \$4 million being offered was insufficient for the scale of the project being tendered, with some proposed budgets significantly above this amount. Three preferred tenderers were selected and asked to submit a full submission. After a lengthy assessment and nearly a year spent in a complex negotiation process, Telstra eventually won the contract in June 2006.

While most bids proposed satellite or microwave solutions to the twelve disparate communities, Telstra proposed a fibre optic solution for the six larger central communities, with a broadband ITERRA digital satellite solution for the other six communities as a potential future project (requiring additional funds). Telstra proposed an upgrade to the

existing optic fibre routes between Wingellina and Blackstone, and adding 385 kilometres of new 12-fibre cable from Blackstone via Jameson west to a T-junction at Bajic Corner, extending south-west to Warburton and north-east to Warakurna, with a 15km link to Wanarn, as per the diagram below ([Cheng 2006](#), 4)

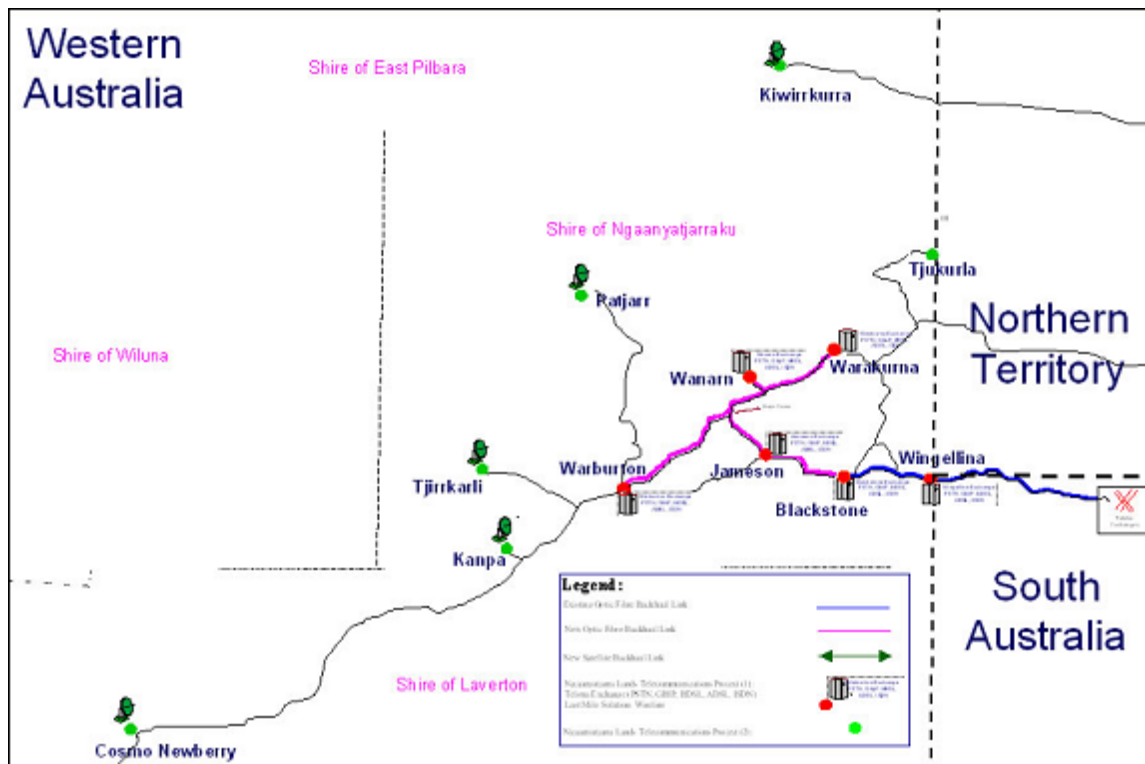


Figure 2 - Map showing fibre path of optic rollout (in pink) to six communities, with satellite solution for remaining six communities under NLTP Stage 2. (Figure courtesy of Anson Cheng, WA Government)

The transmission paths were to be provided on multiple 622 Mbps Asynchronous Transfer Mode Systems, as an extension of the existing Core SDH Network ([Cheng 2006](#), 4). The solution included exchange upgrades in each community to enable STS, ADSL, BDSL, ISDN and VPN at each site, and an increase in phone line availability. The last mile would make use of existing copper cable distribution for DSL and ISDN services, with the schools and police facilities to have fibre optic cable run to enable high-speed GBIP services (2Mbps).

Telstra’s proposal for the fibre optic solution was costed at \$6.4 million, to be made up of the \$4 million funding and \$2.4 million Telstra capital investment, to be recouped in broadband usage contracts over five years. The Project Evaluation Committee determined that the benefits of having a terrestrial fibre solution to only six communities, which could be built on for future solutions (mobile telephony, extension via microwave to more remote sites etc), was best value-for-money and would address many of the issues of latency and higher capacity application needs such as videoconferencing. To ensure Telstra’s return on investment, each anchor tenant in the project was required to sign a 5-year contract for services with Telstra.

Ngaanyatjarra Council, Ngaanyatjarra Health Service and the Shire of Ngaanyatjaraku negotiated in their contract to share the cost of a single dedicated 512K BDSL service in each of the six communities (a total of \$54K or \$18K each per annum). This included an Internet plan with unlimited download for each of the six sites, which ensured a fixed annual cost in the event of increased demand and growth in use for five years. The negotiated contract also allowed distribution and on-selling of the service to enable shared community and agency access and cost-splitting.

While the fibre solution was ideal, there were still six communities from the original project brief that would not benefit. Some of these smaller and more remote communities had already had some health and education services withdrawn, making access to effective communications and on-line service delivery critical to their ongoing viability. The Steering Committee agreed that these sites should also receive improved broadband communications, allocating \$350K for NLTP Stage 2 to provide a centralised satellite broadband solution with WiFi last-mile delivery in these six sites.

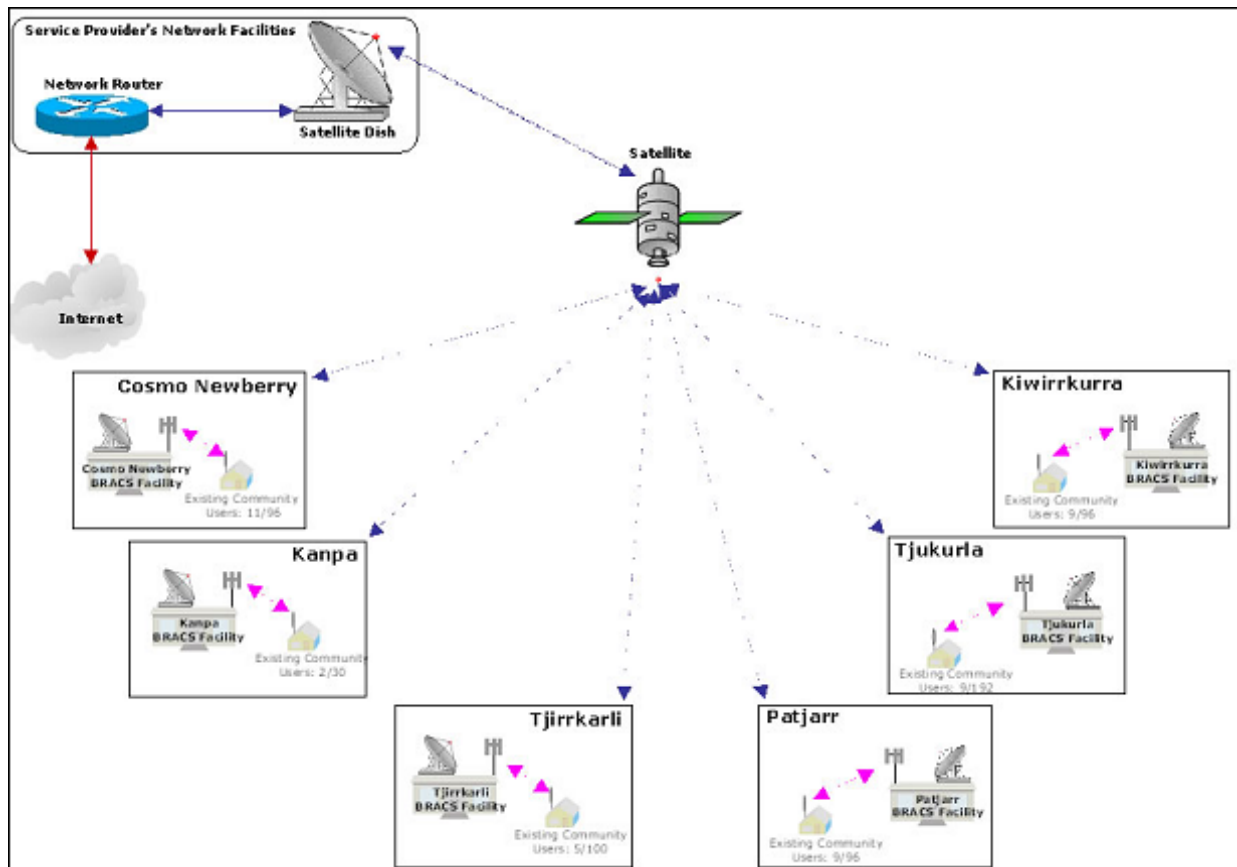


Figure 3 - NLTP Stage 2 showing broadband satellite delivery to six outlying communities.
(adapted from diagram by Anson Cheng, WA Government)

The Ngaanyatjarra Lands Telecommunications Project took another three years to complete, including gaining Aboriginal Lands Trust and Shire approval, archaeological assessment, flora and fauna impact studies, land use clearances by traditional owners, and scheduling of the cable-laying contractor. Initially the exchanges were upgraded at Irrunytju and Blackstone and tested in 2006 as a ‘proof of concept’. The other four exchanges required significant upgrades or replacement to accommodate the new equipment.

The rollout of cable was the most expedient part of the process, with a convoy of earthmoving equipment covering up to 30km a day clearing the vegetation along the route, digging the trench, laying the cable, covering the trench and planting yellow marker posts every 200m or so. The only holdup was heavy rain leading to the whole rig being relocated to another region for a couple of weeks until the mud dried out. Finally the fibre network was ‘lit up’ and tested in late 2007, and was officially launched in Warakurna community in April 2008.



Figure 4 - The fibre optic cable being laid near Blackstone community.
(Photo: Daniel Featherstone/ Ngaanyatjarra Media)

Initially Telstra planned to only install the high-end stakeholder solutions – GBIP, BDSL or ISDN – with ADSL only provided if at least 30 households/offices signed up for services. We argued that the project was funded to provide affordable and accessible broadband services to communities, not just government agencies, and Telstra finally relented and installed ADSL equipment. There was substantial take-up of ADSL services by community facilities, service providers and staff households, but none initially by Yarnangu households. Despite concerns by Telstra over competition, there have been no other suppliers delivering ADSL or telephony services in the region via Telstra’s fibre network to date.

The first stage of NLTP resulted in a significant improvement in broadband access and uptake in those communities. However, we still had to provide broadband services to the remaining six communities and install a last-mile delivery system for sharing the services in all twelve sites.

CONSIDERATIONS FOR LAST MILE DELIVERY

While the negotiated single BDSL service significantly reduced the investment required of the three regional stakeholders in the NLTP project (down from \$180K to \$54K pa), it raised the issue of how to effectively share this service. It was initially planned that the BDSL would be shared with community and roving users, however this raised a number of issues around access, security, cost recovery from various users, last mile delivery systems, network management (prioritisation of usage by user or application, virus scanning, content filtering, network and traffic segregation, identifying excessive usage etc), R&M and technical support, and redundancy systems.

To avoid these issues, the Shire decided that the BDSL service should be connected to the clinic in the six sites with all other users to get separate ADSL services. However the BDSL did not meet the Ng Health Service needs, replacing it with a higher-speed ADSL service to enable videoconferencing, with the BDSL service relocated to the RIBS transmission facility for sharing via wireless last-mile delivery.

Ngaanyatjarra Council, the Shire of Ngaanyatjarraku and Ng Health Service agreed to pay a third each of the BDSL service for the 5-year period (to 2011), effectively subsidising all other community users on the network and simplifying the issue of cost-recovery from multiple

users. With most community facilities having already purchased ADSL accounts, the focus shifted to the needs of community users and roving service providers and last-mile delivery options.

Ng Media, with the help of telecommunications consultancy firm Civitium, was tasked with determining appropriate technology options for the last-mile delivery of services, with the key considerations being: cost (capital, labour, R&M, usage), range, speed, reliability and accessibility. The basic aim was to provide free community access to the shared broadband service for Yarnangu, community agencies (office, store, CDEP, art centre, media centre etc) and visiting service providers via a reliable last-mile service. With most community agencies in the inner six communities signed up to ADSL services, the focus shifted more to the needs of community users and the remaining six communities. While wireless delivery was the easiest and most affordable, there were a variety of wireless options to consider.

In response to concerns about the reliability of wireless by some regional stakeholders, Ng Media assessed the option of running cabling from the central site to key community facilities. While this enabled a reliable and secure network link, it would require extensive trenching, conduit, and cable and network infrastructure. Cat 5e cabling was ruled out as it was only suitable for short distances up to 100m and had a limited life of 6-10 years. Fibre optic cable would have to be used, requiring expensive conversion equipment at each end, making this solution too costly. We also considered the new technology of Ethernet over Power (EoP), using the community powerlines for distributing broadband. While this was proven technology within a household, there were few examples of its successful application over a larger network with separate lines, and concerns of risks due to faulty wiring. This effectively ruled out terrestrial last-mile distribution, leading us back to wireless technologies. The central TV/radio broadcast tower and RIBS facility in each community provided line of sight over less than 1km to most households, making it the obvious facility for wireless broadband distribution via an access point with omni-directional antenna (or cluster of 60° or 120° antennae).

We considered Motorola Canopy wireless equipment, which is a robust, secure and proven technology for commercial and remote use. However, the system uses a proprietary encryption system requiring a subscriber module for each user, making the equipment cost too high for our budget (a point to multi-point setup with 1 Access Point, 3 subscriber modules, mounting brackets and a cluster management module cost nearly \$10,000 before installation). The subscriber system also prevented shared “hot spot” access for community or roving users, which was considered more important than a secure network

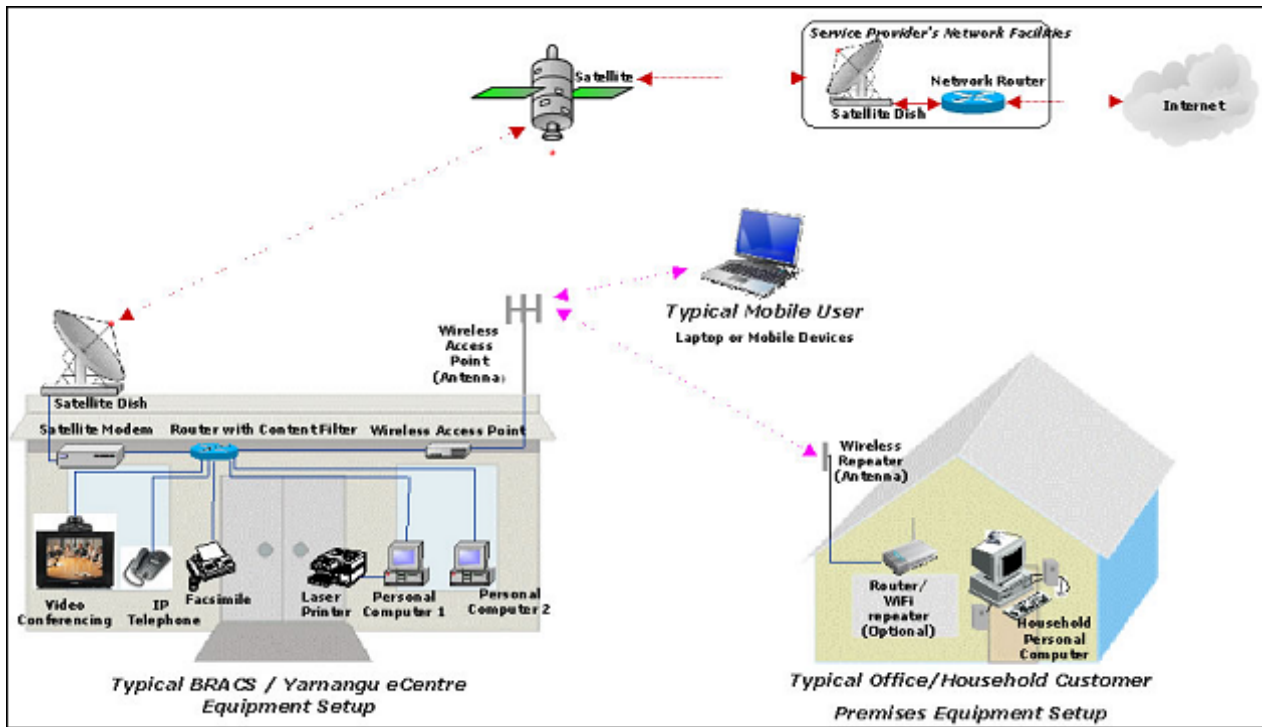


Figure 5 - Last mile wireless distribution (adapted from diagram by Anson Cheng, WA Government).

Following an assessment of other wireless technologies (including the new WiMax), it was concluded that commercial grade WiFi was the most appropriate and cost-effective solution, enabling access by any number of potential subscribers (although speed would suffer as contention increased). WiFi would enable ‘hot spot’ access by any user with standard laptop or mobile device with wireless reception capability anywhere in the community. While a single transmitter from the broadcast tower was preferred, WiFi Mesh technology could extend the coverage area in case of signal loss due to distance, trees or other barriers, by strategically positioning repeater access points on power poles around the community. Domestic WiFi routers could be set up as local repeaters to boost the signal inside buildings where signal strength was low. A password could be added to limit access, but it was considered counter-productive to have tighter security and management measures (e.g. ‘Hot Spot’ management software) in the initial stages.

NLTP STAGE 2

With the last-mile delivery system worked out, the NLTP Stage 2 project began in 2008 to build on the NLTP, to provide satellite broadband and last-mile WiFi transmission to the 6 communities that did not receive the fibre optic solution. \$350K funding was granted directly to Ngaanyatjarra Council to provide improved broadband satellite equipment and services to the six remaining communities that did not receive the fibre optic rollout-Kiwirrkurra, Cosmo Newberry, Kanpa, Patjarr, Tjukurla, and Tjirrkarli. Ng Media was contracted to install the broadband satellite dishes and shared WiFi equipment, and manage the operational costs, including payment of satellite costs and ongoing repair and maintenance, for a three year period (to mid 2011). The WiFi service would enable access to the broadband service by community facilities, Yarnangu and support staff when travelling in the region. However, the relocation of BDSL services took nearly a year due to Telstra outsourcing all new line connections and trenching to contractors who rarely visit the Lands.

Ng Media’s Technical Services Unit installed and commissioned the 1.8 m satellite dishes in the six communities in late 2008. After a comparison of satellite services available, a Newsat service with speed of 1024/256 kbps and 10GB download cap per month was selected. The

service was initially networked within the Media building or community office where installed prior to WiFi rollout.

The rollout of WiFi equipment to all twelve communities was carried out by early 2010⁹. Ng Media had extended the scope of the WiFi rollout with funding from DLGRD for a Communications Access project, providing WiFi in the other six sites in conjunction with the replacement of broadcast towers in seven communities. All WiFi units were set up with a common password to enable authorised users with easy access in any community. The wireless access points (APs) were collocated on the broadcast tower with the TV & radio retransmission and BDSL router in the RIBS broadcast facility, allowing coordinated technical support. Ng Media installed a Cisco router at each site to enable remote monitoring and technical support, and to redirect DNS web traffic to an external content filtering service (Open DNS). For cultural sensitivity reasons, filtering was critical prior to sharing the Internet service.

Despite using 3x120° antennae to ensure strong signals, the coverage was still not as uniform as hoped, with significant signal loss through trees and metal-clad buildings. We boosted the signal with two-way amplifiers, with possible need for additional WiFi Mesh units in larger communities to reach ‘shadow’ areas.

YARNANGU OWNERSHIP, ACCESS AND SKILLS

Once the NLTP was underway, Ng Media sought to establish community access facilities, training and on-line content, and help build Yarnangu awareness of the potential benefits and pitfalls of this technology. We needed a proof of concept for relevant and appropriate use of broadband and ICTs.

Telecentres WA, a WA Government initiative to provide community access computers to regional centres, provided the first-in solution. Telecentres WA received NTN funding to build robust telecentres, or MITEs, for Indigenous communities and encouraged Ng communities to apply. Ng Media successfully applied for a MITE in Wingellina, which included eight access computers, server and videoconferencing equipment, with an ongoing operational fund of \$20K pa. The 20-tonne 3-room transportable building, which was set up in early 2004, provided a test site for community access to computers, Internet and self-paced training. Internet was provided via a shared two-way satellite service (with 1GB download limit) and a single 128kbps ISDN line connected for video conferencing.



Figure 6 - Irrunytju Telecentre (MITE)- typical daily community use. (Photo: Daniel Featherstone/ Ngaanyatjarra Media)

Ng Media employed an IT trainer to work in the telecentre and develop non-accredited training models, locally produced media content and resources, and source relevant on-line content. The telecentre proved to be very popular with hundreds of users each week listening to music, looking at local photos and videos, using Internet banking, playing online games and using the Ara Irititja archive computer. This provided a model for Internet access and skills development to extend other communities. Telecentres WA followed up with telecentres for Warburton, Tjuntjuntjara (to the south) and Warakurna. Ng Media looked for an alternative low-cost model to provide community access computers in the other communities to help prepare Yarnangu for the arrival of broadband.

In 2006-7, Ng Media delivered basic IT training to over 530 people and basic technical training to 60 people in 16 communities in the region under the Future Skilling Outback (FSO) WA project. Initially we set out to establish an e-centre in each community as a discreet space where Yarnangu could access and use computers for their own purposes. Through the NLTP, WA Government departments donated 69 second-hand PC computers, enabling us to install up to four PCs at each site in addition to a Macintosh computer for media applications. The computers were installed in the telecentres in three communities or in the community media centre (RIBS) in most others. Participants helped to clean, paint and furnish their media e-centres using donated materials, building local ownership and participation. We networked the computers to a server sharing access to content – music, photos, videos – and Internet where available (via satellite prior to NLTP).

Local Yarnangu trainer/supervisors were trained and employed to assist with training, manage the facility and provide ongoing support for community users between visits by roving trainers (a male/female team for gender-based training), with a Help-desk phone set up for support. Initially we focussed on engagement using off-line media applications such as music, digital photography, digital art, games, Ara Irititja regional archive project, video editing and music recording music, with many people getting involved and beginning to use computers regularly. From there we progressed to text-based and on-line applications including Internet banking and web searching. We developed relevant training resources, content and environment to ensure ownership, participation and sustainability beyond the life of the project.



Figure 7 - IT training and computer use at Jameson Community media centre. (Photo: Ngaanyatjarra Media)

We continued to build on this with other IT training programs under the Backing Indigenous Ability (2007-2009) and current Indigenous Communications Program, resulting in IT usage becoming a common part of community life. Ngaanyatjarra Media has also set up a regional website (www.ngurra.org) to provide a public face for communities from a Yarnangu perspective. As part of regional IT training, participants have contributed stories and photos to the regional portal website and uploaded local music recordings to iTunes store and video productions onto Youtube. Yarnangu are increasingly capable of participating in work that requires some computer usage, including working in the community office, store, school, clinic, media centre, and arts centre.

In order to further support Yarnangu uptake of communications technology Ng Media set up the regional Ngaanyatjarra Media & Communications Centre in Irrunytju (completed 2008). This facility includes the upgraded and highly popular Irrunytju telecentre and provided a regional hub for the network of community on-line media centres and telecentres by coordinating training, broadcasting, resource production, local language media and on-line content, archiving and technical support.

The ongoing community use of telecentres and e-centres have led to a majority of community members now having some level of IT skills and awareness of on-line services.

According to research undertaken in the region by Dr Inge Kral (2010), the continued access to the new generation media centres provide a Lifespan learning environment for young people to engage, develop skills, create media and increasingly take on professional and leadership roles in their communities. In Ngaanyatjarra communities, Kral has observed young people in communities progressing from basic IT experimentation with Mac-based iLife software to video editing, DVD production, music recording and CD production using GarageBand software. She notes that “competence is gained informally through observation, peer learning, trial and error, practice and interactions with non-Indigenous mentors.” (Kral 2010, 6) Kral refers to international research that locates the ‘digital bedroom’ as the most vibrant digital learning environment for youth, describing the community media centres as “the *communal* ‘digital bedroom’. With up to 20 people sharing a house and limited access to

IT facilities or connectivity at home, the media e-centres provide facilities, relative privacy and tools for media production and storage.

However, the reliance on these facilities is shifting as access to telecommunications and mobile technologies improves. With the introduction of WiFi in Ng communities, there have been numerous reports of Yarnangu buying personal computers or laptops for use at home and connecting via WiFi with friends in other communities and outside the Lands using Facebook or email. Along with mobile telephony, this is creating new opportunities for skills development and creative expression, as Kral describes

As mobile phones, digital cameras, MP3 players, Touch iPods and even laptop computers have become affordable, this has placed smaller mobile technologies in the hands of Indigenous people, predominantly young people under 25. The control of technology has shifted away from institutional locations or non-Indigenous authorities and young people are now initiating productive activity in ways that were previously unimaginable. Digital technology is firmly part of people's everyday lives. ([Kral 2010](#), 6)

In the article 'Beyond Public Access? Reconsidering Broadband for Remote Indigenous Communities', [Rennie et al 2010](#) consider the relative benefits of community access on-line centres compared with shared wireless services for individual household access. They argue that the assumption of shared community access facilities (e.g. telecentres) as the ideal model for remote communities needs to be tested:

Although some level of community ownership and organisation is desirable and necessary in the remote context, the question is whether this should always or generally provide the exclusive paradigm for access and use. Innovative models, such as that emerging in Wingellina and through the PY Ku network, demonstrate that the 'public' or community role might be better targeted at infrastructure and networks that reduce economic and technological barriers, leaving a space for individual and household use. ([Rennie et al 2010](#), 65)

They conclude that while current community use occurs "within the public domain of the community access centre", that the "inverse scenario, where connectivity is widely and publicly available, and use occurs according to the individual's need and location, may be key to overcoming the digital divide in the long term." ([Rennie et al 2010](#), 66)

With this project, Ng Media has sought to provide equitable access to communication tools for Yarnangu, free of the external restrictions over location, time and conditions of use.

INITIAL BENEFITS OF BROADBAND

The NLTP is already making a difference in the region, enabling service providers to use increasingly sophisticated applications. Primary school children are using on-line applications such as Google Earth and Virtual Classroom; Police and health staff can access records throughout the region; videoconferencing facilities are being used for court hearings (reducing unnecessary travel), tele-health, training, meetings and family link-ups; government service delivery is more efficient; communities can access up-to-date accounting and on-line banking information; roving staff can connect to WiFi for email and Skype communications in any community at any time; community generators and water filtration systems can be monitored remotely.

As costs of services come down and higher bandwidth services become available, enabling delivery of high-speed traffic over a regional network, the potential applications for media sharing, tele-visual communications will open up: mobile VoIP telephony, IP videoconferencing, regional IPTV networks using digital TV sets to connect to local

broadcasting via WiFi, on-line Ara Irititja archive database, community uploading of videos for ICTV or Indigitube (remote media streaming website).

THE PROS AND CONS OF MOBILE TELEPHONY

Another key outcome of the establishment of fibre optic backhaul infrastructure has been the capacity to provide mobile telephony. Following lobbying from the Shire of Ngaanyatjarraku, the WA Government secured additional funding to establish a Telstra Next G mobile tower in Warburton in 2008, with the possibility of others to come in Warakurna and Blackstone. The Shire considered mobile communications to be a positive and necessary development in the region to support travellers, government and regional service providers and Yarnangu to have access to telephony in the community.

Mobile telephony is increasingly being seen as the most appropriate mode of telephony in remote Indigenous communities. Due to shared households and lifestyle (mobile populations, living outside of houses and homelands outside of communities), mobile telephony is a more appropriate form of telephony access. In remote communities where mobile telephony has been installed, mobile phones are tending to be more popular than fixed services in remote areas. Even in sites where there are no services there is high uptake of mobile phones for use as a media storage tool and for use when in coverage areas. Mobile phones are being used as a media creation/distribution tool, sharing content via Bluetooth, and will increasingly be used for the next generation of media makers.



Figure 8 - Mobile phones are being used to play and share videos even in communities without mobile coverage (Photo: Daniel Featherstone/ Ngaanyatjarra Media)

However, there are significant issues relating to mobile telephony for remote Indigenous communities, including: high cost of usage, especially for pre-paid services, making it significantly more expensive than fixed line services ([Dyson and Brady 2010](#))¹⁰; access to inappropriate content; and unsolicited calling and marketing. In Warburton community, the high cost of usage is a major issue, with many people owning mobile phones but unable to afford recharge cards. As [Dyson and Brady 2010](#) contend, if mobile telephony is to be the primary service for communities, measures need to be taken to make it affordable such as including it under the USO with an untimed capped call rate of \$0.30.

Further, mobile telephony should not be seen as a replacement to alternative technologies such as UHF radio, which provides free communal communications and greater coverage areas, or community WiFi, enabling free home Internet and VoIP access via shared broadband services.

CONCLUSION: THE NEED FOR A TRULY NATIONAL BROADBAND NETWORK

While only just beginning to realise its potential usage and applications, the NLTP provides an example of the significance of providing broadband to remote Indigenous communities. The sustainability of remote communities could well depend on the availability of high quality communications infrastructure to enable access to tele-health, remote education, videoconferencing, online government services and eco-tourism and other economic opportunities. Increasingly, new infrastructure such as water treatment, generators, telephone exchanges, server equipment and broadcasting facilities are being managed remotely, reducing the cost of contractors having to visit communities to carry out servicing.

In 2009, the Rudd Labor government introduced the \$43billion National Broadband Network (NBN), which aims to build a super-fast national fibre-to-the-premises network. Despite Telstra's initial reluctance to cooperate with the project, on 20 June 2010, the Government announced an \$11 billion deal with Telstra to lease its fixed network access infrastructure for the NBN and to move Telstra's fixed line customers to NBN fibre, closing down the copper access network. On 29 November 2010, the Gillard government passed two key bills allowing the structural separation of Telstra to prepare the way for the NBN to proceed. The rhetoric is that the NBN will reduce the current digital divide for regional and remote areas. The NBN is now aiming to connect 93% of all Australian premises with fibre-based services (at 100Mbps) and the remaining 7% with next generation wireless and satellite technologies (at least 12Mbps) (www.nbnco.com.au), but no further detail is given on which technology (wireless or satellite) will be provided to remote and very remote communities. What is clear, however, is that a project such as the NLTP is highly unlikely to occur in other remote regions under the NBN.

With the establishment of a new company (no longer Telstra) to provide last-resort USO telephony services, there is an opportunity to ensure that remote areas are appropriately serviced under the NBN, with consideration of maximum latency measures on backhaul infrastructure, fixed-rate mobile telephony as a primary telephony service, inclusion of pre-paid services, capacity for high-bandwidth applications (such as IPTV and videoconferencing) over regional networks, and provision of shared access community broadband services (e.g. using WiFi). Just as the NLTP sought to provide scaled services to its remaining six communities, the NBN should also provide improved services to all Australians regardless of remoteness.

This case study shows the value of broadband access in helping to break down the tyranny of distance through the use of new communications technologies (e.g. videoconferencing, VoIP, social networking) and enabling access to on-line service delivery, training applications, remote support and broader networks. Beyond the provision of reliable backhaul infrastructure, it describes an appropriate last-mile delivery model using WiFi to enable cost-effective community access and ensure indigenous people are not subject to a localised 'digital divide'. Provision of community access e-centres and recurrent IT training and technical support and on-line content development programs have been shown to reduce the 'digital divide' for Indigenous people and provide significant outcomes in terms of education, employment, engagement and empowerment.

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All network diagrams courtesy of WA Government (created by NLTP Project Manager Anson Cheng). Photographs and Ngaanyatjarra Lands map courtesy of Ngaanyatjarra Media. Permission has been granted for use of all images.

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ACRONYMS:

5NPY	5 Ngaanyatjarra Pitjantjatjara Yankunytjatjara (satellite radio network)
ADSL	Asymmetric Digital Subscriber Line
AP	Access Point
APY	Anangu Pitjantjatjara Yankunytjatjara (Lands)
ATM	Automated Teller Machine
ATSIC	Aboriginal and Torres Strait Islander Commission
BDSL	Business Digital Subscriber Loop (Telstra product)
BIA	Backing Indigenous Ability
BRAC	Broadcasting for Remote Aboriginal Communities Scheme
S	
CB	Citizens' Band
CCIF	Coordinated Communications Infrastructure Fund
CDA	Community Development Adviser
DBCD	Department of Broadband, Communications and the Digital Economy
E	
DCD	Department of Community Development

DCITA	Department of Communications, Information Technology and the Arts
DET	Department of Education and Training (WA Government)
DLGR D	Department of Local Government and Regional Development (WA Government, now Department of Regional Development and Lands)
DNS	Domain Name System
DoIR	Department of Industry and Resources (WA Government)
DoJ	Department of Justice (WA Government)
DRCS	Digital Radio Concentrator System
DTF	Department of Treasury and Finance
EoP	Ethernet over Power
FSO	Future Skilling Outback WA (IT Training and Technical Support)
GB	Gigabyte
GBIP	Government Broadband Internet Protocol Services
HCRC	High Capacity Radio Concentrator (microwave telephony system)
HF	High Frequency (Radio)
ICT	Information and Communications Technology
ISDN	Integrated Services Digital Network
IP	Internet Protocol
IPTV	Internet Protocol Television
IRCA	Indigenous Remote Communications Association
IRDP	Indigenous Regional Development Program (WA Government program)
ISP	Internet Service Provider
kbps	Kilobits per second
LAN	Local Area Network
Mbps	Megabits per second
MITE	Modular Interactive Technology Environment
MFPP	Multi-Function Police Facility
NBN	National Broadband Network
NDC	Network Design and Construction (a subsidiary of Telstra)
Next G	Next Generation (Telstra mobile telecommunications product, based on 3G)
Ng	Ngaanyatjarra
NLTP	Ngaanyatjarra Lands Telecommunications Project
NOIE	National Office of Information Economy
NT	Northern Territory
NTN	Networking the Nation (the Commonwealth Government's Regional Telecommunications Infrastructure Fund)
ODN	Outback Digital Network (NTN-funded project)
PC	Personal Computer
POTS	Plain Old Telephone Service
PY Media	Pitjantjatjara Yankunytjatjara Media
RFDS	Royal Flying Doctor Service

RIBS	Remote Indigenous Broadcasting Service
RIMO	Remote Indigenous Media Organisation
RX	Receive
SA	South Australia
STS	Standard Telephone Services
TAPRI C	Telecommunications Action Plan for Remote Indigenous Communities
TX	Transmit
UHF	Ultra High Frequency (Radio)
USO	Universal Service Obligation
VET	Vocational Education and Training
VoIP	Voice over Information Protocol
VPN	Virtual Private Network
WA	Western Australia
WAPS	Western Australian Police Service
WiFi	Wireless Fidelity
WiMax	Worldwide Interoperability for Microwave Access

ENDNOTES:

- 1 The ‘homeland movement’ was a Federal government program initiated by the Whitlam government in the early 1970s to enable people to return from centralised missions and reserves to their traditional homelands and outstations
- 2 Warburton Community had a Telstra Radio telephone until the late 1980s.
- 3 POTS: Plain old telephone service
- 4 Increased to a maximum 19.2 kbps, from the 9.6 kbps of DRCS.
- 5 A similar NTN-funded UHF network was also installed in the APY Lands in 2004.
- 6 Bigpond EZ Services ranged from a basic service for \$25 p.m. to the Business-grade service, which was \$60 p.m. with an advertised maximum speed of 400/64 kbps and a 1GB download limit.
- 7 Costing provided by Telstra Countrywide, June 2003, based on a cost analysis done in 2000.
- 8 The then federal Department of Communications, Information Technology and the Arts
- 9 The contractors recommended Ligowave WiFi access points, which they had installed in mining sites and, while relatively inexpensive, were robust and reliable.

- 10 Recent research by [Dyson and Brady](#) (2010), undertaken in Cape York community Hopevale where a mobile tower was installed in 2008, indicated that 55% of residents owned or shared a mobile phone. The average monthly usage costs were \$378, compared with about \$47.95 for a fixed line phone for the same number of calls, or about \$45 using the public payphone.

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BROADBAND IN THE HOME PILOT STUDY: SUBURBAN HOBART

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This paper reports on a pilot study conducted throughout 2010 in inner suburban Hobart. The aims of the project are threefold. Firstly, it seeks to develop a fuller understanding of existing domestic broadband consumption and its relationship to other forms and patterns of media and technology consumption. Secondly, it attempts to gain insight into domestic consumers' expectations and imagined scenarios of use for fast broadband. Thirdly, it compares the expectations of providers (policy makers, engineers, entrepreneurs) with the previously mentioned end-users, to examine overlap, intersection, and divergence.

This paper presents some of the preliminary findings from these intimate portraits of present and imagined future domestic broadband consumption, focusing in particular on aims one and two.

INTRODUCTION (BACKGROUND AND AIMS):

The Australian National Broadband Network (NBN) aims to roll-out optic fibre-to-the-premises (FTTP), upgrading existing copper wire infrastructure to connect up to 93 per cent of homes, schools and workplaces across Australia with broadband speeds of 100 megabits per second¹. The introduction, adoption and use of this high speed broadband (HSB) will have implications for economic productivity, for government and private services, and for social and family life. Whilst the NBN is often discussed on the national scale in terms of economic growth, productivity, and innovation the possibilities and implications of HSB at the micro scale of daily domestic life are important for these larger aggregations; yet they remain uncertain, and thus require investigation and interpretation.

The home is a site of deep significance in people's lives ([Lawrence 1987](#); [Hareven 1991](#)), and important changes in the home both reflect and reinforce this significance ([Bammer 1992](#); [Tabor 1998](#)). The Australian home has in recent time become a place characterised by a range of information and communication technologies, cabled and wireless communication systems, interactive computer games, online social networking, personal entertainment systems, and so on, many of which rely upon broadband technology for their operation. The next five years will almost certainly see a wider appropriation of HSB and all that this capacity implies.² The domestic home, then, forms a key site for mapping the present and possible future uses of broadband technology, and present and possible futures of daily life. The purpose of the present pilot study (and planned larger study) is to develop a detailed and improved understanding of the social, technological and economic dynamics that presently shape domestic broadband use; the relationship of broadband to other forms and patterns of media

use and wider technology consumption; and the shifting patterns and imagined expectations of future use for HSB at an individual and family level.

Understanding in detail the early stages and evolving dynamics of broadband introduction, appropriation and experience in the home is critical to:

- mapping shifting arrangements or practices of education and employment from home, and what this will mean for domestic life, for the economy and for the relationship of the home to schools and workplaces;
- informing effective, evidence-based policy and policy implementation – including regulatory responses – in the Australian communications and media landscape;
- understanding domestic leisure and the implications of HSB for media consumption and production, patterns of media usage, and modes of communication.
- and most importantly, understanding the implications of all of the above for the performance of family life.

This research builds on our previous work on “connected homes”, which considers the interplay of multiple technologies and practices in the home, rather than focusing on particular technologies in isolation ([Arnold 2004](#); [Arnold et al. 2006a](#); [Arnold et al. 2006b](#); [Davis et al. 2008](#); [Nansen et al. 2009](#); [Nansen et al. 2010](#), [Nansen et al. 2011](#); [Shepherd et al. 2006](#); [Shepherd et al. 2007](#)). We aim, therefore, to consider the complementary and disruptive relation of FTTP to other in-premises connections, such as wireless; the relation of newer services and devices in relation to legacy systems (eg shifts from dial-up to HSB, broadcast to IPTV, VCR to PVR); the challenges of and solutions to questions of interoperability; and questions of technology accumulation,³ placement and routines of use, and of course, what this implies for the experience of family life.

In addition to our own previous work, the current study is informed by approaches in media studies that trace how the uses and experiences of new technologies within the home emerge over time as they are introduced and “domesticated” (eg, [Haddon 2003](#); [Lally 2002](#); [Morley 1986](#); [Morley 2003](#); [Silverstone and Haddon 1996](#); [Silverstone and Hirsch 1992](#); [Spigel 1992](#); [Spigel 2001](#); [Williams 1975](#)). These studies of media consumption, use and enculturation have shown that as successive waves of technologies are appropriated and enter the home, spreading throughout the spaces of the house and around the times of the clock, habits and patterns of family life undergo change.

This pilot study aims, therefore, to develop an in-depth understanding of the complexities and shifting patterns of domestic life associated with the appropriation of HSB infrastructure.

METHOD:

Our empirical work thus far is informed by a participant cohort of ten households (of mixed composition),⁴ who had FTTP provided in 2009 in advance of the NBN rollout, through the TasCOLT project ([TECC 2008](#); [Spring and Wiatr 2006](#); [Given 2010](#)), and the Hybrid SmartStreet project ([‘HybridSmartStreet’ 2009](#); [TECC 2009](#)).⁵ These households are located in North Hobart, Tasmania – a relatively privileged demographic area. As one participant noted, “the trial is only in selected areas, and they are quite middle-class and not really representative of the whole state. It will be interesting to see whether there is going to be a skewing of the results or data ... I’m sure that our use of technology is very different: what we can afford to buy; what we are interested in; what we do after hours.” Such a cohort can, however, be characterised as “early adopters” of technology ([Rogers 1983](#)), who are an important group for identifying emerging dynamics of any technology appropriation.

Our empirical work involves us in a suite of qualitative methods spread over a one-year period. This suite of methods involves established interview techniques as well as more novel methods, including 'technology tours' and the use of a 'domestic probe' pack (see [Arnold 2004](#); [Arnold et al. 2006a](#); [Arnold et al. 2006b](#); [Gaver et al. 1999](#); [Gaver et al. 2004](#); [Shepherd et al. 2006](#); [Shepherd et al. 2007](#)). The first 'technology tour' occurred in early 2010 when participants were asked to escort us around the home, provide an inventory of the technologies in the home, and explain something of their origins, purposes, usefulness (or lack thereof), their 'character', their principal users, and their rationale for their location in the home. Families were subsequently introduced to a 'Domestic Probe' pack containing a Polaroid camera and a 'Broadband Scrapbook', to collectively record, assess, and reflect on their experiences with the HSB technologies, and to build a history or collage of their technology use in the home, including the pasting and annotating of Polaroid images of technology in use. Using the pack, participants were invited to gather research data and tell their own story of their home-based relationships with broadband technologies. For a period of a year following this initial visit, a series of three follow-up face-to-face interviews is being undertaken. Guided by the traces in the domestic pack, these open-ended, semi-structured conversations are designed to elicit reflective insights into daily uses and expectations of HSB technologies and services in the home. We talk about which technologies are used in the home, what sort of tasks are accomplished, where these technologies are located and why, when these technologies are used, what human relations are affected, what values are relevant, and what behaviour results, using the domestic probe traces to stimulate the conversation.

FINDINGS:

As the reader will expect, we found that different households and families appropriate and domesticate HSB in different ways, despite the small sample and narrowness of the demographic. Some maintain limited and quite prosaic uses, such as paying bills or checking emails; whilst some others are voracious media consumers and users. There are, however, a number of observable patterns in the appropriation of broadband, not all of which are consistent. We found that with HSB, our informants

1. continued on with business as usual,
2. took a liking to information snacks,
3. remapped domestic territory ... or didn't, and
4. sought to domesticate their new technologies through the application of discipline.

These findings will be described in turn.

1. HSB MEANS BUSINESS AS USUAL

In these initial stages of broadband use, our informants' Internet activities often appear at face value to be business as usual. That is, practices employing the Internet may simply migrate from one platform to another, and any new practices employing the Internet are incremental aggregations of closely related existing activities. For example, many participants had long experience paying bills and banking online, or searching Google for information, and used dial-up when this was the only technological platform available. The provision of HSB has not simply displaced these activities with new ones, though it has displaced the technology that mediates that activity, whilst many new activities are often simply more of the same focal activity:

“We are not hugely technologically minded people, so we tend to use it for the things we need to do rather than playing around with it for fun.”

“I still only use it for emails or finding bits of information, like recipes and that sort of stuff on the net, that’s my main usage of it.”

“In dial-up times I was using the Internet for basic transactions ... it is certainly faster and more effective with higher [faster] broadband.”

Participants did not have the same level of problems with speed or disconnections any more, and the Internet is thus used in the home more often, albeit in limited and instrumental ways rather than in new ways, based on their history of home Internet use, familiarity with its functionality, or habits of use. And so online banking and bill paying moves from the exception to the rule, online purchasing becomes routine and moves across a wider range of products and dealers, limited online information gathering becomes broader as news sources, maps, encyclopaedias, recipe collections and the like are bookmarked, and are used often rather than rarely.

And just as sources and functions incrementally aggregate, so too does hardware. In many cases we see homes littered with screens and ICT devices, and these are of different ages, functionality, working order, and operating platforms. Often these new technologies appear to be un-reflectively adopted, the accumulation of new devices and services is normalised, and a proliferation of technology is accepted as part and parcel of contemporary living. The rhetoric of the NBN, in company with product manufacturers and service providers, suggest that this trend will only continue.

Meanwhile, the most venerable domestic technology remains the television (see also [ACMA 2007](#)), and despite HSB, many still turn to live broadcast first as a matter of course, and only turn to recorded or downloaded offerings if nothing free-to-air is appealing. For some, television is conceptualised as a live or immediate medium – especially if they prefer news content, which is time-relevant. Consistent with this finding, television ratings agency OzTAM report that about 25 per cent of metropolitan Australian homes are now equipped with Personal Video Recorders (PVRs),⁶ yet their 2010 data shows that time-shift viewing practices are currently a fringe activity, with approximately 96 per cent of content still viewed live and less than 4 per cent of content time-shifted ([ThinkTV 2010](#)).⁷ Despite this finding, others in our study *are* beginning to turn away from a viewing live broadcast television and the limited content on offer, choosing instead to control viewing by selecting from pre-recorded content:

“Sometimes we’ve had the telly on when we’re tired, as a form of relaxation I guess, and you think what on earth am I watching. But because we have the shows recorded on TiVo, you think: ‘hang on, what’s this?’”

“My idea of TV is something that is on now.”

“I almost-never watch live free-to-air TV anymore, I mainly choose from stuff I’ve already recorded.”

As each of the participants in this study had been supplied with a TiVo media device⁸ and access to Hybrid TV’s video-on demand (VoD) entertainment service, CASPA,⁹ our research is able to track any changes – whether additional or displacement – in media viewing habits and consumption behaviours in light of the early adoption of these products and services, consider how they connect with more established patterns, and consider what future HSB-supported devices, in particular Internet Protocol Television (IPTV), may mean. The force of familiarity is also reflected in Internet use, despite increased speed or capacity. Many continue to use familiar applications or undertake established activities such as information searches, basic email communication and financial transactions, yet these common focal practices incrementally aggregated to embrace a somewhat expanded range of what remain prosaic and instrumental applications. Thus we see our informants making online purchases from eBay as well as Myer, transferring money across online accounts as well as

paying bills online, or communicating through Skype as well as email. This phenomenon of simultaneous aggregation and displacement of communications and media use would appear to increase participation in the digital economy ([ACMA 2007](#), [ACMA 2009](#)), and accounts for the increase in both social exchanges and financial transactions emerging from the take-up and usage of information and communication technologies.

Similarly, while HSB is commonly used at home to undertake forms of paid work, this remains business as usual – routine labour such as attending to emails, that is additional to, rather than substituting for, the office. Described as supplemental work ([Fenner and Renn 2004](#)), this is not the fundamental shift in work practices that HSB may enable. We did note, however, two examples among our informants of home-based work – one trading shares and another running a design and distribution business – which were dependent upon broadband Internet access for transactions and communication. HSB does provide infrastructure for home-based information production, which may prefigure some of the more flexible labour possibilities that HSB enables, and raises questions for future changes to home-spaces or the meaning and practice of home life, especially as it stands in relation to the workplace ([Nansen et al. 2010](#)).

From a research perspective two interesting and contrary things emerge from this observation of “Business as Usual” aggregation and displacement. The first is the sense of disappointment researchers looking for dramatic change may feel when confronted by the absence of profoundly new and innovative experiences driven by the new and innovative technology, and the second is the nagging feeling that we are missing something – that the subtlety of “Business as Usual” has elided the aspects in which the experience of aggregation and displacement of technologies and technology uses is new and profound.

2. INFORMATION SNACKING

When considering the difference between dial-up and broadband connectivity, the focus is often on the implications of the huge difference in data transfer rates. However, for many households, speed is not the difference that makes a difference; rather it is the fact that broadband is ever-present and ever-available, whereas dial-up must be switched on and off. The implications of this shift from dialling-up a connection to having the Internet connected, “basically all day, everyday” as one of our participants noted, is to radically increase the propensity to use the Internet – not necessarily in duration, but certainly in frequency. When always connected, as is often-noted the Internet interpolates “information snacking” – frequent, but bite-sized uses of the Internet to look at a YouTube clip, look up sports scores, correct the spelling of a word, catch up with the headlines, check the weather, listen to a song, note social networking status updates, or read and send email, all with a frequency that sometimes borders on the obsessive-compulsive.

A variation on information snacking interpolated by HSB involves accessing bite-sized chunks of information or media all at once, in parallel, rather than in serial fashion. One achieves this through opening multiple browser windows or tabs simultaneously, and flicking between them:

“The faster the speed the better, ’cause then you could have multiple screens, with windows all at once.”

“I’ve made my simultaneous web access more complex ... doing half a dozen things at once.”

“I’m quite capable of having say, two screens, a couple of browsers.”

Further, people are becoming increasingly accustomed to the speed and affordances of broadband-enabled Internet,¹⁰ and feel that even if their snacks are limited, that this is enabling, and integral to their lifestyle:

“I enjoy having it (broadband), and maybe I don’t use it as much as the others do, but I know I like the thought of just grabbing something if I need to. So yeah, it is essential. We have to have it.”

3. DOMESTIC CARTOGRAPHY

A cartographer’s job is to construct a map that differentiates one territory from another through the inscription of lines on a map. A household also constructs domestic territories of one kind or another, through the placement of bricks and mortar, furnishings, the location of technologies, and of course through the reflexive performance of daily life in the space of the home (Nansen et al. 2011). We have seen that broadband information snacking represents a different relation to time, and so the location of broadband within the home interpolates a relation to space, and asks that the household remap that space.

Many participants who were familiar with using dial-up and wired desktop computers did so in specific locations of the house, such as the study, and continue to use technologies in this way. Domestic cartographers have clearly differentiated and mapped their territory. They do not see any advantage in blurring or erasing the home’s defined territories through using a mobile device, such as a laptop, or having wireless connectivity, supported by broadband, to enable distributed forms of Internet use. This deliberate appropriation of Internet connectivity purposefully contained to specific spaces is consistent with a desire for spatial order, and the congruency with familiar routines is consistent with an historical desire for order.

In a similar sense, the screen may be mapped and territorialised just as the house as a whole may be mapped and territories distinguished. On one inscription, convergence is undesirable, and lines are clearly drawn. A screen for the Internet is viewed as a particular kind of screen, a medium for information seeking or communicating rather than for entertainment; a TV screen is a screen for entertainment, or at least a particular kind of entertainment; and the computer screen is different territory again, work territory, distinguished from TV, distinguished from non-work Internet use, and certainly distinguished from a book or a phone:

“I never much watch video on a computer anyway. To my mind they are two distinct things, TV for TV stuff you know.”

“If I was going to read a book I would go and get it, I don’t particularly like reading 10, 20, 30 pages on the net.”

“The whole idea that I could merge everything with the net hasn’t reached me at all. Hence a TV is a TV and nothing more than that.”

In contrast, some in our study are erasing the lines distinguishing screens, as well as the lines distinguishing spaces within the house, and are experimenting with the possibilities of space-shift and format-shift anywhere, any-screen, media convergence. So, for example, a smart phone is carried around from room to room and its screen is deployed for multiple purposes in multiple contexts. Laptops and wireless connections are used for work or for entertainment in bed or in the living room. Multiple devices and sources of content are connected to the same screen:

“We connected the laptop up to the TV, we sat and watched Youtube because there is a really fast download now you don’t have to sit around and wait too long for things to pop up ... occasionally we plug the notebook into the television, and you can watch iView or Yahoo7.”

This media desegregation of time, space, and screen, is welcomed by many of our participants as part of a natural progression or future-orientation that seeks to overcome current technology limits and to work towards a desire for seamlessness and convenience in all areas of domestic life, including work, education, consumption and social interaction. Typically, this is materialised in the more prosaic idea of shopping through an Internet-enabled TV from the comfort of a couch:

“I can see it going in the direction that they can go onto the TiVo and do maths homework or download educational stuff, or you can do your Woolworths shopping and things like that through the TV through the Internet, and being able to watch all these streamed shows with no issues about drop-outs and freezing and speed problems.”

“There’s hardly a TV coming out in the next 12 months that doesn’t have a hard drive in it. So I can see a time when all TVs will be connected and you touch it.”

In terms of media consumption HSB will support the blurring of screen functionality and raise a whole range of questions for emergent viewing patterns. The more immediate implications relate to increased possibilities for digital content delivery and the current availability of media convergence technologies: PVRs, VoD services, IPTV or Internet-enabled TV,¹¹ and catch-up or time-shift TV programming.¹² These modes of consuming content are clearly in their infancy in Australia, yet the expected increase in take-up of these products and services on the back of broadband infrastructures and speeds is expected to lead to deeper penetration, increased use and a number of changes to media viewing habits and consumption behaviours.

In the US, where these kinds of services have been available for longer, the flexible and customised patterns they enable are typically associated with scheduling content to fit lifestyles rather than adhering to a fixed broadcast schedule. As these technologies are increasingly adopted in Australia there is much that local research can contribute to an understanding of local domestic media consumption patterns. As HSB is normalised, and convergent Internet enabled products move into new market opportunities here, Australian homes and screens may be remapped as convergent rather than territorialised, but at this early point in HSB history, it is a tentative arrangement rather than an established pattern of use. While some in our study eagerly embraced media convergence, for most of our participants the computer and Internet remain information and communication technologies, rather than entertainment or leisure technologies. When they go online at home it is to seek out information, to undertake a specific activity such as banking, or to communicate, rather than to sit in front of in order to relax or view entertainment, as with the TV.

From a research perspective, the interesting phenomenon to watch here is the relationship between convergent technology and convergent activities. At the moment our informants distinguish between activities such as information seeking, paid work, communicating, or engaging in entertainment and leisure. These activities have different motivations, a different personal affect, and often occur at different times and at different places. Consistent with this, our informants differentiate between the technologies that carry these activities – different devices are used for different types of purpose, reinforcing clear boundaries and definitions. The question is whether multifunctional devices that erase distinctions between categories of technology will also blur distinctions between categories of activity.

4. DOMESTICATION REQUIRES DISCIPLINE

“Put it this way: television is now slightly more interesting because of control, but only slightly.”

Those participants in our study who have domesticated HSB-supported digital television through devices or services such as TiVo, PVRs, VoD services, or Internet-enabled TV note that in these early stages of adoption they watch slightly more TV, but that it is mainly used to re-organise existing viewing habits or preferences. So, they do things like record a show and then skip advertisements, or record a season of a show to ensure that an episode will not be missed and they have a back-up copy:

“My overall couch potato hours have increased since I got this thing but not by a lot.”

“Some things we have on a season pass, but we watch it in real-time anyway. So, we have it on season pass in case we weren’t gonna be here.”

“I like season pass because my show on a Sunday night, sometimes it’s just not convenient or if we’ve been away.”

In this sense, HSB-supported digital television and its associated devices – PVRs, VoDs, IPTV – and associated practices – recording, storing, time-shifting, catch-up TV – are seen as something that will afford a better control and management of existing viewing routines. Fixed television broadcasting schedules are re-arranged or customised for convenience or to fit lifestyles. These more flexible patterns of viewing content mean that content is watched at a later and more convenient time than scheduled in order to work around routines of work, sleep, vacation, and so on.

Such shifts in viewing patterns are not unexpected, nor necessarily new (e.g. VCR), and are in accordance with the affordances of the device. Nevertheless, by operating in a digital and HSB environment they afford a more extensive range of possibilities for mediating the ways content is viewed in terms of volume, speed, location and time. Principally, by working as time-shifting and time-management tools such affordances have the potential to disentangle a whole range of significant affects, practices and habits that broadcast regimes have implied:

“The kids like the easy recording, where you’ve basically got the guide and highlight and press record, you don’t have to worry about timing.”

“With this box I can sort of say it’s on now but put it aside, so my range of vision, if you like, has extended.”

“With this thing you can sort of forget about routine and just record what you want to watch.”

Here, digital and HSB-supported television challenges a broadcast regime that requires synchronising domestic routines with the flow of a television schedule, and concomitantly, the affective concerns that accompany the prospect of missing a show or episode, are ameliorated.

We have found that in contrast to this older regime of a fixed schedule of television viewing, families with PVR devices are developing a familiarity with this technology, are accommodating this into their media consumption routines, and are appropriating it in both ordinary and significant ways. We have found different strategies for recording content, with some systematically recording, others recording more haphazardly, and many utilising the TiVo recommender system;¹³ and similarly, we are finding that viewing recorded content has

implications for other forms of content delivery, and for revenue models, especially live free-to-air broadcast television funded by advertising, as well as the model of DVD hire from physical store-fronts:

“When you put the television on, I pull up the TV guide and see if there is anything worth recording”.

“I used to flick from channel to channel if there was nothing good on, now you have the control to fast forward through the ads.”

“I was interested in the idea of recording live TV, because that is the one restriction of live to air broadcast: you have to be there to watch it.”

“We hardly ever watch DVDs anymore either, despite living across the road from a video shop.”

Furthermore, the TiVo and its recommender system are impacting upon the kinds of content our participants are viewing. In some cases it is revealing new and unknown shows, and diversifying the content people watch. Yet, we are also noticing that many have formed ambivalent relationships with the recommender system. It may suggest programs that people are unaware of, but this is not always appreciated, after all, who is in control? Who is domesticating whom? Similarly the accumulation and abundance of content made available by the device is sometimes appreciated, with some claiming this means they are expanding their tastes or are able to be more discerning in their choice of viewing, whilst others claim it becomes a burden that must be managed:

“We like cooking shows and it records all these cooking shows automatically.”

“It taped some really good SBS movies which we would never have seen otherwise.”

“We’ve been more discerning, to be honest. We’ve been much more selective in what we watch, because you can go through that list of things that are sitting there.”

“Sometimes it’s a bit spooky when the little red light’s on, and it’s during the weekend and you think: ‘what’s it doing? What’s possibly on TV at this time of the day that we would want to watch?’”

“There is only so much you can watch ... and there is too much junk.”

“When the TiVo was first installed it automatically recorded everything you vaguely showed an interest in. So we had to switch that off because there was a whole screen full of stuff we were expected to watch.”

“You can’t put everything on the [TiVo] wish list, because then you spend hours going through and deleting it.”

New technologies can’t be domesticated if they can’t be controlled, and an issue that repeatedly arose and mediated HSB expectations, involved difficulties making technologies work. Amidst the promise of technology affordances, in practice it is often difficult to get everything smoothly integrated and working as one would like:

“The wireless router is down there [downstairs office], and if I sit on this end of the lounge it’s okay, but if I sit on that end it drops out ... it’s really frustrating ... it drops out and you lose everything.”

“I am a bit of a technophobe: I like toys but I don’t know how they work; it’s a magic box with people in it.”

“Today is the first time the external hard drive has been connected to the laptop, I wanted to see if it could find it [music], so that I could then play the music that is on there through the Playstation through the stereo, but nothing works.”

“You buy a new thing and then it turns out it doesn’t actually work with the other things you have and you have to buy another thing to get the two things to work together. Why Sony – who now are doing the television and you can use the Playstation to record the TV as a PVR – doesn’t build that into the back of the television so it is a Playstation, PVR, TV, all in one I don’t know.”

An important aspect of controlling HSB was seen to be asserting limits on convergence, and on advertising and ‘junk’ content to be pushed onto consumers:

“We use Skype ... but the problem with Skype is there is no end to it, so it is very hard to get up and say look I have to do something. With the telephone it is so much easier to get out of it. People will just talk indefinitely it seems. Initially I couldn’t get Skype to switch off with this new laptop, so I stuck a post-it note over the camera in case for some reason it came on. At least then that way I could say ‘well there is something wrong with my camera. Sorry we can’t Skype now, the camera is not working.’”

“I’ve noticed over the last couple of years, there’s so much stuff on the Internet these days, just with normal usage you are downloading all these junk files you don’t want, basically advertisements, you do a bank transaction and you get all this Flash graphics stuff, pop pop pop, so just normal usage the bandwidth requirements are jumping up, not because you want it, simply because the way it works it chucks more stuff at you.”

In research terms then, the ground seems to be laid for a divergence between a desire to overcome technological limits and achieve seamless integration, versus those who had concerns about a range of undesirable consequences of increased bandwidth and convergence – such as cost, the ubiquity of screens, the demands of technologies or quantities of ‘junk’ content. This divergence represents in many ways a difference between users who want to integrate technology throughout the non-territorialised house and non-segmented daily life – despite, or maybe on account of, the common experience these same people encountered with problems of interoperability of devices and smooth functioning of service in the present – versus those who desire to domesticate and control media and communications technologies through territorial mapping and functional separation.

CONCLUSION

Overall, this study suggests that changes to the performance of family life in the early stages of broadband adoption are limited, and despite varying degrees of use observed in our participants, the meanings and uses of new technologies often adhere to familiar, routine, or past modes of use. The data also suggests, however, that more significant changes in behaviour are slowly or tentatively following from emergent affordances available. Tentative findings from this pilot study have confirmed that increased bandwidth is accompanied by increased participation in the digital economy, in online activities, and in the use of entertainment and communication services and technologies; and that increased digital literacy emerges through experience and use of HSB. The more immediate shifts are pronounced in the areas of entertainment or inter-personal communication applications, and

have yet to be, or remain to be, assessed in terms of the longer term possibilities or implications of HSB for labour, learning or service access arrangements from home.

While it is too early to draw extended comparisons between the expectations of providers (policy makers, engineers, entrepreneurs) with the experiences of end-users, at least two preliminary observations can be made at this point. Firstly, the above tentative finding, that there is some correlation between increased bandwidth and delivery speed and increased participation in the digital economy and related activities, lends initial support to the view that HSB has the potential to become an “economic and social transformations tool” ([Bartlett 2009](#)).

Secondly, participant interest in ancillary broadband services, such as TiVo’s VoD service, would seem to lend support to investor Ralph Wanger’s widely cited observation that there is much to be gained from investing in “downstream” businesses that will benefit from new technologies rather than the technology companies themselves ([Watson 2005](#), 94). Yet, commercial interest in this space, and the perspective that “the NBN will transform the way content is delivered” ([‘Hybrid TV and IBES partner’ 2009](#)), both need to be tempered by the importance of paying due attention to the complexities associated with the domestication of new technologies. The experience of our participant households suggests that while the NBN is perceived to offer a range of benefits, these are mediated in relation to past routines of use, concerns about the future costs of HSB for households, as well as present frustrations in making their technologies work for them. A further challenge facing entrepreneurs is that it is unclear whether HSB infrastructure and the development of applications supported by it will be faithfully adopted by Australian households as supplied; our data suggest it won’t be adopted as-is, but will be domesticated in various ways.

In addition to the above remarks, the limits of the present pilot study also need to be acknowledged. Our research participants were only provided with moderate broadband capacity, the research is being conducted over a relatively short duration, and it is only being conducted in a single place. These limitations mean that the observations and conclusions of this initial investigation are restricted, and also that many issues require further exploration, especially as HSB capacities and services are made available, evolve, and become more habituated and widespread. The impending NBN roll-out also offers potential to extend the demographics of analysis and undertake comparative analysis across a range of contexts, including comparing differences between urban, regional and rural populations, and between different household compositions.

The authors’ intention is to convert the present pilot project into a longer study in order to track and compare changing modes of production, consumption and service access in the home over time and in different places as HSB technologies evolve. In this longer study, the aim is to utilise comparative, longitudinal methods to gather data that can track shifting expectations and experiences of communications and media technologies in the wake of the HSB roll-out across rural, regional and urban Australia. By mapping the uses of HSB introduction over time, and comparing these uses in different geographic and population contexts, such a study can provide a significant contribution to literature on media in the home in a time of rapid technological change by providing a contextual, comparative and longitudinal approach to analysing the dynamics of socio-technical change and increased bandwidth affordances in domestic settings – but also to yield specific, empirical knowledge relating to the social, technological, economic and geographic dynamics that shape Australia’s domestic broadband reception and usage. This information is vital to effective, evidence-based policy implementation and to successful private sector initiatives in Australian communications and media industries. It will also provide a clearer picture of whether the infrastructure supporting HSB and the NBN, and the services and opportunities permitted by them, will indeed emerge as “nation changing” ([Bartlett 2009](#)).

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ENDNOTES

1. Wireless and satellite technologies that will be able to deliver up to 12 megabits per second will be used to provide access to the remaining population living in more remote parts of rural Australia.
2. Appropriation⁷ is a term used within the field of Science and Technology Studies (STS) to refer to the differentiated social processes involved in the consumption, use and meanings of technologies.
3. [ACMA \(2007\)](#) report that most Australian homes have three or more televisions, three or more mobile phones, whilst almost every household has a computer, 91 per cent with Internet access, and 76 per cent with broadband access. Consequently, ACMA describe household media environments as technology rich or ubiquitous, whilst the Kaiser Family Foundation characterise the typical US home as media saturated.
4. The composition was as follows: four households were made up of families with a mother, father and either two or three children aged between 8 and 16; two households had two parents and a single teenage child; two households were couples without children; one house was a single father and teenage son; and, one house was a couple with a young child.
5. Each of the participants in the Hybrid SmartStreet project were given a TiVo media device that would permit access to high definition TV, as well as existing broadband services via Hybrid TV's Video-on-Demand (VoD) entertainment service, CASPA ([TECC 2009](#)), as well as free Internet service for 12 months. While this trial was meant to simulate the NBN in terms of Internet speed and capacity over the period of the trial, our participants have reported broadband speeds up to 4 Mbps rather than the projected 100 Mbps. The broadband speed provided is, nonetheless, a faster service than our participants previously had – often dial-up – and so can speak to trends in domestic broadband use following increased bandwidth provision and domestication.
6. Personal video recorders (PVRs) are digital recording devices that save content onto a hard-drive rather than magnetic tape cartridges, as with VCRs.
7. This figure accounts for any content that is recorded and viewed at a later time. Oztam, however, differentiate time-shift viewing that is 'As Live' – viewing of recorded television content within the same day as broadcast – and 'Time Shift' – viewing of recorded television broadcast content up to seven days after the live broadcast time, see <http://www.oztam.com.au/time-shift-faqs.aspx>.

8. The TiVo is a PVR device, which allows for pause and rewind of live television; to auto record every episode in a season; to auto record shows via keywords such as favourite actors; to apply parental controls; to view a 7 day on screen guide, and record programs directly from the guide.
9. As our participants were not supplied with connection speeds resembling the NBN proposal (100 Mbps), the content available on the CASPA VoD service was unable to be viewed immediately, and the wait-time to download meant that most had not used this service.
10. The term affordance was originally coined by psychologist James Gibson to refer to the properties embedded within an object that enabled particular actions to proceed. It has since been modified within the fields of human-computer interaction and technology studies to include properties that users identify or appropriate, and so suggests a relational understanding where what a technology affords exists neither in the thing itself nor the person alone but instead emerges through their relationship.
11. Although there are already Internet-capable televisions, which offer web-access, many products currently only allow users limited access to online content or specific websites such as YouTube. Future products and platforms, such as GoogleTV will offer far broader and more integrated Internet content and access from a television screen.
12. This is the replaying of a broadcast program, or having broadcast content available online to allow people to watch it at a later, more convenient time.
13. The recommender system allows users to rate programs by pressing either a “thumbs up” or “thumbs down” button on the remote control. TiVo user ratings are combined to record recommended programs based on what TiVo users with similar viewing habits watch.

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○ THE NBN AND THE WTO

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The NBN is a highly politicised project being contested domestically from a number of angles. However, the implications of Australia's obligations under the World Trade Organization agreements have been largely unaddressed in official documentation concerning NBN Co and in the relevant literature. This paper explores some of the issues raised by the implementation of the NBN in connection with Australia's legal obligations pursuant to the agreements of the World Trade Organization.

INTRODUCTION

As the various pieces of legislation associated with the National Broadband Network (NBN) progress through Parliament, and the Australian Competition and Consumer Commission (ACCC) considers the impact of the NBN on competition in the Australian telecommunications industry, the relevance of the law of the World Trade Organization (WTO) has been all but forgotten. The 153 Members of the WTO are predominantly countries, but other Members include the European Union and customs territories such as Hong Kong, China. The significance of WTO rules is enhanced by the fact that the WTO provides one of the most active and effective systems in the world for resolving international disputes. Only WTO Members may be parties in WTO disputes.

Ironically, Telstra ([2010a](#), paras 18-21, 31; [Telstra 2010b](#)) has so far provided the lone voice within the industry seeking to ensure that NBN Co complies with Australia's obligations under the WTO's *General Agreement on Trade in Services* (GATS).¹ Yet Australia's GATS obligations, broadly speaking, generally relate to the country's treatment of services and service suppliers of *other* WTO Members. As a matter of principle, Australia should of course endeavour to comply with its obligations under international law, including the law of the WTO as well as preferential trade agreements that mirror and develop that law. Ultimately, though, Australia's WTO obligations in connection with the NBN would most likely be enforced at an international level by a foreign-owned or foreign-controlled telecommunications service supplier with a commercial presence in Australia (such as Optus or Primus) that managed to convince its own government (eg Singapore or the United States) to bring a complaint against Australia in the WTO dispute settlement system. A successful complaint about the NBN could oblige Australia to modify the NBN scheme to bring it into conformity with WTO rules, with evidently huge economic and regulatory consequences. Failure to modify the scheme could invite legal retaliation by the complaining WTO Member in the form of trade sanctions.

A formal WTO dispute is unlikely to arise, but the potential threat of a WTO complaint demonstrates the importance of Australia ensuring that it complies with the GATS in designing and implementing the NBN. Around the world, interested service providers and their governments will be monitoring Australia's compliance with its international trade

obligations as the NBN is rolled out.² Although many aspects covered by WTO law (eg concerning competition) will be addressed in any case in ensuring that the NBN scheme and NBN Co comply with Australia's own laws and regulations, separate analysis of the NBN's implications under WTO law is essential.

Given that the NBN is a work in progress, we cannot draw definitive conclusions about its WTO-consistency. Nevertheless, we aim to raise awareness about the relationship between the NBN and Australia's WTO obligations in an attempt to ensure that those obligations are taken properly into account in assessing the many aspects of the NBN as it moves forward. The Australian government is evidently aware of the connection between WTO law and the NBN ([DBCDE 2008](#)), but it does not appear to have engaged in any open discussion about how it is interpreting its WTO obligations and applying them in the context of the NBN. More transparent explanation of this relationship could enrich the consultation process and minimise the chances of the NBN leading to a violation of Australia's international legal obligations.

In this short article, we focus on two main areas of potential concern in evaluating the NBN under WTO law. The first is the status of NBN Co as a wholly government-owned entity. The second is the number and location of points of interconnect (POIs) between the NBN's fibre to the premises (FTTP) network and those of other suppliers. We consider these areas in turn below.

GOVERNMENT OWNERSHIP OF NBN CO

To begin with, the status of NBN Co as a wholly State-owned enterprise might be thought to remove its operations from the scope of the GATS. However, we consider it likely that NBN Co, once fully operational, will be supplying services that are not excluded *a priori* from the GATS. GATS excludes from its scope 'services supplied in the exercise of governmental authority', meaning services that are 'supplied neither on a commercial basis nor in competition with one or more service suppliers' (GATS Article I:3(b), (c)). At least initially, NBN Co will not compete with other suppliers in providing wholesale high-speed broadband services over an FTTP network. However, NBN Co could be competing with broadband services currently provided by Telstra and Optus. Determining the extent to which NBN Co is supplying services 'in competition' with other service suppliers will require careful definition of the relevant market(s) in which NBN Co is operating, as discussed further below. In any case, NBN Co will arguably be supplying services on a commercial basis, given its stated goal of generating a return on investment above the Government bond rate over the life of the asset. ([NBN Co 2010a](#)) This factor is likely to remove wholesale services supplied by NBN Co to other telecommunications providers from the description of services supplied in the exercise of governmental authority; it also likely removes services supplied by NBN Co to the Australian government from the description of government procurement, which is also excluded from the primary GATS obligations (GATS Article XIII:1).

The next question is therefore what obligations would apply to Australia in respect of NBN Co as a government enterprise. Some of the obligations under GATS apply in the same manner to all WTO Members; others are specific to individual WTO Members and depend on the 'commitments' and 'limitations' that the Member has specified in its GATS Schedule. Australia has made fairly extensive commitments in its GATS Schedule with respect to telecommunications services. These include 'Packet-switched data transmission services' ([WTO 1997](#)), which would encompass the Layer 2 bitstream services that are envisaged as being provided by NBN Co. Australia did include limitations in its GATS Schedule with respect to the government ownership of Telstra applicable at the time it concluded the Schedule, but those limitations cannot be automatically transposed to NBN Co.

Australia's relevant GATS obligations in relation to the NBN would include:

- I) 'national treatment', that is, according telecommunications services and services suppliers of other WTO Members (which may want to establish their own FTTP networks in Australia) 'treatment no less favourable than that it accords to its own like services and service suppliers' including NBN Co (GATS Article XVII:1); and
- II) 'market access', that is, not restricting the number of telecommunications service suppliers competing with NBN Co (GATS Article XVI:1(a)).

One way in which Australia might be seen as having restricted the number of suppliers of superfast broadband services over an FTTP network is by establishing NBN Co as, in effect, a monopoly or exclusive service supplier. The GATS defines a 'monopoly supplier of a service' as 'any person, public or private, which in the relevant market of the territory of a Member is authorized or established formally *or in effect* by that Member as the sole supplier of that service' (GATS Article XXVIII(h), emphasis added). Whether NBN Co is effectively the sole supplier of any particular service is likely to depend on the form of the relevant legislation that is passed, any definitive agreements reached with Telstra or other providers, and factual elements concerning the degree of competition that NBN Co faces in the services it ends up supplying (again including definition of the relevant market(s)). If NBN Co does become a monopoly supplier, Australia may need to notify the WTO and even compensate other Members whose WTO benefits are thereby affected (GATS Articles VIII:4, XXI).

NUMBER AND LOCATION OF POIS

We turn now to the second area of potential NBN controversy in the WTO context: the number and location of POIs. In its December 2009 consultation paper, in choosing between local, district, regional and state/national POI locations, NBN Co decided to establish, '[f]or more densely populated areas, such as urban and regional centres, a "local" ... POI ... for each Fibre Serving Area (FSA), while for less densely populated areas, a "district" POI (which aggregates two or more FSAs together)'. Under this proposal, if 'contestable backhaul' was available in a given area, then a local POI would be provided and retail service providers (RSPs) could use their own backhaul to that point or purchase backhaul from another provider. However, in the absence of contestable backhaul in a particular area, only a district POI would be provided and RSPs would need to use NBN Co's network from that point to the end user. The rationale for this approach was to 'promote a level playing field' and '[e]nsure that all RSPs are able to acquire the same service and compete equally in a given area'. ([NBN Co 2009](#)) Put differently, this approach was designed to ensure that no RSP would be *advantaged* by the fact that it already had backhaul in place.

The difficulty with this framework for locating POIs, as emphasised by Telstra and Optus in their responses to NBN Co's consultation paper, is that 'it has potential to *strand* infrastructure already deployed in regional areas' and to *disadvantage* parties who have already made investments in those areas'. ([Telstra 2010a](#), paras 30, 32; see also [Optus 2010](#)) A concern about the bundling of backhaul and access services also seems to be reflected in Recommendation 52(2) of the McKinsey/KPMG implementation study, which proposes that '[t]he transit backhaul bitstream product ... be specified as a separate product from the access bitstream product, allowing service providers to select their preferred combination of backhaul capacity and access services'. ([McKinsey/KPMG 2010](#))

In its March 2010 response to submissions by Telstra and other industry players, NBN Co reaffirmed its decision not to offer a local POI to Telstra or other providers in areas of non-contested backhaul. Nevertheless, NBN Co's position on the POI question appears to have shifted somewhat, perhaps as a result of discussions with Telstra leading to the non-binding heads of agreement between NBN Co and Telstra. NBN Co's October 2010 public position

paper compares the options of no consolidation (950 local POIs), low consolidation (an indeterminate number of local/district POIs 'partially distributed, at the edge of where contested backhaul currently exists'), high consolidation (14 POIs aggregated in five capital cities) and a 'composite' model, entailing 14 central POIs in five capital cities plus the option of interconnection at an additional 195 POIs. NBN Co prefers the composite model, which appears to offer a greater number of POIs than the 100-200 originally anticipated. However, interconnection at the additional 195 POIs will be provided only 'upon request and subject to timing and business rules', with the 14 aggregated POIs being the 'default locations for interconnection'. This compares to the approximately 550 POIs currently available to service providers seeking access to Telstra's copper network. ([Telstra 2010a](#), para 23, citing [Chard 2010](#); [ACCC 2010](#), 8; [NBN Co 2010b](#))

In its October 2010 discussion paper on POIs, the ACCC suggested that '[i]t is likely that a very low number of consolidated POIs risks stranding existing infrastructure assets[,] foreclosing the potential for further backhaul entry', and 'foreclosing dynamic development in this sector'. It highlighted its previous recommendations concerning POIs in other contexts, including that: (i) 'a fibre-to-the-node (FTTN) network upgrade or similar fibre access network roll-out ... should include POIs which are as close to the end-user as is appropriate and efficient'; and (ii) in the context of the government's 2008 request for proposals for an NBN, 'interconnection as close as possible to existing backhaul/transmission investments is likely to facilitate a smooth migration to the NBN'. The ACCC also queried NBN Co's assertion that its ability to achieve uniform national wholesale pricing will be determined by the number and location of points of interconnect. ([ACCC 2010](#), 11-12, 17-19, 21-22)

The issue of POI numbers and locations is relevant to the WTO because of the Reference Paper. This is a document that a number of WTO Members including Australia have incorporated into their GATS Schedules, under which they make additional commitments with respect to basic telecommunications services. In particular, Section 2 of the Reference Paper includes a number of key obligations with respect to interconnection with 'suppliers providing public telecommunications transport networks or services' (Section 2.1). The GATS Annex on Telecommunications defines a 'public telecommunications transport network' as 'the public telecommunications infrastructure which permits telecommunications between and among defined network termination points' (Section 3(c)), which arguably encompasses NBN Co's FTTP network. Therefore, Australia's interconnection obligations in Section 2.2 of the Reference Paper incorporate the linking of a telecommunications service supplier of another WTO Member (the access seeker) with NBN Co's network in order to allow users of the access seeker to communicate with users of another supplier.

Section 2.2 of the Reference Paper requires Australia to ensure '[i]nterconnection with a major supplier ... at any technically feasible point in the network'. A major supplier is defined in the Reference Paper as a supplier that has 'the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications service as a result of control over essential facilities or use of its position in the market'.

Defining the 'relevant market' for BTS in relation to NBN Co is a difficult task that would depend on detailed empirical and economic evidence concerning its role and the services it provides, taking into account the regulatory and contractual framework for its operations, which have not yet been finalised or implemented. However, on a broad conceptual level, the relevant market might be described as the Australian wholesale market for high-speed broadband services for voice and data transmission, which could include services provided over a wireless, cable, satellite or other network, to the extent that these services are competitive with and substitutable for services provided over NBN Co's FTTP network. In due course, NBN Co would reasonably be expected to meet the definition of a major supplier in that market. Another relevant market might be regarded as the Australian retail market for voice and data transmission services, with NBN Co acting as a major supplier not through direct activity in that market but by exerting power from an upstream wholesale market. In

addition to wholesale and retail services markets such as those identified here, the ACCC has referred to the relevance of the POI question for the transmission market (that is, the market for backhaul services). (ACCC 2010, 17-20) NBN Co would also likely be competing in the transmission market; whether it was a major supplier in that market would depend in part on the number and location of POIs.

If NBN Co becomes a major supplier as expected, then Australia must ensure that other telecommunications service suppliers are able to connect with NBN Co's network at 'any technically feasible point in the network', in accordance with Section 2.2 of the Reference Paper. Section 2.2(b) of the Reference Paper suggests that 'economic feasibility' is relevant in determining the terms and conditions of interconnection, so that NBN Co might decline to provide additional POIs that might be in theory technically feasible but in reality not economically rational or viable. At the same time, Section 2.2(b) refers to unbundling, emphasising that a supplier should not have to 'pay for network components or facilities that it does not require'. This reference to unbundling could indicate that enough POIs must be provided to avoid stranding any existing infrastructure of other suppliers. However, Section 2.2(b) must be read in conjunction with Section 2.2(c), which contemplates the provision to individual suppliers of additional POIs that are not offered to the majority of users, 'subject to charges that reflect the cost of construction of necessary additional facilities'.

Thus, in sum, Section 2.2 could be read as requiring Australia to ensure that, once its FTTP network is rolled out, NBN Co provides:

1. POIs to all access seekers wherever additional facilities would not have to be constructed in order to provide interconnection, balancing economic feasibility against the need to offer a generally unbundled service and so avoid stranding existing infrastructure; and
2. additional POIs to individual access seekers who agree to bear the costs of constructing any additional facilities required. Both sets of POIs would have to be technically feasible, given the local circumstances.

Under NBN Co's proposal at the time of writing, 14 central POIs in five capital cities will be provided to all access seekers, while 195 POIs will be provided to individual access seekers subject to rules that are yet to be disclosed but which will presumably include a charge for the construction of additional facilities. The final details of this proposal are likely to affect directly Australia's compliance with its interconnection obligations in relation to the NBN. Australia may risk non-compliance if: a service supplier of another WTO Member is forced to purchase backhaul that it does not need in order to connect to the NBN; a service supplier of another WTO Member faces stranded infrastructure unless it is prepared to pay for the construction of additional facilities for extra POIs; or POIs are not provided free of charge despite being technically and economically feasible.

If Australia fails to ensure interconnection with NBN Co as required by Section 2.2 of the Reference Paper, it might also be charged with failing to ensure that telecommunications service suppliers of other WTO Members are 'accorded access to and use of public telecommunications transport networks and services on *reasonable* and non-discriminatory terms and conditions, for the supply of a service included in its Schedule', as required by Section 5(a) of the GATS Annex on Telecommunications (emphasis added). Pursuant to that obligation, Australia must ensure that telecommunications service suppliers of other WTO Members are permitted 'to interconnect private leased or owned circuits with public telecommunications transport networks and services or with circuits leased or owned by another service supplier' (Section 5(b)(ii)).

OTHER RELEVANT GATS PROVISIONS

A range of other GATS provisions may also prove relevant to the NBN, and the Australian government will need to keep these in mind over the coming months and years as NBN Co becomes operational. For example, under GATS Article VI:5(a), Australia will generally need to ensure that it does not 'apply licensing and qualification requirements and technical standards' that are 'more burdensome than necessary to ensure the quality of the service'. Under the GATS Annex on Telecommunications, Australia may impose only certain conditions on access to and use of public telecommunications transport networks, such as conditions necessary 'to safeguard the public service responsibilities of suppliers' or to 'protect the technical integrity' of the network (Section 5(e)). Finally, under the Reference Paper, Australia must maintain appropriate measures to prevent major suppliers from 'engaging in or continuing anti-competitive practices' (Section 1.1) and must administer any universal service obligation 'in a transparent, non-discriminatory and competitively neutral manner' (Section 3).

The GATS does contain several 'exceptions' to the obligations it sets out, and Australian measures that qualified under these exceptions would be excused from compliance with the relevant GATS obligations. The exceptions relate to matters such as national security (GATS Article XIV*bis*), 'public morals' and 'public order' (GATS Article XIV(a)), and 'human ... life or health' (GATS Article XIV(b)), as well as measures 'necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of' the GATS (Article XIV(c)). However, the NBN as a whole does not obviously fall within the specific terms of any of these exceptions.

CONCLUSION

The Australian government will need to tread carefully to ensure that the pull of domestic political and legal issues surrounding the NBN does not distract it from the simultaneous task of safeguarding compliance with Australia's obligations under international law, including the rules of the WTO.

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ENDNOTES

1. But see also [DBCDE](#) (2008), [Cox](#) (2010) and endnote 2.
2. See, eg, [US Trade Representative 2010a](#), [US Trade Representative 2010b](#)), and the letter from Troy Tanner (Counsel to Primus) and John DePodesta (Primus) to Gloria Blue (Office of the US Trade Representative): ([Tanner & DePodesta 2010](#)).

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○ THE CHANGING LANDSCAPE OF CUSTOMER PROTECTION IN THE TELECOMMUNICATIONS INDUSTRY

A COMPARATIVE ANALYSIS OF KEY CUSTOMER PROTECTION ISSUES AND COMPLAINTS HANDLING RESOLUTION SCHEMES IN AUSTRALIA AND THE UNITED KINGDOM

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There has been extensive debate in Australia recently about the level of customer service and consumer complaints levels in the telecommunications industry. This debate has focussed on whether the level of customer service provided to consumers is the main cause of a recent increase in consumer complaint levels. This paper argues that it is not only the level of customer service being provided but that the consumer protection system designed to help complainants is itself struggling to cope with complexity of the telecommunications industry. Through a comparison of the Australian Telecommunications Industry Ombudsman (TIO) and the United Kingdom's alternative dispute resolution schemes I highlight some of the key differences which may illustrate why the operation and establishment of the TIO scheme may be contributing to the high number of complaints in Australia.

INTRODUCTION:

In recent times, a lot has been said about improving customer service in the telecommunications industry in Australia. This discussion has drawn a link between customer service and consumer complaint levels in Australia – levels that many argue are unacceptably high.

With the advent of the National Broadband Network, it is timely that this discussion is occurring and that several pieces of key consumer protection regulation and legislation are being revisited. It appears that elements of the consumer protection regime in the Australian communications landscape are struggling to cope with the complexity and multiple parties involved in delivering communications services over multi-layered and interconnected communications systems.

In this paper I examine the link between customer service and complaints levels and analyse whether elements of the consumer protection regime (in particular Australia's alternative dispute resolution (ADR) mechanisms) are still up to the job of incentivising industry to improve customer service and decrease customer complaints. In this paper I will:

- Review the scope of the Australian Communications and Media Authority's (ACMA) recent inquiry on this topic, "Reconnecting the Customer", and identify the scale and scope of the issue;

- Analyse the Telecommunications Industry Ombudsman (TIO) ADR scheme in Australia. In particular I will analyse how the scheme was established, how it is operated, how it is funded and how it resolves complaints;
- Compare Australia's ADR scheme against the United Kingdom's (UK) scheme. The UK scheme was inspired by the Australian scheme but has grown in quite a different direction; and
- Draw out some of the key points of difference that I observed after my study of the Australian and UK schemes and conclude that while the UK system has its drawbacks there are certain elements of the scheme that may be beneficial to introduce to Australia.

WHAT IS THE SCALE OF THE ISSUE AND THE ACMA INQUIRY?

The telecommunications industry in Australia continues to grow at a strong rate. In June 2010, there were 177 licensed carriers and 1,162 carriage service providers (CSPs) registered with the TIO ([ACMA 2010b](#), 7). The number of telecommunications services provided in Australia also continues to grow with an estimated 24.22 million mobile services in operation, 10.67 million fixed line services and around 8.4 million internet subscribers ([ACMA 2010a](#), 7). Australia's largest telecommunications providers operate in a high volume transactional environment. Each week Telstra receives more than 1.5 million calls in its customer contact centres and completes more than 100,000 customer service jobs ([Telstra 2010](#), 6). In addition, Optus sent over 33.5 million bills to its customers in 2009-10 (or about 2.8 million every month) ([Optus 2010](#), 7).

An industry with so many touch points and with so many products and price points could not be expected to be complaint free, but recent figures from the TIO suggest that the complaint figures for Australian telecommunications industry are too high with the TIO registering over 200,000 consumer complaints in each of 2008-09 and 2009-10. In 2008-09, the TIO registered a 54% increase in complaints to a total of 230,065 complaints ([TIO 2009](#), 6). In 2009-10, the TIO registered 6.5% decrease in the number of cases; however, the total of registered cases was still 215,000 (cases are complaints recorded for each level of a complaint). ([TIO 2010](#), 18) In the same year the TIO also recorded 167,955 new complaints (a decrease of 4.6% from 2008-09).

This means that in 2009-10 the TIO received approximately 850 cases every working day. In 2008-09 the TIO also recorded a 130% increase ([TIO 2009](#), 46) in complaints about the way in which individual providers handled complaints and a 72% increase ([TIO 2009](#), 45) in relation to complaints about customer service issues although these numbers have "measurably decreased" in 2009-10 ([TIO 2010](#), 58).

As a result of the startling numbers in the 2008-09 TIO Annual Report and growing concern over customer service in the telecommunications industry the ACMA announced an inquiry into customer service in early 2010. The inquiry, "Reconnecting the Customer", sought comments from industry and consumers about the state of customer service in the Australian telecommunications industry.

There is no doubt that this is a serious issue. It is clear that customers are frustrated by the customer service they are receiving. The ACMA received 135 responses to its consultation paper and approximately 100 of these were from individual consumers ([ACMA 2010b](#), 5). These consumers were very vocal in expressing their concerns about the level of customer service in the industry. For instance, Ian Mudge submitted: "It's not rocket science or anything complicated. It is just giving service, not perceived service" ([Mudge 2010](#), 1) and

Sally Livingstone stated: “Phone companies in Australia are ruthless animals with no customer service” ([Livingstone 2010](#), 2). These comments serve to highlight the sheer frustration that some consumers are experiencing.

PUTTING THE COMPLAINT FIGURES INTO CONTEXT

In this paper I am not seeking to argue that the levels of complaints are justifiable but that they need to be put into the context of the regulatory environment in which they arise. It is not only the job of providers to improve customer service and complaint levels, but it is also the job of the regulators and legislators to ensure that the system allows the providers to work in a manner to effectively decrease complaints, increase satisfaction and still allow for effective innovation across the industry.

Firstly, I would like to put some of the large complaint numbers into context. As detailed above, this is a highly transactional industry and there should be no expectation that it will be free from complaints. The number of complaints versus the highly transactional nature of the industry was well illustrated in this table from the Macquarie Telecom submission to the ACMA’s Reconnecting the Customer inquiry.

Service	Complaints 2008-09	Services in use 2009	Complaints per 1000 services in use
Fixed	762,40	9,020,000	8.45
Mobile	84,512	24,220,000	3.48

Source: [Macquarie Telecom 2010](#)

Table 1 - Number of services in operation compared with number of complaints¹

In addition to these low complaints figures per services in operation, “complaints to the TIO have fallen by approximately 23% to end June 2010 in an environment where the number of services, service types and overall customers continue to grow” ([AMTA 2010](#), 3). Additionally, as detailed above, complaints to the TIO fell by approximately 6.5% in 2009-10.

The ACMA Consultation Paper also details that the vast majority of Australians are happy with their communications services. In April 2009:

- 81% of metro Australian households were either very satisfied or satisfied with their fixed line services (84% for non-metro) ([ACMA 2009](#), 67);
- 84% of metro Australian households were either very satisfied or satisfied with their mobile services (83% for non-metro) ([ACMA 2009](#), 69); and
- 81% of metro Australian households were either very satisfied or satisfied with their internet services (71% for non-metro) ([ACMA 2009](#), 72).

Despite all of the above, based on the statistics in the TIO’s 2008-09 Annual Report 850 individuals still rang or wrote to the TIO each working day to complain. It is difficult to reconcile the high customer satisfaction rates with the high numbers of complaints across the industry.

TELECOMMUNICATIONS INDUSTRY OMBUDSMAN

The TIO was established in 1993 as an ADR scheme for small business and residential consumers in Australia who have a complaint about their telephone or Internet service. Every carrier and all eligible CSPs must be a member of the TIO scheme and the *Telecommunications (Consumer Protection and Service Standards) Act 1999* (section 132) requires that each member of the scheme must comply with the scheme and any determinations made or directions given by the TIO to the carrier or eligible CSP. The TIO has the authority to make determinations in the form of binding decisions up to the value of \$30,000, and recommendations up to the value of \$85,000.

STRUCTURE OF THE TIO

The TIO is structured as a company limited by guarantee with a Constitution and a Memorandum and Articles of Association. It is governed by a Council and a Board of Directors, and the Ombudsman handles the day to day management of the TIO. The Council comprises five TIO member representatives and five consumer representatives and its primary responsibility is to act as an intermediary between the TIO and the Board by providing advice to the TIO on policy and procedural matters. The Board is responsible for the formal administration of the Company and exercises financial authority over the affairs of the company and is comprised of representatives from the industry and other independent directors.

HOW THE TIO OPERATES

The TIO's Constitution states that the TIO will handle complaints in a fair, just, economical informal and expeditious manner by taking into account good industry practice as well as what is fair and reasonable in all the circumstances.

The TIO is designed to operate as an office of last resort, which means that the provider must be given a reasonable opportunity to settle a complaint with a customer before the TIO will become involved. Once a complainant has attempted to resolve the complaint with the provider the complainant can take the complaint to the TIO. If the complaint is within the jurisdiction of the TIO then the TIO can accept the complaint.

Once the TIO accepts a complaint it can progress through four levels. A complaint will progress up through the levels from Level 1 to Level 4 if it is not resolved. If a complaint reaches a Level 4 and it is not resolved, the TIO may issue a preliminary view on the complaint and then a binding determination.

A complaint is escalated based on a number of criteria which are designed to assess the complexity of the complaint. Some of the escalation criteria include that the member has not responded within appropriate timeframes, the member has not offered to resolve the complaint in a fair and reasonable way, or the complaint remains unresolved and the time spent handling the complaint has exceeded acceptable limits.

This last criterion for escalation is somewhat contentious, as I will discuss below. The criteria stipulates that the TIO should be able to handle a Level 1 complaint in an average of 10 minutes (with an upper limit of 20 minutes), a Level 2 complaint in no more than 1 hour and a Level 3 complaint in no more than 2 hours. If the complaint is still not resolved after 2 hours of TIO staff time, this specific escalation criterion provides that the TIO may escalate the complaint to Level 4.

If a complaint reaches a Level 4 and is still unresolved, the TIO can form a preliminary view and issue a determination. Although determinations made by the TIO are binding the TIO cannot directly enforce its determinations against a provider. Additionally, the TIO cannot cancel the membership of a provider that fails to comply with determinations. However, if a provider does not comply with a direction of the TIO, the TIO can refer the matter to the ACMA. The ACMA can then give a formal warning, a direction to comply and seek imposition of civil penalty in the Federal Court.

HOW THE TIO IS FUNDED

The TIO is an industry-funded scheme and it derives its income solely from members who are charged two sets of fees. The first are volume costs, which are charges per complaint received by the TIO relating to that provider. The second is operation costs. These are the contributions a provider is required to make towards the TIO's operating costs. Operating costs are based on the number of complaints the TIO receives from a particular provider and are designed to cover overhead costs such as expenses relating to office facilities. Operating costs are charged on a proportionate basis so that if a Member incurs 10% of the total volume related fees in a billing period, it pays 10% of the TIO's total operating costs for the same billing period.

This funding system is designed to act as an incentive to keep TIO investigations to a minimum by incentivising industry to avoid escalations and to develop and maintain effective complaint handling procedures.

UK'S ADR SCHEME

In the UK all providers have to be a member of an ADR scheme that is approved by Ofcom. Ofcom has approved two different ADR schemes: the Office of the Telecommunications Ombudsman (**Otelo**) and the Communications and Internet Services Adjudication Scheme (**CISAS**). Providers can choose which ADR scheme they belong to but they have to belong to one of the schemes. Otelo is the larger of the two schemes and has 95% fixed line providers and 50% of mobile providers.

COMPARING THE NUMBERS

Otelo had 102,025 contacts in 2009-10 but only 15% (or 7,676) of these contacts converted into complaints ([Otelo 2010](#), 4). A contact is converted into a complaint when a complainant has gone through a provider's internal dispute resolution process for 8 weeks and then completes a form and submits it for assessment.

In contrast, CISAS had 5,143 enquiries in 2008-09 and this converted into 1,651 complaints ([CISAS 2009](#), 10).

At this point it is interesting to stop and contrast these numbers with Australia. As I detailed at the start of this paper in 2009-10, the TIO registered 215,000 cases. This means that in a country with less than a third of the amount of people we had almost 25 times more complaints than the UK.

Interestingly, the UK reports relatively similar levels of customer satisfaction to Australia with 89% satisfied with fixed line services and 92% satisfied with mobile services ([Ofcom 2010](#), 9). This compares with roughly 80-85% satisfaction rates in Australia for both fixed and mobile as detailed above.

COMPARING THE SCHEMES

I am now going to look at some of the key differences between the two UK schemes and compare these to Australia's TIO scheme, and see if there is a way to reconcile the differences in complaint numbers between Australia and the UK.

However, before I delve into the key reasons why I think the operation and setup of the Australian system (when compared to the UK system) may contribute to the reason there is such high complaint numbers in Australia, I would like to canvass some of the possible reasons why complaint numbers are relatively low in the UK. There are certain inherent features in the way that the UK's schemes operate which mean that there are some relatively significant barriers to making a complaint. Firstly, all complainants have to make a written application to the ADR schemes. This requirement may be particularly difficult for disadvantaged members of the community and it serves to increase the barrier to making a complaint.

Secondly, as discussed below, a complainant has to go through the provider's internal dispute resolution process for 8 weeks before the ADR scheme will take on their complaint (this was recently reduced from 12 weeks). This is a significant period of time and is likely to deter all but the most 'hardy' complainants. Finally, the ADR schemes in the UK have a narrower jurisdiction than the TIO. While the TIO generally has jurisdiction to hear "complaints about carriage services" including complaints about a carrier's exercise of their land access powers (under Schedule 3 of the Telecommunications Act), the jurisdiction of the ADR schemes in the UK is more limited to "the way in which your mobile and fixed phones, faxes and internet services are provided to you" ([Otelco 2010b](#)) and, for instance, does not extend to land access powers.

All of these issues contribute to the fact that the numbers of complaints in the UK are low. However, there are also several issues that may illustrate why there is a large difference between the complaint numbers in Australia and the UK and may lead us to reconcile these differences. While there are numerous differences of this kind between the three schemes I am going to focus on the two main differences that I consider contribute the most to the differences in complaint numbers. These are the fees and compensation arrangements and the procedures around the office of last resort arrangements.

FEES AND COMPENSATION

One of the key differences in the schemes is the fees and compensation arrangements. While both schemes are funded by the industry, the fees and compensation arrangements operate very differently.

Firstly I will analyse the fee arrangements. In Australia providers pay a graduated increasing fee depending on the level of the complaint. This ranges from \$31 to \$2,250. If a complaint reaches a Level 4 (the highest level) a provider has paid over \$3,000 in fees. The aim of the graduated fee scale is to incentivise providers to resolve complaints early and not to incur the escalation fees. In the first quarter of 2010, Telstra paid \$1,202,888 in complaint handling fees to the TIO, Optus Mobile paid \$200,788, Hutchinson paid \$268,008, iiNet paid \$28,807 and AAPT paid \$199,316.

By contrast, in the UK a flat case fee per complaint is paid. This fee is approximately £350. The aim of the UK's fee arrangement is to create a level playing field for complaints and to avoid any argument about whether or not the case is complex or easy. The idea is that some complaints will be relatively easy to rectify and not take much time whereas others will be complex and will take more time. While providers may argue that the fee is too high for an

'easy' complaint it may also be too low for a 'hard' complaint but by applying a flat fee this argument is avoided and it is felt that it creates a relatively level playing field.

In both countries providers argue that the fee arrangements are not perfect. The view of the providers is in part fuelled by the fact that the schemes are funded solely by provider contributions and that as charging a particular fee is their sole means of funding (and sole means of increasing their funding) providers feel that the particular fee is too high.

The Australian fee structure, however, seems to exacerbate this problem. As the TIO decides whether or not to escalate a complaint and as the TIO is fully funded by the complaint fees and the escalation fees, the Australian situation creates a tension between the providers and the TIO. Providers feel that the TIO may be escalating a complaint in order to increase their funding as opposed to escalating the complaint to put the customer in the middle and to aid customer resolution. Providers then 'fight' against the TIO to stop an escalation or argue that an escalation is unfair to avoid the escalation fee. This practice is not necessarily resulting in good customer service from either side of the ADR process.

This issue is heightened by the lack of clarity about the amounts of compensation that a complainant may be awarded by the TIO. The TIO has the ability to make binding decisions of up to \$30,000. However, as compensation figures are not published complainants are not generally provided with any guidance about the amount of compensation they may be awarded for a particular complaint or for a particular issue.

In contrast, Otelo and CISAS have a lower limit of monetary compensation that they can award consumers (being £5,000) and both ADR schemes publish the average amounts of compensation that they award to complainants. In practice the average amount is between £100 and £200 with the average compensation amount for Otelo in 2009-10 being £103.79 ([Otelo 2010](#), 6) and the average for CISAS being £173 ([CISAS 2009](#), 12). In all of the schemes customers are required to nominate what they would like in resolution of the complaint, be it a specific monetary amount, resolution of the issue or an apology. Both the TIO and Otelo take the complainant's nomination into account when awarding compensation. However, in a unique feature, CISAS is actually bound by the amount specified by the complainant. That is, CISAS cannot award more in compensation than the amount nominated by the customer.

Nomination of the compensation amount is designed to focus the mind of the consumer on their particular desired resolution. The contrast in the UK is that the ADR schemes publish compensation amounts and CISAS of the schemes is actually bound by what the complainant asks for (as detailed above). This means that consumers initially have their expectation set by a general awareness of the average compensation amounts and then have to turn their mind to what they specifically (as an individual customer) want to receive from the provider in resolution of their complaint. If they receive something that is near to what they have requested then they are more likely to be generally happy with the outcome and as a result customer satisfaction rates are high after a complainant has gone through the ADR process.

By contrast, in Australia, the TIO awards a compensation amount that is 'fair and reasonable' in the situation, but there is no guidance for either complainants or providers about what a fair and reasonable amount might be in analogous situations. When high compensation amounts are combined with a lengthy four level escalation process which is often fought against by the provider to avoid escalation fees it is not necessarily surprising if customer satisfaction rates are lower in Australia after going through the ADR process.

OFFICE OF LAST RESORT

Both the Australian and UK schemes are designed to operate as an office of last resort. This means that complainants must have given the providers an opportunity to rectify the issue before the ADR scheme will take on the complaint.

In the UK, there is a clearly defined process around what a customer must do before taking their complaint to an ADR scheme. Customers must try and resolve their complaint with the provider's internal escalation scheme for 8 weeks before going to the ADR scheme that their provider belongs to ([Ofcom 2008](#)).

In Australia there are no guidelines about what a complainant must do by way of contacting the provider before it can go to the TIO. This lack of guidance means that the complainants can go to the TIO and the TIO can take up the complaint without the complainant necessarily having gone through the company's own internal dispute resolution process. Several of the responses to the ACMA Reconnecting the Customer Inquiry Consultation Paper addressed this issue and told stories that in some cases - a complainant had only 1 contact with the provider before TIO handled the case. This led Vodafone Hutchinson Australia to argue that "customers may be using the TIO as an office of 'next resort'" ([VHA 2010](#), 15) as opposed to an office of last resort.

Some identified processes are needed in the Australian system so that there is a clear line at which the customer knows that the TIO is now available to them and the provider knows that once they reach this clear line the complainant can go to the TIO and have their complaint heard. While an 8 week timeframe may be too long a clearly defined process or point in time is needed to provide certainty to both industry and complainants.

Approximately 90% of TIO complaints (or 208,000) were resolved at a Level 1 in 2008-09 ([TIO 2009](#), 3). The numbers were very similar in 2009-10 ([TIO 2010](#), 18). A TIO Level 1 complaint does not involve any formal investigation by the TIO and the TIO simply refer the complaint back to the provider. Based on the time criteria (as detailed above) a TIO Level 1 complaint will take less than 20 minutes of a TIO investigating officer's time. As the TIO refer all Level 1 complaints back to the provider and take less than 20 minutes to resolve arguably all the TIO are doing at a Level 1 is making the provider aware of the complaint and aware that it is with the TIO.

If there were a clear process around what complainants needed to do before the TIO would take on a complaint at a Level 1 then arguably a vast amount of the 90% of complaints that are resolved at a Level 1 would go away. Using the 2009-10 figures, of the 215,000 TIO cases, only 19,860 went on to actually being formally investigated at a Level 2.

Interestingly this 19,860 number is now starting to look similar to the numbers of complaints that the UK ADR schemes receive in a year which is at about 10,000 a year (especially when combined with the additional barriers faced by complainants in the UK to making a complaint). It may be that one of the reasons there is such a high number of complaints in Australia is that providers are not given the opportunity to resolve the complaint before they are taken up by the TIO. Clearly defined processes would assist in reducing some of these TIO Level 1 numbers.

For clarification, I am not advocating a definitional shift in what is, or is not, a complaint. It is my view that most of the 195,000 Level 1 complaints are genuine issues, which need to be resolved. However, I think that providers need to be given a greater chance to resolve these complaints using their own internal dispute resolution systems before the external dispute resolution system can be engaged and before the complaint is treated as another TIO complaint statistic (with the accompanying fee).

WHAT DOES THIS MEAN FOR AUSTRALIAN TELECOMMUNICATIONS INDUSTRY IN 2010?

It is my view that a few small changes to the way in which the TIO scheme operates will have a large effect on the number of complaints dealt with by the TIO. I also consider that these changes are likely to increase customer satisfaction across the industry for those consumers that will not have to go through an external ADR process.

Although these changes would be beneficial I do not think they remove the need for industry to focus on customer service and increase customer satisfaction levels. The joint AMTA / Communications Alliance submission to the Reconnecting the Customer Inquiry highlights the importance of industry focusing on customer service. It provided the following statistics about the costs of customer switching ([AMTA 2010](#), 9):

- acquiring new customers can cost 5 to 7 times more than satisfying and retaining existing customers;
- increasing customer retention by 2% has the same effect on profits as cutting costs by 10%;
- reducing the rate of customer defection by 5% can increase profits by as much as 125%; and
- the customer profitability tends to increase over the life of a customer.

This is specifically reinforced in the UK market where Ofcom's research indicated that 32% of people whose complaints lasted at least 12 weeks (that is the time a customer needed to go through the internal dispute resolution process before going to the ADR.²) had already switched providers with another 29% planning to do so as a direct consequence of the complaint ([Ofcom 2010](#), 11).

In a highly competitive market, surely it is these indicators that will truly drive change in the level of customer service and therefore the level of complaints.

CONCLUSION

In conclusion, it is my view that the experience of the UK suggests that there are tweaks that need to be made to the workings of the TIO and that these tweaks will result in lower levels of complaints and arguably enhanced levels of customer satisfaction across the industry.

Any changes should strive to achieve an ADR scheme that put consumers in the middle of the equation and does not sideline them due to the structure of the process and system. The scheme should enable consumers to be educated so that they can choose who the best provider is for them. The European Commission considers that "confident, informed and empowered consumers are the motor of economic evolution" ([European Commission 2007](#), 4) and we should try and foster these consumers in order to drive innovation and efficiency benefits, which will serve to improve the whole industry.

DISCLAIMER

The views expressed in this paper are the personal views of the author and not the views of Gilbert + Tobin Lawyers or its clients

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ENDNOTES

1. Sourced from Macquarie analysis, the TIO and the International Telecommunications Union.
2. In July 2010, Ofcom reduced the amount of time from 12 weeks to 8 weeks.

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COMPLAINTS HANDLING AND TELECOMMUNICATIONS IN THE UNITED KINGDOM AND AUSTRALIA

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This paper examines the trends in complaints against telecommunications providers in Australia and the UK. It discusses why complaint handling is important to consumers and then looks at the published available information on complaints in Australia and the UK. Having discussed the number of complaints, it examines the high level principles that internal complaint handling mechanisms ought to be designed around. It concludes that the number of complaints in Australia is exceptionally high and that this seems to be part of a wider issue about complaints handling and customer service in telecommunications in both countries, as well as raising questions about the regulatory arrangements in Australia.

INTRODUCTION:

The starting point for this paper is the very large number of complaints received by the Australian Telecommunications Industry Ombudsman (TIO) since 2006, especially when compared to what appears to be the position in the UK. In terms of headline figures, the TIO has been receiving and handling over 100,000 new complaints a year, whereas the equivalent UK bodies seem to be handling only half that number. This is puzzling because the UK telecommunications market is much larger than the Australian one. A crude measure would be to say that there are approximately 60 million people in the UK and approximately 22 million in Australia so it would be expected, other things being equal, that the number of complaints in the UK would be higher than in Australia – instead it appears to be the other way around. Looking more closely at the figures, it is clear that the UK market is larger. For example, according to Ofcom there are 32.1 million fixed lines in the UK ([Ofcom 2010a](#), Figure 5.1) while the Australian Communications and Media Authority (ACMA) puts the number in Australia at 10.6 million ([ACMA 2010a](#), 23). As regards mobile phones, Ofcom estimates that there are some 80 million mobile subscriptions in the UK ([Ofcom 2010a](#), Figure 5.29), whereas ACMA estimates there are just under 26 million in Australia ([ACMA 2010a](#), 23).

Before dealing directly with this question, the paper summarises previous research on why complaint handling is important to customers and the relationship between recorded complaints and unrecorded complaints. It then looks in some detail at trends in complaints against telecommunication companies in Australia and the UK, concluding that there are significant problems in both countries. The final section summarises research on best practices for internal complaint handling in order to suggest ways forward. There is a brief conclusion.

WHY COMPLAINT HANDLING MATTERS

There are a number of lessons from previous research about complaint handling and consumers. First, complaint handling matters to consumers: the one thing that they do not want when they make a complaint is an additional problem. Secondly, failures in customer service affect both the reputation of the company concerned and consumers' intention to purchase the same good or service from the company. The research also seems to demonstrate that customers who complain are more likely to re-purchase the good or service than those who do not complain, even if their complaint is not resolved. As Technical Assistance Research Programs ([TARP 1986](#), 44) put it, "noncomplaining, dissatisfied customers may not be angry enough to complain, but they often are unhappy enough to switch brands." TARP ([1986](#)) did specific work on telecommunications¹ which showed that repurchase intentions ranged from thirty-one per cent for non-complainants to seventy-five per cent for satisfied complainants and forty-three per cent for dissatisfied complainants, indicating that a marketing advantage was created even when the complaint could not be satisfactorily resolved. In addition, customers whose complaints were resolved to their satisfaction were more likely to remain with the company and purchase its products. Thirdly, customers will talk about their complaint experience to their friends, relatives and neighbours and, increasingly these days, vent their frustrations via websites or Facebook. So for example, there is an "I hate Telstra" group on Facebook, a "Nope Optus" group as well as Telstrasucks.com (and I do not claim that this is a comprehensive list). Finally, recorded complaints are only a proportion of dissatisfied customers. The research estimates that there are from ten to twenty-five to fifty problems for every recorded complaint ([Van Essel et al 2003](#); [Goodman and Grimm 2005](#), [Welsh Tourist Board](#)).

To summarise, good complaint handling can make it more likely that a company retains its customers and bad complaint handling also has reputational effects on the brand, as well as losing customers. For example, work done by IPSOS Mori for Consumer Focus in the UK indicated that industries which had a relatively low score as regards consumer confidence tended to have a relatively high proportion of complaints and that telecommunications services fell into this category ([IPSOS Mori 2009](#), 25). In addition, the data from complaints can be used as a source of information to improve a business by showing where problems are occurring and what customers think is important. This point is seen in the ISO standards, as well as in academic work and recognised by regulatory authorities ([ISO 2004](#); [Johnston 2001](#), 6; [Johnston and Mehra 2002](#); [ACMA 2010b](#), 15).

TRENDS IN TELECOMMUNICATIONS COMPLAINTS

These points are, in general, well understood and not controversial. What is striking about the telecommunications industry in Australia is the extraordinarily high number of complaints received by the TIO since 2006 by comparison with the UK. In this section of the paper I want to examine the differences in figures in some detail in order to understand them and to evaluate competing explanations for the difference. Initial hypotheses are:

- complaint handling by the Australian telecommunications industry is poor, while that in the UK is better,
- complaint handling by the UK telecommunications industry is poor, but reporting of complaints is suppressed, while complaint handling by the Australian telecommunications industry is better.
- Complaint handling in both the UK and the Australian telecommunications industry is poor.

- Complaint handling in both the UK and the Australian telecommunications industry is good.

In the first bullet point above, “better” simply refers to the number of complaints reported, while in the second bullet point, a “better” system may be one which records more complaints but, in theory, deals with them properly, as opposed to a system which does not acknowledge them properly. In order to get to these substantive hypotheses, the first step is to get a better understanding of the headline figures, which requires an explanation of the legal framework within which the complaint handling bodies of the two jurisdictions work.

AUSTRALIA

The TIO was established in 1993 and is seen in Australia as part of a system of co-regulation ([Stuhmcke 2002](#) has the background). Companies who provide standard telephone services, public mobile services or Internet access are required to be members of the TIO. The industry has produced a Telecommunications Consumer Protection Code, which is considered by the TIO to be a statement of best practice.

The TIO only investigates complaints if the provider has been given a reasonable opportunity to address the complaint and deals primarily with what might be called complaints about telecommunications, although this includes directory information, privacy and land access issues. It does not deal with complaints about information services. A complaint is defined as “an expression of grievance or dissatisfaction about a matter within the TIO’s jurisdiction that the Member concerned has had an opportunity to consider”. The TIO has four classifications of complaints. Level 1 complaints are meant to be solved by TIO officers within twenty minutes and largely involve a reference back to the provider. Level 2 complaints are more complex, taking up to an hour of the officer’s time, require notification of the provider in writing and may involve the TIO in facilitating a resolution. Level 3 and 4 complaints are more complex still and involve the TIO formally investigating the complaint and making a decision upon it. Enquiries cover those contacts where the consumer has not contacted the provider first, the complaint is outside the TIO’s jurisdiction or the company is not a member of the TIO.

Table 1 gives statistics for TIO complaints over the last five years of available data.² It is striking that there is a very large increase in complaints handled from 2006, which appears to have peaked in 2008-09, but it is still the case that the absolute number of complaints in the last recorded period is still almost double that of 2006-07. In addition, it appears that cases are becoming more complex and harder to solve as the relative number of level 3 and 4 complaints has increased over the last two years. It is, however, worth comparing this performance with the record in the UK.

Year	Complaints handled	New complaints	Enquiries	TIO level 3 and 4 cases	Level 3 and 4 cases as a % of complaints
2005-06	87,593	NK	20,008	1,329 ³	1.5
2006-07	102,463	85,188	20,258	847	0.8
2007-08	149,742	119,248	23,263	1,902	1.2
2008-09	230,065	175,963	31,753	4,717	2.1
2009-10	215,000	167,955	41,264	4,202	2.5

Source: TIO Annual reports⁴

Table 1 - TIO complaints

UNITED KINGDOM

The legal framework for telecommunications regulation in the UK is given by the *Communications Act 2003*. Section 52 imposes a duty on the Office of Communications (Ofcom) to set down general conditions that will deal with, among other things, the handling of complaints by telecommunications companies⁵ by domestic customers, the resolution of disputes between domestic customers and telecommunications companies and the provision of redress and remedies. Ofcom is required to ensure that the procedures established for complaint handling dispute resolution are, as far as appropriate, easy to use, transparent and effective. The procedures for complaint handling by companies are to be done in line with a published company Code of Practice, which must receive Ofcom approval. As regards dispute resolution, Section 54 says that Ofcom may approve dispute resolution procedures (note the plural) after consulting the Secretary of State and if they meet certain conditions relating to, among other things, independence, ease of use and free access. Because of the use of the plural in the legislation, Ofcom approved two dispute resolution schemes in 2003: the Office of the Telecommunications Ombudsman (OTELO) and the Communication and Internet Services Adjudication Scheme (CISAS). In terms of major industry players, BT, O2 and 3 UK are currently members of OTELO, representing around forty per cent of the fixed line market and twenty-five per cent of the mobile market, while Vodafone, T-Mobile (now Everything Everywhere), Virgin Media and Orange are members of CISAS, representing around fifty-three per cent of the mobile market and thirteen per cent of the fixed line market ([Ofcom 2010a](#), Figure 5.46). The market figures are quoted simply to make the point that both schemes have significant membership. Both OTELO and CISAS are subsidiaries of companies which offer dispute resolution services, so they are in competition with each other and companies have moved between the two schemes.

Before discussing OTELO and CISAS in more detail, a third body needs to be described: PhonePayPlus, which is responsible for the regulation of phone paid services in the UK, having been approved in 2007 by Ofcom under Section 121 of the Communications Act. Historically, they are the successor of a previous body, ICSTIS, which was originally set up in 1986 to regulate premium rate services. In 1989 it became recognised by the Office of Telecommunications (the predecessor of Ofcom) as the regulatory body for this sector. PhonePayPlus produces a Code of Practice for the industry and investigates complaints about phone paid services on the basis of whether the Code has been complied with. PhonePayPlus is a non-profit making company, limited by guarantee. It is funded primarily by a levy on service providers, which is collected by the network operators, and the annual budget ultimately has to be approved by Ofcom. Complaints to PhonePayPlus are primarily made on-line, although there is provision for help and assistance through phone, text or by letter. There is no requirement to approach the service provider before making a complaint, which differentiates it from the procedures of OTELO and CISAS. Table 2 gives the figures for complaints to PhonePayPlus over the last five years because the TIO's jurisdiction covers at least some of the same areas.

Year	Complaints
2005-06	19,591
2006-07	9,435
2007-08	10,463
2008-09	23,244
2009-10	11,249

Source: PhonepayPlus Annual Reports
Table 2 - PhonePayPlus complaints

CISAS

CISAS, as its name suggests, is an adjudication service which was originally housed in the Chartered Institute of Arbitrators and is now a subsidiary of Independent Dispute Resolution Services (IDRS). Its services are free to consumers, although before making a complaint a consumer must give the company a chance to deal with the complaint and the company is given eight weeks to deal with the complaint or to agree that no resolution can be reached. Once this stage is reached, a complaint is submitted either in writing or electronically to CISAS. CISAS's first action is to send a copy of the complaint to a member company, which may then try to reach a settlement with the customer. If no settlement is reached, the matter is referred to one of a panel of adjudicators who will deal with the case, normally within six weeks. The process appears to be adversarial and largely written. Once a valid application is made, the recent evidence suggests that around eighty per cent of cases end in either a decision in the complainant's favour or that the case is settled by agreement between the complainant and the company (CISAS 2010, 10). The early settlement procedure, as it is referred to, seems to take place in around half the cases (CISAS 2010, 9).

Table 3 below gives figures for enquiries and adjudications by CISAS and it is evident that the majority of enquiries are not converted into applications and, more importantly, that there are a significant number of invalid applications made to CISAS. This is primarily because the applications are made too early, that is, before the eight week period for dealing with a complaint by a company has elapsed (CISAS 2010, 10).

	Enquiries	Invalid applications	Valid applications	Adjudications
2003-04	821	NK	127	127
2005	3,255	NK	185	185
2006	3,612	200	497	178
2007	6,141	800	1,650	698
2008	6,464	1,169	2,667	1,044
2009	5,143	1,084	1,651	826

Source: CISAS Annual Reports

Table 3 - CISAS statistics⁶

A number of points can be made about the CISAS process. First, inquiries are primarily complaints, from a consumer perspective, but not logged as such. A significant number of the inquiries are premature, that is, the company has not had the requisite amount of time to deal with the case. Of these, around half of them seem to get their complaint resolved by the company when they return to it (CISAS 2009, 15). The same is true of a percentage of those who do not return their application form (possibly around one quarter in 2008: CISAS 2009, 15). So it would seem as if everything that CISAS does before adjudication can be seen as roughly equivalent to Level 1 and 2 complaints handled by the TIO. Adjudications can be seen as the equivalent to Levels 3 and 4 complaints. However, it is important to realise that applications are a sub-set of inquiries, that is, the two categories cannot be added together. Secondly, there is a percentage of inquiries that CISAS cannot deal with, either because the inquiry involved a non-member company, is in relation to a problem outside CISAS jurisdiction or the advice is that the enquirer needs further information. In the 2008 Customer Satisfaction Survey these categories totalled to seven per cent of those surveyed (CISAS 2009, 15). The final point to make about CISAS statistics is that, when compared to OTELO, the number of contacts is much smaller. This might simply be a reflection of the market share of its membership but this does not seem prima facie convincing. It certainly does not explain a difference of almost twenty times in volume. More likely is that CISAS is just a deeply

unknown organisation. Ofcom (2010b, 23) estimated that the awareness of CISAS and OTELO was around 8%, as compared to 59% for the Financial Ombudsman Service.

OTELO

OTELO is an ombudsman service, which is part of The Ombudsman Service Ltd. Like CISAS, its services are free to consumers, although before making a complaint a consumer must give the company a chance to deal with the complaint and the company is given eight weeks to deal with the complaint or to agree that no resolution can be reached. When OTELO accepts a case for investigation, it asks the member company for the case file which is then followed by an investigation, unless the company resolves the case before the investigation starts. After investigating, OTELO issues provisional conclusions, which both the company and the complainant may comment upon and, after that, a final decision is reached. Provisional conclusions would seem to be equivalent to TIO level 3 and 4 complaints. So, in contrast to CISAS, this is more of an investigative than an adversarial procedure. It is also much more active than CISAS, as will be seen.

OTELO statistics (Table 4) tell us a number of things. First, there are around 100,000 contacts received by OTELO per annum. OTELO has not seen a dramatic increase in contacts over the last four years. Of these, around seventy per cent of the contacts are about member companies but are outside OTELO's jurisdiction, typically because the complaint has been made before the member company has had sufficient time to resolve it. There are also a number of contacts which are categorised as enquiries. It is not clear from the information given by OTELO whether or not these are inquiries preparatory to a complaint or more general inquiries. Some of them must be the former. There are also a number of complaints or enquiries about non-member companies, although the information given in the Annual Reports is inconsistent and difficult to interpret. OTELO's operational information suggests something in the region of 3,500 to 4,000 such contacts per annum,² while the data given in charts published in OTELO Annual Reports, when calculated against overall contacts suggests twice that amount.

	Contacts	Member – outside jurisdiction	Non-member complaint	Enquiries	Accepted/inside
2005	68,763	30,530	NK	30,255	7,288
2006	91,079	65,759	NK	14,845	10,474
2007	105,600	72,864	4,442	13,728	10,560
2008	104,000	78,000	3,868	5,200	10,400
2009	101,882	73,355	3,802	13,244	15,282
2010	102,025	74,478	7,141	5,101	15,303

Source: OTELO Annual Reports

Table 4 - OTELO - types of contact ⁸ – all numbers calculated

OTELO's activity is summarised in Table 5. It is noticeable here that there is a difference between the number of complaints accepted and the number of complaint forms issued. It is not apparent from the information published by OTELO why this is the case. Not all complaint forms issued are returned. This may be partly because a complaint is resolved and partly because the complainant abandons the complaint. Again, it is not clear from the published information just what is happening here.

	Contacts	Complaints accepted	Complaint forms issued	Complaint forms received	Provisional conclusions
2006	91,079	10,474	6,300 (est)	5,000 (est)	5,549
2007	105,600	10,560	6,300 (est)	5,355 (est)	5,112
2008	104,000	10,400	5,600 (est)	4,500 (est)	4,139
2009	101,882	15,282	8,635	6,964	6,220
2010	102,025	15,303	8,496	7,676	NK ⁹

Source: OTELO Annual Reports

Table 5 - OTELO activity¹⁰

COMPARING AUSTRALIA AND THE UK

The best comparison would be to set complaints and enquiries to the TIO against contacts and enquiries to OTELO and CISAS and complaints dealt with by PhonePayPlus. Although most of the contacts and inquiries to OTELO and CISAS cannot be dealt with because they are outside their jurisdiction, they represent, imperfectly, a measure of consumer complaints.

Equally, inquiries to the TIO are a measure of consumer complaints because some of them are complaints that have not yet been made to the provider. This information is given in Table 6 and indicates that, in the last three years for which there is data, there are significantly more recorded telecommunications complaints in Australia than there are in the UK. Both the UK and Australian totals will include some contacts which are not complaints, but data is not available to calculate these.

Year	TIO – complaints and enquiries	OTELO – contacts	CISAS – enquiries	PhonepayPlus – complaints	UK total
2007-08	173,005	104,000	6,141	10,463	120,604
2008-09	261,818	101,882	6,464	23,244	131,590
2009-10	208,995	102,025	5,143	11,249	118,417

Table 6 - Australia/UK comparison

The absolute level of complaints recorded in the Australian telecommunications industry is extraordinary. The only body dealing with private sector complaints in the UK which comes near is the Financial Ombudsman Service, which covers most of the financial services sector in the UK and had a record 127,421 new cases in the year 2008-09, again, less than the TIO.¹¹ The Financial Services Authority, the industry regulator, lays down rules about record keeping for financial services companies and these indicate that there are around three million complaints at company level recorded for the last three years, of which about two million per annum relate to complaints about banks. This converts to a ratio of 22 complaints at company level for every one ombudsman complaint. If this were the case in the Australian telecommunications industry, it would suggest around 5 million company complaints in 2008-09, about one in four of the Australian population.

Having said this, there does seem to be a wider issue here about complaint handling and customer service in relation to the telecommunications as an industry. Work a few years ago by IPSOS-Mori for Ernst & Young found that consumer satisfaction with the handling of complaints by UK telecommunications companies was worse than that of retailers, bank and

other utilities ([Ofcom 2009](#), paras 4.48-4.49). Of this, perhaps the most surprising is the finding in relation to the banks – which are not renowned for customer service in the UK.

Ofcom's own work has found that telecommunications companies do not handle complaints well and it is currently considering changes to the UK regulatory framework. Both the TIO and OTELO have been concerned with the telecommunications companies approach to complaint handling and customer service. As Otelos ([2009](#), 13) put it: "it is disappointing that despite [customer service] appearing in every annual report we have produced to date, it remains a real problem for the sector."¹² Similarly, the TIO ([2009](#), 26) has said, "The proportion of customer service related complaints remains unacceptably high, and in the TIO's view, the industry still has much work to do in this area."

BEST PRACTICE IN INTERNAL COMPLAINT HANDLING

So, there is a problem. What can be done about it? Complaint handling systems can be divided into those internal to an organisation and those external to it. I am going to focus on internal systems because I suspect that this is where the problem lies. An external complaint handler, like TIO or OTELO, is just the recipient of complaints that are not resolved at the first level.

There is widespread agreement on the basic principles to which internal systems ought to adhere (see [ISO 2004](#), [Johnston 2001](#), [Office of Consumer Affairs 2002](#), [TIO no date](#)) and they are organised here as five points:

- Accessibility
- Effectiveness
- Fairness and consistency
- Responsiveness
- Organisational ownership and commitment

One important introductory point: the devil is in the detail. I mean this in two senses: it is easy to agree at a high level on the general principles that inform good complaint handling. It is more difficult to agree on how to implement these principles. For example, Ofcom is still arguing with the industry about adopting a common definition of complaints in the UK, unlike in Australia, where the Telecommunications Consumer Protection Code defines a complaint as an expression of dissatisfaction (although apparently a small number of companies interpret this as meaning a "reasonable" expression of dissatisfaction [[ACMA 2010c](#), 25]). Secondly, there is often a gap between the top of an organisation and the front line where good intentions do not get translated into action – a fairly common failing of large organisations.

Accessibility encompasses a number of dimensions. These days it is assumed that every company allows complaints to be made via their website or at least provides the information on how to do so on the website. Some make it easier than others and, before doing the presentation on which this paper is based; I looked at a few websites. For Telstra, making a complaint is right on the front page of their site. For Optus, I couldn't find out how to make a complaint, within a short space of time. I could find it for BT and British Gas, although neither had them on the front page.

Whether the information is clear is another matter. Providers tend to make it easy to submit complaints by not specifying what you have to provide, i.e., by just providing a blank form to fill in. Finding out information about how the complaints process is actually going to work, and what you can expect in terms of responses, can be more difficult. A lack of information about how a complaints procedure is going to work may well indicate that an effective

procedure does not exist. This can manifest itself in a number of ways, and one common problem with complaint handling systems in telecommunications is that people feel that they are pushed around an organisation, as opposed to getting one person who can deal with their query. This experience suggests that the systems for handling complaints are not adequate and that organisational learning from complaints is not embedded. ACMA has noted ([ACMA 2010c](#), 13) that a number of service providers do not appear to undertake any meaningful internal complaints analysis.

Everyone would accept that an important part of fairness is objectivity and listening to the complaint. The listening side is anecdotally often a problem: staff do not listen to the complaint but assign it to pre-planned boxes/categories in their heads. ACMA ([2010c](#), 5) quotes an individual submission to its inquiry which illustrates this point.

Responsiveness does seem to be an important problem, especially in the UK. Here Ofcom reckoned that 30% of telecoms complaints were unresolved within 12 weeks, which they estimated worked out as 3 million complaints a year where the complaint was unresolved after 12 weeks ([Ofcom 2009](#), para. 4.19). The Telecommunications Consumer Protection Code in Australia suggests that most complaints should be resolved within thirty days, and the length of time take to resolve a complaint does not seem to be a major source of problems. According to the TIO and ACMA ([2010b](#), 8 and 10), the two biggest problems in terms of complaint handling are the failure to do what was promised (“action undertakings”) and the failure to escalate to the TIO. The former is also a large part of the customer service complaints, as well as the separate issue of giving incorrect information. These failures suggest that effective systems do not exist.

Finally, there is organisational ownership and commitment. This was a point that was made to me in an interview by the Local Government Ombudsman in the UK – that you could not improve complaint handling in an organisation unless those at the top bought into the idea of effective complaint handling. When I did research into the Insurance Ombudsman in the early 1990s ([Graham and Birds 1993](#)), I also tracked company complaint handling systems. For large insurance companies, these were typically run by a woman who “did” complaints; that office was not part of the general business structure. At this point, there was not organisational buy-in. It is worth emphasising again, that organisational buy-in requires more than those at the top of the organisation accepting the principles of good complaint handling, no matter how sincerely. This is a necessary first step but then the principles have to become part of the organisational culture and be implemented on the ground (see [ACMA 2010c](#), 14 on this point).

CONCLUSIONS

The Australian figures and experience present a puzzle. From a UK perspective, Australia has a co-regulatory system which has produced an industry-wide Code of Practice, plus accompanying guidance, and a single complaint handling body which was established as early as 1993. By contrast, there is no one Code of Practice in the UK, instead each company has their own Code of Practice, which admittedly must be approved by Ofcom, and there are three complaint handling bodies. In addition, Ofcom has been unhappy about the handling of complaints by telecommunications companies in the UK for some time (see [Ofcom 2009](#), [2010b](#)). Since the institutional arrangements in Australia look better, on first impression, than those in the UK and because the Australian market is smaller than the UK one, this would lead to an expectation that the second hypothesis outlined above, that Australian complaint handling was better than that in the UK, would be fulfilled.

However, the recent record looks very poor, even taking into account the slight decline in complaints in 2010. The number of complaints dealt with by the TIO has been very high since 2007 and, beneath the TIO level, there will be significant numbers of complaints that

have not been submitted to the TIO. This raises the question as to whether what has been agreed is actually being implemented, a point also made by ACMA (2010b, 16).

This looks like an example of the industry failing to meet the expectations of its customers. When you get failure on this scale, this is likely to call into question the effectiveness of the regulatory arrangements, particularly when they are based on co-regulation. Indeed, ACMA is currently conducting an inquiry into customer service and complaints handling in the Australian telecommunications industry.¹³ Its recent progress report highlights a difference between consumers' and providers' perceptions of customer service. Consumers focus on the customer service provided after they have become a customer, whilst providers have a more expansive definition which includes sales and marketing. ACMA suggests that, if providers focus on customer acquisition, as opposed to post-sales service, this may explain the high levels of customer dissatisfaction ([ACMA 2010c](#), 23-4). Solving problems for customers is not, however, a matter of the headlines – it does require detailed work and cultural and organisational change within the telecommunications companies, which could lead to big wins for those companies that get it right.

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ENDNOTES

1. Although this study could only have been done at the earliest stages of a competitive long distance telecommunications market.
2. Some service providers have argued that there is an element of double counting in TIO statistics as, when a complaint is escalated, two complaints are recorded. It is not possible to resolve this issue on the basis of published information.
3. Calculated.
4. Includes complaints for Mobile Premium Services.
5. Technically “public communications providers”.
6. The given year is the title of the CISAS reports, although the reporting period appears to cover two years, e.g., 2004-05. Data on invalid applications is only given from 2006. Data on invalid applications in 2009 courtesy of Yvette Yates, IDRS, due to an error in the annual report.
7. Available at: <http://www.ombudsman-services.org/pages/4performance.php> (accessed 3/01/11).
8. Source: OTELO Annual Reports. Contacts in 2007 and 2008 appear to have been rounded. Non-member complaints for 2007, 2008 and 2009 are as given in the text of the Annual Report. This is not consistent with the charts in the Annual Report, which suggest higher numbers. All other figures are calculations, based on the reported percentages of the categories – actual numbers are not given in the Annual Reports.
9. Operational information from October 2009 to October 2010 says 6,394 provisional conclusions.
10. Precise numbers for complaint forms issued and received are only given in the last two years. For previous years I have made a very rough estimate based on the bar charts.
11. The data here and later in the paragraph is taken from Financial Ombudsman Service *Annual Review 2008-09* and <http://www.financial-ombudsman.org.uk/publications/complaints-data.html> (accessed 27/07/10)
12. This was still the highest category of complaints for OTELO in the 2010 report ([OTELO 2010](#), 4).
13. See http://www.acma.gov.au/WEB/STANDARD/pc=PC_312222 (accessed 28/07/10).

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UNDERSTANDING LEGAL RISKS FACING CHILDREN & YOUNG PEOPLE USING SOCIAL NETWORKING SITES

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Children and young people are increasingly participating in everyday use of Social Networking Sites (SNS), such as Facebook or MySpace, to the extent that such interactions have come to be seen as an essential part of growing up. To date, at least in Australia, mainstream discussion and policy debates about young people and SNS have tended to focus on high profile risks associated with these activities, such as cyber-bullying and online grooming of children by adults. While not dismissing the potential risks of SNS use by young people, it is important to understand the potential benefits that may accrue from online social interactions, including the acquisition of social and technical skills that are likely to be important for future digital citizens. Moreover, it is also important not to ignore other potential, albeit less dramatic, risks that may arise from SNS use. This article, which reports on research conducted for a project funded by the Victorian Law Foundation, focuses on the range of legal risks that children and young people may face in their everyday use of SNS. These legal risks are likely to receive much greater attention as a result of a recent high-profile case involving the posting of nude photographs of Australian footballers to Facebook by a Melbourne teenager. The article identifies and explains the main areas of the law that may be breached by common uses of SNS, before explaining the legal issues arising from the Melbourne schoolgirl incident. It then summarises the results of surveys and focus groups conducted with Victorian High School students about their perceptions of the risks associated with use of SNS. The article concludes with an analysis of the research findings, and some suggestions as to how the popularity of SNS with young people may be used to engage students in learning about, and debating, the application of the law to online activities, especially the use of SNS. The full findings of the project will be available in a report to be published in early 2011.

INTRODUCTION

Internet-based activities, and especially interactions via Social Networking Sites (SNS), are playing an increasingly important role in the lives of children and young people. For example, a study of media consumption by young Americans undertaken for the Kaiser Family Foundation, and published in early 2010, found that visiting SNS such as MySpace or Facebook was the most popular computer activity of 8- to 18-year olds, with members of this age group spending an average of an hour and a half each day on computer activities outside

of school work ([Rideout et al 2010](#), 3, 21). A 2009 study of Australian youth, conducted by the Australian Communication and Media Authority (ACMA), known as *Click and Connect*, found a significant shift in the online activities of young people after entering High School, at about the age of 12 years old. As the ACMA study reported:

From this age, young people tend to have accounts and be regular users of social networking sites and services such as MSN, Bebo and MySpace. For this age group, the importance and role of the social networking services is to provide an arena for self-expression, 'fitting in', chatting with people they know and also people they do not necessarily know offline. ([ACMA 2009](#), 5).

The uptake in use of SNS by young people has occurred in a relatively short period of time. Yet, for many, if not for most, everyday use of SNS has become accepted as a necessary part of life as a teenager. For instance, the 2009 ACMA study found that:

Parents tend to have the perspective that social networking services are an integral part of growing up. ([ACMA 2009](#), 6).

The rapid growth in the use of SNS by young people has been accompanied by a range of policy responses, which commonly respond to community concerns relating to the risks these technologies may pose to vulnerable users. Thus, in Australia, policy responses to the use of SNS by young people are invariably characterised as part of programs aimed at promoting 'cybersafety'. For example, ACMA has an educational program that groups cybersafety issues under the following four general categories:

1. personal and peer safety, including privacy and inappropriate contact;
2. online behaviours, such as cyberbullying and netiquette;
3. digital media literacy, including an understanding of computer technology, and awareness of the Internet services that children use, tools available for parents, etc;
4. e-security, the technical tools to make a computer child safe including computer security, filters, viruses and malware ([ACMA 2010](#), 2).

The fears associated with the risks of online activities to children and young people, and especially the risks of cyber-bullying and predatory behaviour such as online grooming,¹ are also reflected in the terms of reference for the Commonwealth Joint Select Committee on Cyber-Safety, which was established in September 2010, but has yet to report. In particular, the Committee's terms of reference include inquiring into, and reporting on: the nature, prevalence, implications of and level of risk associated with cyber-safety threats, such as:

- abuse of children online (cyber-bullying, cyber-stalking and sexual grooming);
- exposure to illegal and inappropriate content;
- inappropriate social and health behaviours in an online environment (e.g. technology addiction, online promotion of anorexia, drug usage, underage drinking and smoking);
- identity theft; and
- breaches of privacy.

While risks posed by forms of abusive behaviour such as cyber-bullying and grooming have been emphasised, both in the mainstream media and in policy responses, comparatively little attention has been given to the potential legal risks that children and young people may face

when they use SNS. Nevertheless, a recent high-profile episode, involving the posting of nude photographs of St Kilda Australian football players to a Facebook page by a 17-year-old Melbourne girl, illustrates the possible legal consequences that may arise from young people posting content to a SNS. This article reports some results of a research project, funded by the Victorian Law Foundation, which seeks to redress the lack of attention given to legal risks in Australia by, first, explaining the nature of legal risks to which young people may be exposed in using SNS and, secondly, describing the way in which young people perceive the legal risks associated with use of SNS. The full findings of the project will be made available in a report to be published in early 2011.

This article has six main parts. The first part of the article explains what is meant by SNS and introduces debates over the use of the term. The second part deals with both the main benefits and risks of young people using SNS. The third part details the main legal risks facing young people using SNS, while the fourth part explains the legal issues arising from the recent high-profile case involving the posting of nude photographs of Australian footballers to Facebook by a Melbourne schoolgirl. The fifth part outlines the main findings of the surveys and focus groups, which were conducted with young people, parents and teachers, focussing on students' perceptions of risks arising from their participation in SNS. The sixth and final part summarises the results of the research and makes some recommendations for addressing the project's findings.

SOCIAL NETWORKING SITES OR SOCIAL NETWORK SITES?

The most commonly accepted definition of SNS, first proposed by boyd and Ellison, defines social network sites to mean 'web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system' ([boyd and Ellison 2007](#), 2). As the authors explain, they deliberately avoided the use of the term 'social networking sites' (emphasis added) as:

“Networking” emphasizes relationship initiation, often between strangers. While networking is possible on these sites, it is not the primary practice on many of them, nor is it what differentiates them from other forms of computer-mediated communication (CMC) ([boyd and Ellison 2007](#), 2).

This definition has not been immune from criticism. For example, [Beer \(2008\)](#) has argued that it is precisely the fact that 'networking' is the main preoccupation that sets apart SNS, properly speaking, from sites involving other collaborative activities, such as YouTube. Within the context of policies aimed at protecting children and young people, the European Union has developed *Safer Social Networking Principles*, which adopted a more comprehensive definition of SNS as online services that combine the following features:

- A platform that promotes online social interaction between two or more persons for the purposes of friendship, meeting other persons, or information exchange;
- Functionality that lets users create personal profile pages that contain information of their own choosing, such as the name or nickname of the user, photographs placed on the personal page by the user, other personal information about the user, and links to other personal pages on the service of friends or associates of the user that may be accessed by other users or visitors to the service;
- Mechanisms to communicate with other users, such as a message board, electronic mail, or instant messenger; and
- Tools that allow users to search for other users according to the profile information they choose to make available to other users ([EU 2009](#), 2).

The debate about how central networking activities are to the definition of SNS is, to some extent, artificial, as there is some degree of networking even on sites that are directed more at other activities, such as content sharing. Moreover, research undertaken for this project indicated that young people often link material from sites that are not, strictly speaking, SNS, such as YouTube, to their SNS profile. As this research project was directed at investigating the legal risks facing children and young people, it has adopted the broader definition of SNS proposed by Boyd and Ellison, which allowed us to capture as broad a range of relevant activities as possible.

BENEFITS AND RISKS OF USING SNS

While the response to the uptake in the use of SNS by children and young people has, like most commentary on the use of media by young people, highlighted the risks posed by the technology, most experts have been concerned to point to the potentially significant benefits that may arise from the use of networking technologies. For example, in 2008, Professor Tanya Byron, a clinical psychologist, conducted an independent review of child online safety for the UK government ([Byron 2008](#)). While acknowledging that there are real risks involved with the children's use of online and digital media, the Byron Review found that over-emphasis on online risks played into a broader 'risk-averse' culture, which had the potential to hinder rather than promote child development. Accordingly, the Review proposed an approach based on empowering children to manage risks rather than protecting them from all risks or, in other words, moving:

... from a discussion about the media 'causing' harm to one which focuses on children and young people, what they bring to technology and how we can use our understanding of how they develop to empower them to manage risks and make the digital world safer ([Byron 2008](#), 2).

Similarly, a 2007 ACMA report on media and communications in Australian families reported that:

The academic literature on Internet use indicates that despite concerns and potential risks, children and young people use the Internet for communication and the management of interpersonal relations, identity building, creative activities, and for learning ([ACMA 2007](#), 8).

A 2008 report produced for the MacArthur Foundation digital media and learning initiative was more specific about the potential benefits for young people in using new social media, including:

- *Social and recreational new media use as a site of learning* – it is important to appreciate that young people who are interacting socially online are accumulating social and technological skills that are needed to participate in contemporary society.
- *Diversity in forms of media literacy* – online interactions range from purely friendship-driven to interest-driven, but each may have benefits in terms of socialising or education that are necessary for participation in future social or work environments.
- *Peer-based learning* – use of new media facilitates learning from peers, which has some advantages over learning from adults, including teachers.
- *Changing role of education* – the participation of young people in social media presents important new learning opportunities, if educational practices can harness the power of the new social tools ([Ito et al 2008](#), 2-3).

A relatively comprehensive statement of the key benefits and the potential risks facing young people in the use of new social media was compiled by the US Federal Communications Commission (FCC) in a notice soliciting submissions for a recent inquiry into empowering parents and protecting children in an evolving media landscape ([FCC 2009](#)). The most important benefits identified by the FCC were:

- Access to educational content;
- Acquiring technological literacy needed to compete in a global economy;
- Developing new skills in the use of technology and the creation of content;
- Facilitating new forms of communication with family and peers; and
- Removing barriers for children with disabilities ([FCC 2009](#), 6).

On the other hand, the FCC identified the following risks associated with the use of new social media, which include both novel risks, and new forms of old risks:

- Exposure to inappropriate content (including offensive language, sexual content, violence, or hate speech);
- Potential impact on behaviour;
- Harassment and bullying;
- Sexual predation;
- Fraud and scams;
- Failure to distinguish between who can and who cannot be trusted when sharing information;
- Compromised privacy; and
- Exposure to exploitative advertising, or use of user information, by SNS providers ([FCC 2009](#), 3).

Given the degree to which use of SNS has become intertwined with the lives of young people, eliminating the risks of using SNS would be equivalent to eliminating the risks of living. This is neither possible nor desirable. As the Byron Review suggested, learning to become an autonomous adult necessarily entails a certain amount of prudent risk-taking behaviour. Our culture, however, seems biased towards emphasising the risks associated with new technologies, including new media, at the expense of potential benefits. As Palfrey, Gasser and boyd have argued in relation to SNS:

... adults perceive that their children are more likely to use these new information technologies in ways that are at best perplexing and at worst dangerous to themselves and society ([Palfrey et al 2010](#), 1).

At the same time, it is difficult to anticipate the full benefits of any new technologies in their early stages of development. The point made by most experts in the field, and which we agree with, is that the understandable focus on the risks associated with new technologies should not blind us to the potential benefits. Moreover, in order for the benefits to be delivered, it is important for the risks to be appropriately managed. The first stage in managing risks, however, requires a good understanding of the likely actual risks of new technologies or media. The next section of this article therefore reviews the range of legal risks facing young people in the use of SNS.

LEGAL RISKS FACING YOUNG PEOPLE

As noted above, considerable attention has been given to the threats posed by abusive interactions, such as cyber-bullying or online grooming, which may arise from the use of SNS. For example, the Australian government has established a Consultative Working Group on Cybersafety (CWG), which consists of representatives from industry, community organisations and Commonwealth government agencies, and whose role is to consider all aspects of cybersafety faced by Australian children. The CWG has indicated that the main focus of its work is on:

- Cyber-bullying;
- Inappropriate handling of one's own and others' private information;
- Exposure to and creation of inappropriate content;
- Computer gaming addictions; and
- Sexual predation ([CWG 2010](#), 14).

While the more dramatic threats to children have been publicised, much less attention has been given, especially in Australia, to the extent to which everyday use of SNS can give rise to risks of legal liability which do not exist, or which exist to a lesser degree, in the offline world. In particular, online social interactions differ from offline social interactions in legally significant respects, including: that they are more visible; they may be published to a potentially wider audience than an offline social group; and they may leave a relatively permanent record, with the consequent potential to affect users for some time into the future. Moreover, empowering children and young people to be effective digital citizens necessarily involves education relating to the consequences of online activities and conduct, which must include the potential legal consequences of everyday online behaviour.

The research undertaken for this project therefore did not focus on cyber-bullying or online predation, which have already received a deal of attention, but on the more mundane legal risks that may accompany common uses of SNS. The project identified the following as the main areas of the law that give rise to the possible legal liability for young people using SNS:

- Breach of terms of service;
- Privacy;
- Intellectual property rights, including copyright and trade mark protection;
- Defamation; and
- Criminal laws, including harassment and offensive material.

Each of these areas of potential liability merits further explanation.

TERMS OF SERVICE

The use of all SNS is governed by contracts, which are entered into when a user 'signs up' to the service, and which are usually known as 'Terms of Service' (ToS). This follows naturally from the fact that, although they may appear to be ostensibly neutral platforms for online social interactions, SNS are essentially private businesses that must protect themselves from legal liability. While most users, and especially children and young people, are unlikely to pay detailed attention to the ToS, which are often quite complex, we regard it as important for all users to understand what they have agreed to. A review of the ToS of the most popular

SNS that was conducted for this project found that the following kinds of terms were incorporated in the ToS for all SNS:

- Disclaimers of liability for any content posted on or distributed by the SNS, and for any loss or damage arising from use of the service;
- The SNS provider has an absolute discretion to remove content from the service, while denying any obligation to monitor the service;
- Users are obliged to keep their user name and password confidential, and not share the details with any other person for any reason;
- Prohibitions on unacceptable conduct, including: content which is offensive, incites or promotes racism, hate, bigotry or physical harm against any group or individual; harassment or the encouragement of harassment of another person; content which is sexually explicit, excessively violent or which exploits violence or sexual violence, contains nudity or links to adult content; content which promotes or facilitates illegal conduct or behaviour; content which defames, abuses, stalks, threatens or otherwise violates the rights of other people; false and misleading materials, including a false or misleading identity; viruses, Trojan horses, worms, or any other malicious code; spam and other unauthorised advertising material, including pyramid schemes and chain letters; material disclosing the personal information of other people; any programs or content which may place an undue burden on the service;
- Users must warrant that any material they upload to a SNS does not infringe the intellectual property rights of third parties, and some SNS provide for termination of accounts for multiple infringements of copyright;
- Users are required to grant broad licences to the SNS (and sometimes to third parties) to use and distribute content the user uploads to the SNS.

In Australia, with some limited exceptions, such as contracts for necessities, that are not relevant to contracts for using SNS, the general rule is that a contract made by a minor, meaning a person under the age of 18 years, is voidable. In this context, this means that the contract will not be binding on a young person unless it is ratified once he or she becomes an adult. Meanwhile the minor can sue on the contract, but cannot be sued. Nevertheless, as we consider that click-through contracts, such as the TOS of SNS, are likely to be binding on adult users under Australian law, we believe that it is important for young people to become accustomed to familiarising themselves with the online legal obligations they may enter into. Moreover, awareness of the terms incorporated in the ToS of SNS can assist in creating a more general awareness that everyday online activities are not unregulated, but are governed by sometimes complex legal regimes. In addition, as [Burkell, Steeves and Micheti \(2007\)](#) have suggested in the context of online privacy policies, it is important for online terms and conditions to be drafted in ways that can be readily understood, even by minors.

PRIVACY

Fears are commonly expressed about the extent to which young users are apparently prepared to sacrifice their own privacy by unreflectively posting private material to SNS ([Solove 2008](#); [boyd and Hargittai 2010](#); [Marwick et al 2010](#)). Research conducted in North America suggests that care must be taken in assuming that the apparently cavalier practices of young users reflect a lack of concern about their privacy. For example, a telephone survey conducted by Hoofnagle et al in 2009 found that, while young people had less knowledge of privacy law than adults, which often led them to incorrectly assume that the law protected their privacy, the attitudes of young Americans towards privacy were quite similar to those of adults ([Hoofnagle et al 2010](#)). Levin and Abril, on the other hand, in their analysis of a 2009 survey of 2,500 American and Canadian college students, have explained apparent inconsistencies

between online practices of young people and their continuing concerns for privacy as part of the emergence of a notion of ‘networked privacy’, which is concerned not with absolute control of personal information but with the ability to protect online identities by confining certain kinds of personal information to particular social networks ([Levin and Abril 2009](#)). Similarly, boyd has contended that young people are primarily concerned with managing their identities for different online communities ([boyd 2007](#)).

While the posting of private or potentially embarrassing material about oneself may have potentially harmful consequences, it may not give rise to immediate legal liability. On the other hand, it may well have some legal consequences for the young user, such as an employer who sees the material deciding that the young person is no longer a suitable employee. Posting private information about someone else, such as a potentially embarrassing or compromising photograph or video, is, however, another matter.

There are considerable uncertainties about the extent to which the publication of private material about another person creates civil liability under Australian law. If the material is regarded as confidential, it may give rise to an action for breach of confidence. In the United Kingdom, the action for breach of confidence has been extended to provide considerable protection to privacy, but this has yet to occur in Australia. There are some indications of the potential development of a self-standing action for the protection of privacy by the courts, but this has yet to be definitively recognised by a superior court in Australia ([Butler 2005](#); [ALRC 2008](#)). Moreover, law reform bodies, including the Australian Law Reform Commission (ALRC) and the Victorian Law Reform Commission (VLRC) have recently recommended the introduction of statutory causes of action for breach of privacy ([ALRC 2008](#); [VLRC 2010](#)). Despite the legal uncertainties, it remains the case that publishing private material about someone else may expose a person to a variety of legal actions, including actions for breach of confidence or, as explained below, actions for defamation.

INTELLECTUAL PROPERTY RIGHTS

SNS users create profiles and other pages that represent their interests, hobbies, likes and dislikes. In doing so, they commonly display images, film or television clips, or sound files. Sometimes this material is manipulated to produce forms of user-generated content. Yet all of this material, which is commonly drawn from popular culture, is likely protected by intellectual property rights, especially copyright law. In this respect, it is important to understand that copyright may be infringed by copying or communicating a relatively small amount of material, provided it amounts to a ‘substantial part’ of the protected material. Moreover, the facts that material has not been posted for a commercial purpose, or that it is meant to be seen only by one’s ‘friends’, provide no general defences to actions for infringement.

DEFAMATION

Defamation is the area of law that protects reputation, meaning the way other people perceive a person, against untrue statements or imputations. In Australia, defamation is unlawful under State and Territory laws which, since 2006, are largely, but not completely, uniform. Defamation is committed whenever defamatory matter is communicated to someone other than the person being defamed, provided that the person being defamed is sufficiently identified. Australia’s defamation laws define ‘matter’ broadly to include: articles, reports and advertisements in newspapers and magazines; anything communicated by means of television, radio or the Internet; letters, notes or any other writing; pictures or gestures; or anything at all that can be communicated to a person. Defamation can therefore be committed whenever someone reads a defamatory comment, or views a defamatory photograph or picture, on a social networking site, such as Facebook. Under Australian law, the balance

between the protection of reputation and freedom of expression is established mainly by means of complex defences to actions for defamation. For example, all states and territories have a statutory defence of justification, which provides that proof of the truth of a statement is a complete defence. Moreover, a defendant can argue that an apparently defamatory statement is really fair comment, or an honest opinion.

Although prosecutions are rare, defamation can also amount to a crime. For example, in 2009, a 19-year-old Adelaide man, Christopher Cross, was convicted of criminal defamation for posting defamatory material about a country police officer to a Facebook group that had been specifically set up to criticise the officer ([Hunt 2009](#)). Given the overwhelming nature of the evidence, Cross pleaded guilty and was convicted, being placed on a two year \$500 good behaviour bond. After his conviction, Cross said he “didn’t realise you could get in trouble for things on the Internet”.

CRIMINAL LAWS: HARASSMENT AND OFFENSIVE MATERIAL

There are a large number of criminal laws that are potentially applicable to activities on SNS. The three main types of criminal law that are particularly relevant to SNS are laws that apply to identity theft, serious harassment and publishing offensive material. For the sake of completeness, although cyber-bullying was not the focus of this project, criminal offences that may incidentally apply to extreme examples of cyber-bullying are dealt with in this section of the article.

The Australian states and territories have all introduced new laws that make it an offence to assume or steal another person’s identity. For example, in Victoria, it is a criminal offence to make, use or supply a false ID with the intention of committing an offence; to possess a false ID with the intention of committing an offence; or to possess equipment for making a false ID with the intention of committing an offence (Crimes Act 1958 (Vic) Div 2AA). Consequently, it is a crime to take another person’s credit card details with the purpose of using it without the permission of the credit card owner. There are other, more traditional, offences that can also be committed by the use of a false ID, including theft, criminal fraud or forgery.

Commonwealth criminal law includes a number of offences involving the criminal misuse of telecommunications, including the Internet. Although these offences were not specifically introduced to deal with cyber-bullying, they may catch extreme examples of this behaviour. The most important crimes are:

- Using a telecommunications network with the intention of committing a serious offence, such as criminal fraud or stalking;
- Using a telecommunications service to make a threat to kill or cause serious harm; and
- Using a telecommunications service to menace, harass or cause offence to a reasonable person (Crimes Act 1914 (Commonwealth Criminal Code, ss 474.14, 474.15 & 474.17).

Each of these offences may be committed by use of technologies such as mobile phones or via SNS. In March 2010, a 19-year-old ACT man was convicted of using the Internet in a menacing way for posting threatening messages to the Facebook site of a male acquaintance, as well as posting photographs of himself holding a replica gun to his own Facebook page (*Agostino v Cleaves* [2010] ACTSC 19, 3 March 2010).

In addition offences for using the Internet to threaten or harass someone, it is an offence to use telecommunications services, including the Internet, for promoting or inciting suicide. As

a result, it is important for young people to understand that rash statements posted to a SNS, which might involve threatening someone or encouraging them to commit suicide, can have potentially serious consequences.

Commonwealth criminal law includes a number of offences that cover the use, access, distribution, production and supply of child pornography online. Child pornography is essentially material that is of a sexual and offensive nature that involves people under the age of 18 years. While accessing child pornography online is a federal crime, production and possession of child pornography are crimes dealt with under the laws of the States and Territories (Criminal Code Act (Cth), s 474.19). The Commonwealth crimes extend to child abuse material, which is material that depicts cruelty or physical abuse to a person under the age of 18 years in a way that would be offensive to a reasonable person (Criminal Code Act (Cth), s 474.22). As there are harsh penalties for child pornography offences, it is important to understand that posting material that might be classified as child pornography or child abuse, such as photos involving sexualised nudity or cruelty, can have very serious consequences. Although child pornography offences were created to protect young people from predatory adults, young people may well commit such offences by engaging in practices such as ‘sexting’. For example, a 14-year-old boy from Bunbury in Western Australia was convicted of child pornography charges for distributing footage of a 14-year-old girl having sex with two other boys to mobile phones ([Carey 2010](#)).

In addition to Commonwealth criminal offences, New South Wales has introduced an offence that specifically applies to harassment or bullying at school. Thus, under s 60E of the Crimes Act 1900 (NSW), a person commits an offence if the person assaults, stalks, harasses or intimidates any school student, or member of staff of a school, while the student or member of staff is attending a school, even if no actual bodily harm is occasioned. As the offence applies only to conduct in school premises, however, it may have only limited application to harassment via SNS, including cyber-bullying.

In all Australian jurisdictions, children who are 10 years of age or over may be liable for committing criminal offences. Between the ages of 10 and 14 years, however, there is a rebuttable presumption, known as *doli incapax*. This presumption deems a child between the ages of 10 to 14 years as being incapable of committing a criminal act, but can be rebutted by the prosecution showing that a child defendant was, at the relevant time, able to distinguish between right and wrong. From 14 years to either 17 or 18 years (depending on the jurisdiction), young people are considered fully responsible for criminal acts, but are subject to different criminal penalties from those imposed on adults.

‘MERRY CHRISTMAS COURTESY OF THE ST KILDA SCHOOLGIRL’

The potential legal liability of young people for content posted to a SNS was dramatically highlighted in December 2010 by a case in which a 17-year-old Melbourne ex-schoolgirl posted two photographs featuring three Australian football players, two of them naked, to her Facebook page. The explicit photographs, which had the phrase ‘Merry Christmas courtesy of the St Kilda schoolgirl’ written across them, were evidently part of the teenager’s campaign against the St Kilda football club. Earlier in 2010, the Australian Football League (AFL) and police had interviewed the teenager following allegations that she had become pregnant to another St Kilda footballer. It was alleged that the teenager had copied the photographs from the laptop of St Kilda football player, Sam Gilbert.

Following the publication of the photographs, the Federal Court awarded an interim order for the photographs to be removed. While Facebook expeditiously removed the photographs, the teenager posted a link to the photographs on Twitter. The link was removed but, by then, the photographs had ‘gone viral’, being copied to multiple Internet sites. The initial court orders

were emailed to the girl and posted on her Twitter account. Lawyers for the St Kilda football club proceeded to announce that they would take action seeking to recover damages from the teenager, evidently mainly to deter her from profiting from the incident ([Le Grand 2010a](#)). St Kilda's lawyers also posted a message to the girl on the video-sharing web-site, Upstream, advising her to appear at the Federal Court hearing. The girl had been using Upstream to comment on the scandal, as well as to threaten posting further photographs. Subsequently, in an action brought by Gilbert, the Federal Court ordered that the photographs be surrendered to the court on a USB stick, with all other copies destroyed, and required the parties to engage in mediation in January 2011 ([AAP 2010](#)).

The facts in the case present a good illustration of the potentially serious legal implications of posting material, without necessarily appreciating the consequences of doing so. In this case, of course, the hazards were exacerbated by the existence of plaintiffs with the incentive and means to take legal action. Nevertheless, it is useful to review the range of legal actions that might be available against the teenager. The potential actions include actions available to Gilbert (who allegedly took the photographs), actions available to the subjects of the photographs, and potential criminal actions.

First, if, as claimed by St Kilda, Gilbert took the photographs, then he would own copyright in the photographs, and copying them and posting them to Facebook would amount to copyright infringement. As Gilbert allegedly took the photographs, he may also have standing to sue the teenager for breach of confidence, if the photographs were, in fact, surreptitiously taken from his laptop. In addition to these actions, the lawyers for Gilbert based their claim on trespass to goods and intentional infliction of emotional harm ([Le Grand 2010b](#)). Nevertheless, if, as subsequently appeared to be the case, Gilbert emailed the photographs to the girl, then it would be impossible for Gilbert to bring actions for breach of confidence or trespass.

Secondly, the subjects of the photographs could bring actions for breach of confidence and defamation. Assuming Gilbert emailed the photographs to the girl, the subjects would also have an action for breach of confidence against him. An action for defamation could, for example, be available against anyone publishing the material on the same basis as cases such as *Ettinghausen v Australian Consolidated Press Ltd* (1991) 23 NSWLR 443, in which the rugby league footballer, Andrew Ettinghausen, successfully brought an action against the magazine, *HQ*, for publishing a photograph of him in a shower which included his partially obscured penis. In any action brought by the subjects of the photographs, they would also seem likely to plead intentional infliction of emotional harm. Although the harm incurred by the subjects is essentially a breach of privacy, as explained above, Australian law has yet to recognise a self-standing action for breach of privacy.

Thirdly, if we leave aside the possibility of criminal actions for defamation or criminal harassment, which were discussed above, two main offences may possibly apply to the teenager's conduct. First, s 247G of the *Crimes Act 1958* (Vic) establishes an offence of unauthorised access to data held on a computer. For this offence to arise, however, the data held on the computer must be protected by an access control system, such as a password. This offence would not, of course, arise if the photographs were emailed to the girl. Secondly, if, as apparently initially suggested by the teenager, she was responsible for taking the photographs, an offence may have been committed under Victoria's so-called 'upskirting' laws. In particular, where a person visually captures an image of another person's genital or anal region, s 41C of the *Summary Offences Act 1966* (Vic) establishes an offence of intentionally distributing that image.

While this article does not attempt to examine the complex web of ethical and social issues that form the background to the legal action taken against the teenager, the suite of possible legal consequences that may arise from the publication of the photographs, which were unlikely to have been contemplated when the photographs were posted, strongly suggests the need for greater awareness of these issues by all SNS users, including young people. In short, although the use of SNS may have some empowering effects in some contexts, this form of

social interaction – which, characteristically, blurs distinctions between public and private – is governed by laws which do not readily apply to less ‘public’ forms of social interaction, especially offline interactions. And, especially where those who suffer harm have both the means and incentive to commence legal actions, potentially serious legal consequences may flow from ill thought-through online conduct.

STUDENTS PERCEPTIONS OF RISK

The research project used a mixed methods approach to identify the current social networking practices of Victorian students in years 7-10 of High School, as well as the perceptions of risks, particularly legal risks, of those students and their teachers and parents.² This involved the administration of an anonymous survey to students, teachers and parents identifying current SNS practices of students, as well as perceptions of risk and risk aversion strategies. The survey instrument is explained in full in the final project report, to be published in early 2011. Qualitative data was obtained through open-ended questions in the survey, as well as focus group interviews of teachers and students. The participants were drawn from schools across the government, Catholic and Independent sectors, and from rural and metropolitan settings. Over 1000 students, 200 teachers and 49 parents responded to the surveys. A number of education and legal experts were also interviewed regarding their attitudes to issues raised by the surveys. As the research was undertaken prior to the highly publicised events involving the Melbourne teenager, which are explained above, the extent to which this has affected the attitudes of young Victorians to the issues examined is obviously unknown.

The survey found that 94.9% of students surveyed reported using at least one SNS. This very high rate of usage is well-known by teachers and parents, who reported a similar level of use of SNS by their students or children. Overall, students indicated that they used SNS to communicate with current friends, and especially to stay in touch with friends that they rarely see in person. But there was a vast range of other activities and purposes for which students used SNS, including playing games, creating photo albums, and posting their likes and dislikes. A typical open-ended response to the question of the valued aspects of SNS was: ‘Being able to have a laugh with friends even when you are apart, see pictures of things that you did together and being able to vent’.

Students, teachers and parents were asked if they felt that students’ use of SNS included a degree of risk. It is perhaps not surprising that students felt that SNS were safer than their teachers and parents. While 48.8% of students recognised that there was some element of risk in using SNS, over a quarter of students (28.3%) thought that SNS were safe. Perhaps just as worrying is that 19.6% of students were quite ambivalent about potential risks, reporting that the degree of risk was not relevant because ‘it is just what everyone does.’ While similar percentages of years 7 to 10 students feel that SNS are ‘safe’ (approximately 25%), there is a decrease in students’ perception of an element of risk as they get older, with a corresponding increase in disregard for risk, perhaps reflecting the extent to which their online interactions have not resulted in any immediate, tangible negative consequences. The main risks identified by the students include the following:

- Cyberbullying;
- Unwanted adult attention/ paedophiles;
- Bad/ random/ strange people;
- Hacking; and
- Lack of privacy.

Students identified the following strategies or activities for avoiding these potential risks and problems:

- Not accepting friendship and not adding unknown ‘friends’;
- Blocking unpleasant and unwanted friends and deleting ‘friends’;
- Setting their profile to ‘private’;
- Not disclosing personal details; and
- Providing nonsensical answers to strangers who contacted them.

Further significant findings included: 72.4% of students responded that they had been contacted by another person via their SNS in a way that they did not like or found unpleasant; 21.9% of these students stated that they had deleted the person making the unpleasant contact; 21.5% of students stated that they had blocked the person making the unpleasant contact; and 15% said that they simply ignored the person.

Thus, the issue which appears to be of major concern to the teenagers surveyed is unwanted contact. There was very little recognition or identification by the student group of any legal risks arising from use of SNS apart from the above. In other words, there was virtually no recognition of issues arising in the context of defamation, intellectual property infringement or privacy. In fact, photographs of oneself was the most common content posted to SNS by the students (60.9%), followed closely by photos of their friends (52.6%). While posting third party music, video and pictures of others such as celebrities are less popular, these activities are still well represented. For instance, while an average of 38.5% of students reported that they posted videos, the proportion rises to 69.8% for year 10 students. When asked about whether they were generally concerned about other users posting their photo, 80.3% of students said they were not concerned, with only 19.7% indicating that they were concerned with this practice.

Perhaps unsurprisingly, there appears to be little concern regarding the potential long-term impact of content displayed on the SNS. Further, it reflects the fact that students of this age are most concerned about short-term impacts on their life, such as unwanted prying from peers, parents and ‘randoms’, than potential reputational harm at a later stage of their life, or the spectre of legal liability. Apparently, these concerns are considered too remote to seriously take into account in the sort of instantaneous decision-making that can often characterise SNS use.

At the same time, however, care should be exercised in generalising too much from these findings. As explained above, a number of North American studies of college age students have found that young people retain concerns about protecting their privacy and reputation in the use of SNS. For example, in their study of 1,115 first-year US college students, boyd and Hargittai concluded that:

Overall, our data show that far from being nonchalant and unconcerned about privacy matters, the majority of young adult users of Facebook are engaged with managing their privacy settings on the site at least to some extent ([boyd and Hargittai 2010](#)).

We suggest that, when coupled with the North American studies to date, our study reveals important tensions or inconsistencies between the practices of young people in using SNS, on the one hand, and their attitudes towards issues - such as the importance of maintaining privacy - on the other. There are a number of possible explanations for these apparent inconsistencies. First, young people would appear to be using SNS as part of a process of continual identity experimentation. As part of this, they seem to be engaged in a considerable amount of trial and error in learning how to manage their identities online - sometimes concealing information, sometimes revealing information and sometimes creating false information. Secondly, as Hoofnagle et al suggest in the context of understandings of privacy law, there appears to be a relatively low level of information, and some misconceptions, about

legal obligations online ([Hoofnagle et al 2010](#)). Thirdly, the behaviour of all users of SNS are, to a considerable extent, conditioned by the design of the SNS platform. Consequently, SNS design can push user behaviour in certain directions, regardless of the attitudes or preferences of individual SNS users. These possible explanations of the behaviour of young SNS users suggest possible productive future lines of research in this area.

CONCLUSIONS

Children and young people are spending an increasing amount of time online. A substantial amount of the time that young people are spending online is being taken up with social interactions, and other activities, by means of SNS. Although it is still unclear how the widespread use of SNS is affecting the socialisation and educational development of young people, research to date indicates that it is having a significant effect.

The reaction of the mainstream community and media to SNS has tended to emphasise the more high profile risks associated with the use of SNS, such as cyber-bullying and sexual grooming. Perceptions of these risks have also conditioned policy responses to the rapid growth in SNS use by young people. For example, in Australia, SNS use by children or young people is largely defined within a political discourse aimed at promoting 'cybersafety'. The experience elsewhere in the world appears to be similar. For example, Hoofnagle et al, commenting on experience to date in the United States, have observed that:

Although many young adults are exposed to educational programs about the Internet, the focus of these programs is on personal safety from online predators and cyberbullying with little emphasis on information security and privacy ([Hoofnagle et al 2010](#), 20).

The focus on the highly dramatic risks associated with abusive interactions via SNS can, however, easily over-shadow the potential benefits of SNS use. As most experts agree, SNS use can assist in developing important technological, educational and social skills, which may be essential for future participation in the workplace and public life (see, for example, [Byron \(2008\)](#); Palfrey, Gasser & boyd ([Palfrey et al 2010](#))). This does not mean that SNS use is risk-free – there clearly are risks associated with SNS use that have not been encountered by previous generations of children and young people – merely that the risks must be placed within the broader context of the role SNS is playing in the development and education of children and young people. Moreover, as SNS has become inextricably embedded in the lives of many young people, the most practical way of enhancing the benefits of using SNS is to assist children and young people in understanding and managing the risks of SNS use.

An over-emphasis on high profile risks can also result in less attention being given to other important risks young people face in their everyday online activities. The research project reported in this article was motivated by concerns that insufficient attention was being given to the potential legal risks facing young people in their online social interactions. Some of these risks are different, both in kind and in degree, to legal risks arising from offline social interactions. For example, interactions via SNS are more visible, potentially accessible to a wider audience, and leave a more permanent record, than offline interactions. This gives rise to important questions concerning the way in which SNS are designed, with a number of researchers claiming that 'risky' online behaviour is, to a large extent, conditioned by the design of SNS ([Hoofnagle et al 2010](#)). These issues are, however, outside the scope of the present study, which takes SNS as they are currently designed.

The research undertaken for this project has indicated that some concern about a lack of attention to legal risks arising from SNS use by young people is justified. First, the range of legal risks potentially facing young people has, to date, and certainly in Australia, been given inadequate emphasis in policy debates surrounding the use of SNS by young people.

Secondly, the surveys and focus groups conducted with students as part of this project reveal an almost complete lack of awareness of the potential legal implications of their social activities online. Rather, in assessing the risks of their online behaviour, the students who took part in this study generally mirrored the assessments made by the broader society: that the main risks to young people arise from the potentially abusive actions of others, such as cyber-bullies or online predators. As explained above, however, the surveys and focus groups were undertaken prior to the high profile incident involving a Melbourne teenager posting explicit photographs of footballers to her Facebook page. The extent to which these events may have affected the attitudes of schoolchildren is impossible to determine at this stage.

In any event, we suggest that two main preliminary conclusions arise from the findings of this research. First, the everyday use of SNS by a large number of young people is characterised by considerable alacrity in the way in which the risks associated with these activities are assessed. While not startling, this reinforces the need for education and training to assist young people in understanding that online activities have consequences that are as potentially serious as offline activities. Secondly, there is an almost complete lack of awareness of many of the most important legal consequences associated with participation in SNS. Although there may not be a high level of understanding of legal obligations among young people generally, there are important social norms which reinforce the need for lawful behaviour offline. In certain important respects, social norms relating to the use of SNS by young people still seem to be inchoate. Moreover, as explained in this article, the widespread use of SNS poses potential legal risks to young people that have not been encountered by previous generations of youth. It should, nevertheless, be borne in mind that these conclusions are necessarily preliminary, and must be qualified by the nature of the survey sample used in this study.

All of this does not mean that we are suggesting that Australian governments and education authorities should introduce campaigns that focus solely on the legal risks of using SNS. Rather, the popularity of SNS among young people suggests an opportunity to engage students in conversations relating to the potential implications of their online behaviour, especially in ways that they may not have fully thought through. The publicity given to the posting of the photographs of popular Australian footballers should provide further scope for engaging young people. This should, ideally, empower students and young people to be more conscious of the possible impact of their own behaviour on other users. For example, as some of the experts consulted for this research suggested, when young people are asked how they might feel if hurtful or embarrassing material were to be posted about them to a SNS, they are able to immediately understand why this might not be desirable.³ Moreover, this opens the door to an understanding of the social role played by laws protecting privacy or confidentiality, defamation laws or intellectual property laws, in the online environment. Introducing students to debates about these areas of the law, and how they might apply to online behaviour, especially everyday use of SNS, should be part of a curriculum for equipping them to be effective digital citizens. With this in mind, this project has developed an educational booklet about the legal risks faced by young people in using SNS, to be made available to Victorian schools in 2011 ([Henderson et al 2011](#)).

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ENDNOTES

1. Child grooming may be defined as “a premeditated behaviour intended to secure the trust and cooperation of children prior to engaging in sexual conduct” ([Choo 2009](#), x).
2. Mixed methods research involves concurrent or sequential use of qualitative and quantitative research approaches to address a research topic.
3. The full results of the consultations with experts conducted as part of the research are set out in detail in the forthcoming final report of the project.

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I AM HERE NOW: DETERMINING VALUE IN LOCATION BASED SERVICES

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The adoption of GPS and other location defining technologies has dramatically increased the importance of what are commonly referred to as location-based services. Many companies have sought to exploit these technologies to generate revenue, with varying degrees of success. This paper explores a range of current location-based services in an attempt to determine some of the key factors through which value is produced for the supplier and the user. The result is a hierarchy of value, in which the value of the services is seen as the product of the level of information gathered about the end-user, in addition to physical location.

INTRODUCTION:

While the ability to inhabit virtual environments such as Second Life has received enormous attention in recent times, the last decade has also witnessed the development of a counter trend that reaffirms the primacy of the real over the virtual. The proliferation of Global Positioning System (GPS) enabled devices in particular points to a return to a concept of identity defined by one's position in physical space, as opposed to the more fluid notions of subjectivity commonly associated with the virtual. This trend is perhaps most significant in what is commonly referred to as location-based services (LBS), in which the value of the service is defined primarily by its ability to locate the user in space. The present paper aims to explore the social and economic implications of location-based services, and argues that value is defined primarily by the amount of information generated, both for and about the user.

VIRTUALLY THERE

Throughout the 1980s and 90s a significant amount of scholarly attention was given to the significance of virtual space. Driven by advances in computing and telecommunications, scholars from a wide range of disciplines explored the technical, cultural, political and economic implications of a phenomenon that saw millions of people create virtual extensions to their corporeal lives. McKenzie Wark's now famous assertion that "we no longer have roots, we have aeriels" ([Wark 1990](#), 36-7) epitomises the discourse that posits that humans have begun to evolve beyond the constraints of corporeal existence. According to this view, new communications technologies privilege virtual connections made online over traditional social relations grounded in physical space. This has resulted in some writers in this field arguing that the rise of the network actually renders physical space essentially irrelevant, a discourse well-represented by Nicholas Negroponte:

The digital planet will look and feel like the head of a pin. As we interconnect ourselves, many of the values of the nation-state will give way to those of both larger and smaller electronic communities. We will socialise in digital neighborhoods in which physical space will be irrelevant and time will play a different role ([Negroponte 1995](#), 6)

Negroponte would no doubt see the remarkable growth of social networking sites like Facebook as evidence that his predictions are coming true, and to some extent he would be correct in doing so. Sites like Facebook derive their value, at least in part, from the fact that they are locationless locations, accessible from anywhere a network can be connected to. This however does not necessarily equate to the dissolution of physical space as posited by Negroponte, and in fact it is possible to argue that in the age of the virtual, physical space is as important as it has always been, if not more so. Indeed, as McGuire points out, the idea that telecommunications technologies have the power to collapse space and time is not particular to the internet era, and in fact similar discourses were in operation in relation to the emergence of steam trains in the 1800s and the telephone in the 1900s ([McGuire 2005](#), 136).

In these cases, the assumed annihilation of space by technology was shown to be an exaggeration, and many scholars argue that the utopian discourse of Negroponte and others is similarly flawed. Lawrence, for example, notes that one of the most common predictions made by technological utopians is that telecommunications will reverse urbanisation as telecommuting allows increasingly large numbers of people to work remotely, but this is not evidenced by the actual research which shows urbanisation accelerating rather than slowing ([Graham 1997](#), 22-23). Similarly, Olson and Olson argue that despite repeated claims that video conferencing and associated technologies will dramatically alter the way we do business, this has failed to eventuate, with technical limitations representing only one of the inhibiting factors. According to these authors, location-specific factors such as time difference and cultural context have in fact undermined the utility of video conferencing ([Olson and Olson 2009](#)), and in doing so reaffirmed the primacy of physical space in collaborative work. The failure of telecommuting and video conferencing to revolutionise business practice does seem to point to a continued importance of physical space at a local level, but some theorists have gone further to remind us that the very networks these practices rely on are themselves firmly grounded in physical space. As Kitchin explains, cyberspace and physical space are intrinsically connected in three main ways:

First, cyberspatial connections and bandwidth (how fast a communication connection is) are unequally distributed both within and between western countries, and in comparison to developing countries. Globalisation is not an egalitarian process aimed at creating an equitable distribution, it is designed to reproduce capital most effectively. Secondly, whilst information on-line might seem geographically dislocated, information is only as useful at the locale within which the body resides.... Thirdly, cyberspace depends on real-world spatial fixity - the points of access, the physicality and materiality of wires ([Kitchin 1998](#), 387)

Kitchin's observations about the "groundedness" of electronic communications are confirmed by Wellman, who argues that rather than freeing individuals from physical space, the Internet has actually made them more reliant on it. According to Wellman, the fact that the Internet can only be accessed from specific points in space, and that the quality of the access is also place dependent, means that individuals tend to locate themselves where they have the best access ([Wellman 2001](#), 236). One only has to consider the experience of modern business travelers to understand Wellman's point, as each new city becomes a mental map of areas of high and low connectivity.

REALLY HERE: THE NETWORK AS AUTHENTICATOR OF LOCATION

As noted above, one of the key tenets in discourse of virtual space is the centrality of the network, and its ability to instantly connect people and places, thereby creating value for both the users and providers. It is the network, through its speed-of-light transmission of information, that seemingly collapses space in international telephone conversations, and it is the network that allows for the creation of virtual worlds in which multiple users can co-exist at the same time. While the network can be seen as a mechanism through which space is de-emphasised (if not annihilated), it can be argued that increasingly it is also the mechanism through which physical location is reaffirmed.

This is not a new idea; many telephone conversations begin with the question “Where are you?”, almost as a reaction to the network’s ability to de-emphasise physical space. However as telecommunications services become more advanced, it seems that location is being recognised as a key part of the communications act; if distance ever really died it is being quickly resurrected by telecommunications providers through location-based services. It is however a very particular kind of distance, for it is at once abstract yet highly specific. The discourse of the telecommunications is still, as it has always been, about bringing people closer together by overcoming physical distance, but this has been awkwardly integrated with a discourse that identifies the user’s physical location as being of the utmost importance. It is essentially place divorced from distance, and it is this specific construction of place through which value is defined.

“Value” in the sense that it is being used in this paper primarily concerns the revenue that can be derived from the service. While many of the services discussed here also have significant social value, this is not the main focus of this paper. Indeed, it will be argued that in many of the ventures discussed here, social value is itself utilised as a core component in the creation of revenue.

At this point it is useful to differentiate between the two primary methods of user location, because each has particular applications and issues. The first of these is based around the use of GPS, which was first conceived in the United States in the mid 1970s as a way of using a network of satellites to accurately identify the position of military assets ([Parkinson & Gilbert 1983](#), 1177). Location is defined by computing the position of a user relative to that of three to four orbiting satellites using calculations based on the speed of light. ([Ahamed 2009](#), 8-12). The system is operated by the United States Department of Defense (DOD), and access is provided free of charge to any user possessing the appropriate receiver, albeit with some restrictions ([Shaw et. al. 1999](#), 20).

The second method of locating the user is based on triangulating their position in relation to cellular phone radio towers or WiFi access points whose location is known. This method works by analysing the strength of the wireless signal to the device and then using this information to calculate the geographical position of the user in relation to three or more known reference points. While often not as accurate as GPS-based location detection, triangulation has the advantage of being more effective in built-up areas and inside buildings, where the low power signals from GPS satellites often experience interference ([Vaughan-Nichols 2009](#), 15-16). In some cases, GPS and triangulation are used together to increase the accuracy of the positioning, or to provide an apparently seamless transition between outdoor and indoor location acquisition (often referred to as Assisted GPS).

What is perhaps most interesting about the growing importance of GPS and triangulation-based location detection is their relationship with the concept of the network. Whereas much of the discourse surrounding the evolution of virtual space sees the network as the facilitator of virtuality, abstracting the user from their physical space, location detection actually positions the network as the authenticator of place. In both cases the user’s location is

determined through a mathematical calculation based on their relationship to a network, either of satellites orbiting the earth or of telecommunications towers in the user's vicinity. This location is then expressed as set of coordinates, either directly on the navigation device or abstractly as a marker on software generated maps. Most importantly, these technologies of location function by positioning themselves as *true*, setting themselves above more traditional methods of location such as using landmarks to verify position.

TIME PLACE IS MONEY: THE COMMODIFICATION OF LOCATION

Of course, an understanding of location has always had significant economic value. Since the beginning of exploration, accurate maps were valued because they offered not just a representation of a user's immediate location, but also a host of information about the social, political and economic character of the region. Early explorers paid large sums of money to obtain accurate maps, and map-making itself became a significant economic activity (for a detailed account of this, see [Pedley, 2005](#)). Indeed, the demand for accurate information was such that it allowed vendors to impose a significant markup on the maps they sold:

At his shop in Boston's Queen Street, The Spectacles, James Buck sold books, stationery, and other merchandise. In the Boston News-Letter of 23 August 1750, he advertised A Map of the South Part of Nova Scotia (London, 1750), published by Thomas Jefferys. As stated on the map itself, Jefferys priced it at 1s. sterling. For his part, Buck charged 15s. "Old Tenor" in Massachusetts currency, approximately a 68% mark-up over Jefferys' London retail price. ([Bosse 2007](#), 9)

When viewed in this light it might appear that location has been significantly *devalued* as a commodity, as maps are now both commonplace and often free. The landscape of most cities is now littered with maps showing the visitor's location, and anyone with access to a computer can access relatively detailed maps from Google, as well as satellite images of the same location. I would however argue that the proliferation of location information has not in fact devalued location, but instead *stratified* it, with value being attributed at three basic key levels (See Figure 1).

The first of these is simply about representing location, and the free desktop application of Google Maps serves as a good example of this level. With this application, the user can identify prominent landmarks and transportation routes, but significantly these can only be identified relationally to one another. A train station can be located as being north of a particular monument or west along a particular street, but unless the user can correctly identify the starting point the map is of little use. Furthermore, the map is only useful if the user can remember the relationship between the various points from the time they accessed the computer, because Google Maps is designed as a reference, rather than navigation, tool.

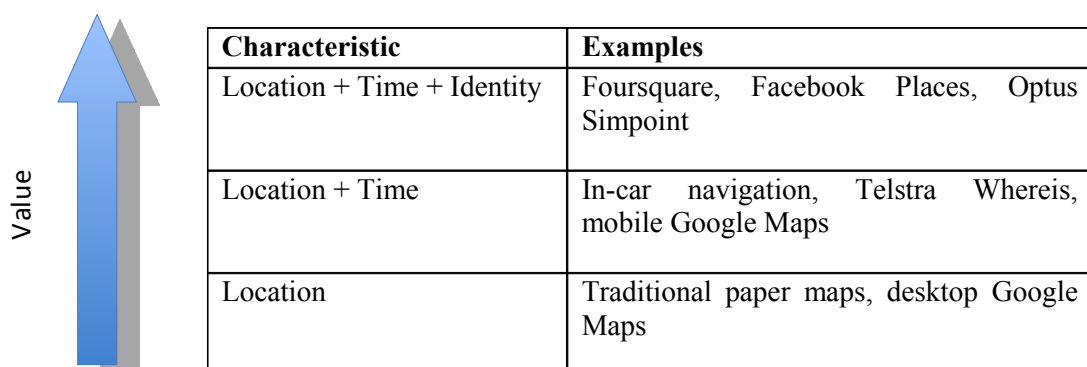


Figure 1 - Value determinants in LBS

Like most goods in a capitalist society, the use value of these services largely determines their exchange value. Paper maps are generally inexpensive and often free in a tourism context, the idea being that locations identified specifically on the maps will benefit from increased trade. Google Maps operates on a similar premise, combining its mapping application with its Adwords program to provide businesses with area-specific advertising listings. In both these cases there is no guarantee that participating businesses will benefit, resulting in a relatively low exchange value.

The second level of value in terms of location is illustrated by the mobile application of Google Maps and other personal navigation services. These applications take the representational character of the first level and add to it the ability to locate the user in real time, effectively making them part of the map itself. In doing so they dramatically increase the value of the service to the user, because unlike the desktop version of Google Maps these applications can access a network (either satellite or cellular) to continually update the user's position as they traverse the landscape.

This is also reflected in the exchange value of these services; whereas the desktop version of Google Maps is essentially free, services at this second level are delivered using a number of different revenue models. In some cases, users will purchase a piece of hardware (such as an in-car GPS unit) which will come with the necessary software pre-installed, while other devices (such as GPS capable mobile phones) require the purchase of additional software to enable navigation. Even the use of "free" software such as Google Maps at this level actually entails a charge, with users typically charged for download costs associated with downloading maps in real time.

Interestingly, the key distinguishing factor between low value services like the desktop Google Maps and these more valuable applications is that the latter are both spatial and temporal. While the desktop Google Maps can provide the user with an overview of a location, the mobile version uses its connectivity to indicate the location of a user at that particular point in time. Time, in fact, becomes a key component in selling this level of application, with GPS navigation systems in particular often being promoted on the basis of how quickly they can determine a user's position, or reacquire it if the signal is interrupted.

Other applications make even greater use of the real-time nature of connected navigation, and consequently carry a higher exchange value. Telstra's WhereIS service not only fixes a user's location on a map, but also draws on the carrier's extensive database of local businesses to provide information on products and services in the immediate vicinity. As with traditional advertising, the businesses that engage this service are given more prominence, but most importantly they are given prominence when the potential customer is already in the local area. For example, someone looking for a place to eat might have dozens of choices within a given radius, but will only be notified of the existence of those restaurants that have paid to have their location identified. In this scenario revenue is generated through two streams: from the businesses who pay to be identified and from the user who pays to access the information.

In another context, the Commonwealth Bank's recently released augmented reality application for the iPhone allows users to use the device's camera to display a real-time image of the street in front of them, and then uses the internal GPS sensor to accurately determine the user's location. This is then combined with published data on property sales, which are superimposed on the display, allowing the user to quickly assess real estate values in the area. As with the WhereIs example discussed above, the exchange value of this service is based in its timeliness; while users can easily look up property prices from their home computer, being able to get the same information when they are at the location dramatically increases the use value of the service. Although offered as a free download, it can be assumed that the Bank believes the application still has significant exchange value in terms of its ability to increase the likelihood of the user taking out a mortgage.

In both these examples, the value of spatial location is significantly increased with the addition of time, or to put it another way, the accuracy of positioning is greatly increased with the addition of a third descriptor. While it is useful to be able to determine a user's position in terms of latitude and longitude, it is much more useful (and valuable) to be able to determine *when* they are at that position, so that goods and services might be targeted most effectively. The third level of value takes these descriptors and adds identity to the previously discussed elements of location and time. Basic navigation services are designed to pinpoint the user on a map, and more recent services also identify specific businesses in the user's vicinity. The most recent, and potentially valuable, aspect of location-based services adds the ability to identify a number of users on an individual map, plotting them as coordinates that are tracked in real time.

One example of such a service is Optus' Simpoint application, which allows managers to track the location of employees in real time through a desktop interface ([Abbas et. al. 2009](#)). Employees carrying mobile phones that have been pre-registered on the system are constantly tracked, and the application can even be set up to issue alerts if the employee strays into a pre-defined no-go zone through what Optus terms "geofencing" ([Optus 2010](#)). A similar mechanism is actually being used in the United States to monitor the location of convicted sex offenders who are forced to wear electronic devices that transmit their coordinates to their parole officer in real time. As with the Simpoint, the system is designed to identify if the person being tracked is travelling within a specified distance of a pre-defined location, in this case schools or other places considered to be inappropriate ([Shklovski et. al. 2009](#), 12).

The ability to determine the location of specific individuals allows the vendors of these applications to charge a premium for their services, and from the perspective of the customers it is likely that perceived use value would meet, if not exceed, exchange value. Interestingly, as surveillance systems, the ultimate end-users are effectively excluded from the transaction and possess limited rights of refusal. The convicted sex offender could appeal their conviction and the tracked Simpoint user can rescind their consent to be monitored, although this might impact upon their employment.

An even more interesting scenario arises where users willingly consent to tracking, as in the context of social networking. This concept was pioneered by Foursquare and has now been adopted by a number of other social networking companies, including Facebook. The aim of these applications is to allow people connecting through the virtual environment to share their physical location with others, allowing them to meet in person if they choose to. It is this intersection of the virtual space and Cartesian space that makes these services so appealing, but which also makes them potentially the most valuable.

Users of Foursquare can "check in" to a location, and in doing so earn points and accumulate "badges" based on the frequency and timing of their visits to a particular venue. Users who accumulate the most points become the "mayor" of that location, becoming eligible for discounts and other offers from local vendors. Details of the user's location and badges earned appear on the Foursquare webpage, and can also be communicated through Facebook and Twitter. In this way, participating businesses can reward frequent visitors for their loyalty, but also potentially benefit from a networking effect as other Foursquare users are drawn to the location. The website also allows users to provide feedback on the location, and while there is always the possibility that this feedback might be negative, it is more likely that positive feedback will come from people who visit a location frequently.

Unlike Telstra's WhereIs service, Foursquare does not charge businesses for being listed by the application, and indeed users themselves can list businesses and other locations. The company is however exploring a range of scenarios to generate income, and have recently signed deals with major media companies such as Zagat, The New York Times, HBO, Warner Brothers, and the History Channel ([Rao 2010](#)). In most cases, these companies are paying for their branded messages to appear along with those of other Foursquare users on the

site's login page, thereby constituting another medium through which potential customers might be reached.

The success of Foursquare has prompted other players in the social networking field to begin taking location-based services seriously. According to Facebook, the primary goal of its service (called Places) is to allow users to determine if any of their friends are in the same area, and if they are to notify the user of their presence. The benefits to business are essentially the same as for Foursquare, as explained by the Facebook team itself:

As a business, Places provides a presence on Facebook for your business' physical location – encouraging your customers to share that they've visited your business by "checking in" to your Place. When your customer checks into your Place on Facebook, it generates powerful, organic impressions in friends' News Feeds, extending your brand's reach to new customers ([Facebook 2010a](#))

The key difference between the two services is that Facebook is not currently involved in any Foursquare-like deals for its location based service, but at this point it does not need to be. Facebook is financed primarily through advertising, and as such Places constitutes another way of drawing visitors to the main application. Of course, this does not mean that Facebook is not already considering using the service to target advertisements at consumers based on their location, as has already been hinted at by Facebook founder Mark Zuckerberg ([Womack 2010](#))

Not surprisingly, one of the most commonly voiced concerns about these types of location-based services is privacy, especially in terms of Facebook. While the Facebook user has control over whether or not their location is revealed, those with them might not have the same level of control. This is because the Places application allows users to “tag” other people as being in the same location, with or without their consent:

When you check in, you can also tag friends who are with you, just as you can tag a friend in a status update or photo. You can post an update along with your check-in to tell people more about what you are doing. In the "People Here Now" section, you can see others who are checked in with you at that place. This section is visible for a limited amount of time and only to people who are checked in there. That way you can meet other people who might share your interests. If you prefer not to appear in this section, you can control whether you show up by unchecking the "Include me in 'People Here Now' after I check in" privacy control. ([Facebook 2010b](#))

There are two important points to note here. The first is that by allowing users to tag others in their vicinity they are effectively overriding their right to privacy, regardless of their own intentions. The second issue is that the system works on an opt-out basis: the default position is to have one's position automatically revealed when they “check in” at a location. Perhaps more critically, the option to allow others to check users into a location is also enabled by default, meaning that anyone can reveal a user's location, provided they are on their friends list. Admittedly, it is possible to alter these settings to protect one's privacy, but Facebook has historically been criticised for making its privacy settings obscure and difficult to change.

Foursquare too has issues in relation to privacy, and in fact has the potential to be even more problematic than Facebook. Unlike Facebook, the Foursquare homepage is constantly updated with users' activity, often with a photo of the user in question, and that these are visible to anyone, not just Foursquare members. Since the site allows users to search for location it is relatively easy to identify a location and determine who frequents the venue, and from there infer a range of other information about them. As Clarke argues,

Given an amount of data about a person's past and present locations, the observer is likely to be able to impute aspects of the person's behaviour and intentions. Given data about multiple people, intersections of many different kinds can be computed, interactions can be inferred, and group behaviour, attitudes and intentions imputed ([Clarke and Wigan 2008](#), 167)

One only has to look at the home page of Foursquare to see how much information can be obtained about an individual and their habits. For example, a search for a local coffee house identified a young girl as a regular visitor, and also revealed the suburb she lived in as well as seven other places she frequented. This, together with her username (which is a first name and an initial) and her supplied photo would allow someone to easily identify her likely location. Some users are content to identify even more information by listing themselves as the mayor of their own or their friends' homes, which is automatically displayed on a map with a street address.

For participating businesses (and potential stalkers), applications such as Facebook Places and Foursquare are potentially the most valuable location-based services, precisely because they unlock a huge amount of other information about the user, as well as the patterns of interaction they have with other users. Facebook has already demonstrated its interest in tracking users across multiple websites with its Beacon application ([Debatin et.al. 2009](#)), and the addition of Places has the potential to add another, even more personal layer of information that can be utilised to profile users.

That these location-based services are potentially the most valuable is not all that surprising, since from the earliest examples of cartography, value has always been defined by the amount and quality of the information available. These most valuable services are however also the ones that have the deepest social implications, especially in terms of privacy considerations. Not only do these services reveal significant amounts of private information, the users of applications like Foursquare seem either unaware of the depth of information they are revealing, or are not concerned by it. There has already been much research into the attitudes of social networking users in terms of revealing personal details (for example, see [Gross & Acquisti 2005](#), [Fogal & Nemas 2009](#)), but to date there has been little done specifically on attitudes toward services that reveal physical location in real time. In this respect, it is hoped that the present paper might serve as a starting point for a more sustained engagement with these issues.

CONCLUSIONS

This paper has argued that contrary to the claims made by some technological utopians, the rise of the networked society has not decreased the importance of physical location, and in fact the network itself has become a key factor in defining location. From a telecommunications perspective this is important because it means that location itself becomes a product, through which value can be generated at a number of levels. When connected to a communications network, applications that are based around location increase in value through the articulation of additional layers of information. Location becomes more valuable when combined with time, and the potentially most valuable services are created when location and time are combined with the ability to clearly identify individual users. The success of Foursquare and Facebook Places indicates that we are likely to see more such services developed in the near future, and it will be interesting to see how consumers, providers, and especially regulators adapt to this rapidly evolving field.

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STORIES OF COPYRIGHT POLICY: THE SHIFT TO AN INNOVATION AGENDA AND WHAT IT MIGHT MEAN

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Governments develop narratives, or themes, about what they are trying to achieve, and stakeholders who want law reform also employ stories and narratives to make their concerns resonate with a broader audience. This article is about narratives that work, and that don't work, in the copyright arena. It examines the failure of 'freedom of expression' to gain traction in government debates over copyright in 2004-2006, before turning to the increasing dominance of an Innovation and Digital Economy Agenda in discussions about copyright and intellectual property generally. Some implications of the Innovation Agenda are discussed.

INTRODUCTION:

Bringing about legislative change takes more than the identification of possible reforms. Governments, like people and companies, tell stories about what they do and what they are trying to achieve. Providing sufficient catalyst for legislative change thus takes a certain amount of story-telling; in other words, the creation of a narrative about the need for change, and why it matters. Such narratives need to fit with the broader themes of the government and prevailing interests among the broader public.

This paper is about the narratives that frame the debate about copyright in Australia. It is presented in three parts. First, I discuss what I characterise as Australia's 'free speech moment' in the recent past. I start here because I think there can be a tendency, among those who are critical of over-extensive copyright, to use the rhetoric of freedom of expression to get attention, and to articulate issues and problems, in a language that has general relevance ([Burrell and Coleman 2005](#), 16). But using the rhetoric of free speech has achieved little traction - despite apparently supportive conditions in the policy environment.

Second, I move on to describe important themes that will inform copyright policy in the near term: the themes of Innovation and the Digital Economy, which have become key motivating principles in present-day intellectual property (IP) policy discussions.

Finally, I discuss several broad implications, for the creative arts and cultural industries in particular, of a focus on Innovation and the Digital Economy. The language of Innovation, while important, presents an impoverished account of copyright that risks downgrading the importance of individual expression and creative industries more generally when used as the sole framework within which copyright is viewed.

AUSTRALIA'S FREE SPEECH 'MOMENT' IN COPYRIGHT

Australia's chance to instantiate freedom of expression as a policy driver in copyright – her 'free speech moment' – came, and passed, in the period 2004 through 2006. That was the time, if ever there was one, when the need to ensure the accommodation of freedom of expression as a value could have made an impact on copyright reform. During that period, three important factors converged in the policy environment: legislative opportunity, timing, and popular awareness.

The first of these factors, legislative opportunity, matters a great deal in copyright reform. Governments do not take on IP reform often or readily.¹ IP is not a headline issue on a par with health, education, or climate change. Its impact on the general populace is limited and indirect. For legislative reform to occur, some specific trigger is needed. In the period 2004-2006, the Free Trade Agreement between Australia and the United States (AUSFTA) created an outstanding legislative opportunity. It put copyright amendment on the agenda with a deadline: under Article 17.12, the final reforms arising from that treaty were required to be in place within two years of the date of the Agreement coming into force, that is, by 1 January 2007. Further, owing to the detailed provisions on copyright drawn from American legislation, the agreement created a debate about harmonisation of copyright law with the United States.

The AUSFTA trained a spotlight on differences between the US and Australian legal systems, including two points in particular: the fact that the US has a First Amendment protecting freedom of expression as a matter of constitutional law, and the fair use defence in copyright (17 USC §107). Fair use, which allows use of copyright material which is 'fair' in light of factors like the worthiness of the purpose and its effect on the copyright owner, is acknowledged by leading commentators as being core to the way that US copyright accommodates, via its internal rules, concerns with freedom of expression ([Nimmer 1970](#); [Barendt 2005a](#), 249-250).² It is also broader than equivalent fair dealing exceptions in Australia, in the sense that Australia's copyright law recognises a closed list of fair dealing exceptions (criticism or review, reporting news, research or study, and, since 2006, parody or satire).³ After comparing US and Australian copyright law, two Parliamentary Committees which examined the AUSFTA recommended that the Australian government investigate options for broadening Australia's copyright exceptions, including the possibility of legislating for a fair use defence ([Joint Standing Committee on Treaties 2004](#), Recommendation 17; [Senate Select Committee on Treaties 2004](#), 230-232). This in turn led, in 2005, to a review of Australia's exceptions regime by the Attorney-General's Department ([Attorney-General's Department 2005](#)).

The second factor present in the period 2004-2006 was timing. One difficulty with discussing the impact of copyright on freedom of expression is that the problem that copyright poses for free speech can appear somewhat abstract in the absence of real-world disputes. In this respect, the AUSFTA put copyright on the agenda at what in retrospect was a fortuitous time. The five years prior had seen several important cases in courts in both Australia and overseas. In Australia, we had the *Panel* case, in which a commercial broadcaster used short clips from another commercial broadcaster as part of a late-night satirical news show.⁴ The Full Federal Court held that use of several of the clips was not fair dealing, either for the purpose of reporting news or for the purpose of criticism or review. Several of these holdings have been criticised as unduly narrow or at least confusing ([Handler and Rolph 2003](#); [Brennan 2002](#)). More than anything else, *The Panel* case suggested that parody and satire in Australia were at risk: even political satire, such as the use of clips showing the Prime Minister in situations that might be considered embarrassing.

Prior to *The Panel*, the UK had seen a series of court cases where the potential conflict between free speech and copyright had been illustrated. Two in particular stand out. First, the 2001 case of *Hyde Park v Yelland*, involving the publication of photographs of Princess Diana

and Dodi Fayed taken by a hotel security camera – a publication found to infringe copyright. Second, the 2002 case of *Ashdown v Telegraph Group Ltd*, which involved a newspaper reproducing extracts from Paddy Ashdown's confidential, unpublished memorandum of a meeting at the Prime Minister's Office, at which the possibility of a merger between the Labour Party and the Liberal Democrats had been discussed. This reproduction was held to be 'for the purpose of reporting news' but not 'fair'. There was also the 2003 US Supreme Court case of *Eldred v Ashcroft*, considering the constitutionality of copyright term extension, which also ruled that First Amendment scrutiny of copyright was unnecessary where Congress did not 'alter the traditional contours of copyright protection', and the 2001 US case of *Suntrust v Houghton Mifflin*, concerning a rewrite of *Gone with the Wind* from the perspective of a mulatto slave on the O'Hara property.

These cases were important to the Australian debate. They illustrated the potential conflicts between copyright and freedom of expression, and the discussion in the cases of the First Amendment, in the US, and the European *Convention on Human Rights* and the UK *Human Rights Act* in the UK provided a rather nice contrast to the later *Panel* cases where freedom of expression is not discussed.

There was also, in this same period, no dearth of academic commentary highlighting the conflicts between freedom of expression and Anglo-Australian copyright law. Burrell and Coleman's book on copyright exceptions was published in 2005, as was a whole collection of essays on copyright and freedom of expression edited by [Griffiths and Suthersanen \(2005\)](#); there was also an outpouring of American academic discussion surrounding the *Eldred* case.

The third factor present in the period 2004-2006 is general popular and political awareness: both of copyright, and, more importantly, of human rights and their (lack of) protection under Australian law. Australia's first Human Rights Act was passed by the Australian Capital Territory on 2 March 2004. In April 2005, the Victorian Government issued a *Statement of Intent* to introduce human rights legislation ([Department of Justice, Victoria 2005](#)), an intention confirmed by an announcement in December 2005, and the introduction of the Charter of Rights and Responsibilities in July 2006.

It is true, of course, that then-Prime Minister Howard was firmly set against the introduction of a Bill of Rights at the federal level ([Kelly 2006](#), 22-23). But this attitude was based on a belief in parliamentary sovereignty and a common law view of rights: that fundamental human rights are recognised within the common law and that ultimately, it is for Parliament to draw the boundaries of rights. In this context, although it would have been surprising to see the Attorney-General explicitly championing the instantiation in law of freedom of expression or any other fundamental human right, it would also have made sense for a government, busy assuring the public that human rights are adequately protected by existing common and statutory law, to ensure that was true.

And so that was Australia's 'free speech moment': a rare conjunction of circumstances in which freedom of expression had the potential to be important in the copyright debate. In reality, references to freedom of expression by government were muted. Neither the Fair Use Issues Paper that commenced the Attorney-General's review of exceptions, nor the press release that announced it, engaged with freedom of expression or broader expressive interests in copyright.⁵ The only freedom referred to was the fact that '[d]igital technologies give people great freedom over when and how to use copyright material'.

Thus a quite different narrative was constructed: one emphasising the impact of copyright on consumers and on the way that 'developments in digital technology are changing the way people use copyright material'. Copyright law, the Attorney-General announced, should be 'fairer for users and tougher on pirates' ([Ruddock 2005](#), [Ruddock 2006a](#), [Ruddock 2007a](#), [Ruddock 2007b](#)). One could call it the 'iPod story' – using one's iPod should be legal. This is a narrative of consumption of copyright material, not expression. The Fair Use Issues Paper concerned itself mostly with this kind of private, consumptive copying, such as copying

television to watch later or copying music onto mp3 players. The copyright reforms that ensued maintained this focus.

There was one free speech-related outcome of this period and the 2006 reforms: a new fair dealing exception for parody or satire (*Copyright Act 1968* (Cth), ss 41A, 103AA). This is important: as Barendt has argued, parody and satire are cases where overriding copyright in favour of free speech interests can be most readily justified ([Barendt 2005b](#), 18). Effective parody and satire often *require* the reproduction of substantial parts of copyright-protected material. In this respect, Australia did better than the United Kingdom, where the government decided that there is 'insufficient justification' for a parody defence.⁶ But even in proposing the Australian exception, the Attorney-General avoided talking in terms of freedom of expression as such, emphasising instead Australians' 'irreverent streak': the bill would 'ensure Australia's fine tradition of satire is safe' ([Ruddock 2006b](#)). Satire was described as a source of entertainment rather than political commentary.

A parody and satire exception, while important, is not a complete answer to the conflict between freedom of expression and copyright. The amendments of 2006 failed to address the *other* ways that copyright can conflict with free speech. These have been discussed extensively by others elsewhere ([Burrell and Stelliios 2005](#)), but one example is the way that Australian (and UK) case law tends to suggest that a person who deals with unpublished works cannot be dealing 'fairly' – meaning, that if you have possession of leaked unpublished documents, it is not at all clear you can reproduce them even for the purpose of reporting news.⁷ In a context where, as I write, news reports are dominated by WikiLeaks and its revelation of all kinds of embarrassing – and previously confidential and unpublished – government documents, this potential barrier placed by copyright in the way of freedom of expression is important.

In sum, Australia has had its moment when a concern for copyright's impact on free speech resonated. The narrative that instead informed the reforms of 2006 was one focused on making law 'fairer for consumers and tougher for pirates'. Here is not the place to speculate on why this might have happened, but the free speech moment has passed now; freedom of expression is not, I think, an important consideration in copyright in 2011. Instead, the policy discussion, worldwide, is likely to be driven by a new narrative: the Innovation and Digital Economy Agenda.

THE INNOVATION AND DIGITAL ECONOMY AGENDA

It is only a slight exaggeration to say that an Innovation Agenda now dominates policy discussions around the role of IP in developed economies. This represents a continuation of a love affair with the perceived radical impact of information and communications technologies (ICT), that can be traced back to the second half of the 1990s ([Weatherall 2011](#)). At one point it became almost received wisdom within influential organisations like the Organisation for Economic Development and Cooperation (OECD) that advanced economies have been fundamentally transformed by ICT: that they had, in fact, made the shift to a new, post-industrial economic form, the 'Information Economy' ([OECD 2001](#)). Such hyperbole is less prevalent in a post-Global Financial Crisis world, but even now, innovation, particularly in ICT is, according to the OECD, a key source of productivity gains and hence economic growth ([OECD 2010a](#), 20-21). Even as I was writing this paper, the OECD tweeted (if that is the appropriate verb) about the robustness of the ICT sector during the economic crisis that engulfed most of the world in 2009 ([OECD 2010b](#)).⁸ According to the OECD, ICT is both a source of growth and an enabling technology for developments in other areas, such as smart energy and transport infrastructure, eHealth and innovation in services ([OECD 2001](#), 16; [OECD 2010a](#), 139-144).

Australia's own policy documents repeat these views. *venturousaustralia*, the final report of the National Innovation Review that occurred in 2008 ([Cutler & Company 2008](#)), and the government's response *Powering Ideas* ([Department of Innovation, Industry, Science and Research 2009](#)) reiterate the view that innovation is a major source of growth ([Cutler & Company 2008](#), 13, 33; [Department of Innovation, Industry, Science and Research 2009](#), 11-12). And an important policy document issued by the Department for Broadband, Communications and the Digital Economy in 2009, *Australia's Digital Economy: Future Directions*, evinces the view that the 'digital economy is essential to Australia's productivity, global competitiveness and improved social wellbeing' (at 1). This digital economy is, broadly speaking, 'the global network of economic and social activities that are enabled by platforms such as the Internet, mobile and sensor networks'. Australia's goal, according to the *Future Directions* paper, is to ensure a successful digital economy: to create 'a Government that is digitally aware and enabling; industry that is digitally confident, innovative and skilled; and a community that is digitally empowered and literate' (at 3). Nor is Australia alone in these aspirations: the UK, Canada and New Zealand have all issued similar policy documents ([Department for Business Innovation and Skills, UK 2009](#); [Government of Canada 2010](#); [Ministry of Economic Development, New Zealand 2008](#)). These documents carry forward a belief in the transformative power of ICT and the increased generation of, and flow of, information.

As I have traced in more detail elsewhere ([Weatherall 2011](#)), innovation-related reasoning and rhetoric as expounded by governments, advisory bodies and inter-governmental organisations have changed over time, particularly as it relates to the role of IP. There has been a move away from a relatively uncritical belief in the importance of IP, increased scepticism about over-extensive IP rights ([Cutler & Company 2008](#), 83-86; [Department of Innovation, Industry, Science and Research 2009](#), 57-58), and a growing emphasis on the importance of 'openness' in innovation and the need for knowledge and technology to flow between firms and between firms and their customers ([OECD 2010a](#), 13, 39-45; [Cutler & Company 2008](#), 28-29, 93-94). Most recently, on 4 November 2010, the United Kingdom government has announced that it will be conducting a review directed specifically at '[h]ow the IP framework could better enable new business models appropriate to the digital age' ([Intellectual Property Office UK 2010](#)).

But simultaneously, there is another side to the rhetoric – one reflecting the normalisation, and nationalisation, of the Internet. By *normalisation* I mean that the Internet is described, not as something 'out there' that should be largely 'left alone' or left to the private sector, as it was in the 1990s,² nor even as something in which government has a very direct stake, but as a part of mainstream life and fundamentally the business of government. The digital infrastructure is described by the Australian government as 'a key input for our future—similar to electricity, gas and water' ([Department of Broadband, Communications and the Digital Economy 2009](#), 1) – and, moreover, something that won't happen on its own; thus the government's investment in building a National Broadband Network (NBN) ([Department of Broadband, Communications and the Digital Economy 2009](#), 8-11).

By *nationalisation* I do not mean government ownership of the network, but rather, and again in contrast to views expressed in the 1990s, the Internet is conceived of as being much more *local*, and hence much more amenable to local regulation, than it used to be. Nowhere is this more obvious than in the government's proposal to require filtering of Internet access, at the level of the Internet Service Provider, in order to make Australian censorship laws effective in the online environment.¹⁰ We have moved from an environment in which Internet regulation was controversial, to one where it is talked about as a government responsibility. This development is not surprising. As [Goldsmith and Wu \(2006\)](#) predicted, commercial pressures have already created an Internet with countries. You cannot presently access Hulu or Spotify from Australia (at least, not without a proxy or two). Google has different trade mark policies depending on region, and iTunes and Amazon have different prices depending on location. With companies treating the Internet as having countries, it is scarcely surprising if governments do also. Once the Internet is seen as both local, and mainstream, it follows there

is a greater readiness on the part of government to step in, both to support innovation and to regulate.

Another strand in the policy agenda closely intertwined with Innovation and the Digital Economy is the move towards 'Government 2.0'. Government 2.0 can be (somewhat idealistically) defined as an umbrella term for both a technological shift – namely, the adoption of Web 2.0¹¹ collaborative tools and practices in the public sector and for government processes – and a more general public policy shift in favour of openness, transparency, and online engagement with citizens ([Government 2.0 Taskforce 2009](#), 1). Between June and December 2009, a federal Government 2.0 Taskforce consulted on how to facilitate a Government 2.0 Agenda in Australia, producing a final report in late 2009. The recommendations of that report were mostly adopted ([Tanner 2010](#)), including by the making, in July 2010, of a *Declaration of Open Government* by the federal government.¹² A part of the ongoing Government 2.0 Agenda is the demand for the open publication of public sector information, on terms that allow for re-use ([Government 2.0 Taskforce 2009](#), 40-65). This push, and indeed the rhetoric of Government 2.0 more generally, has been tied firmly into the rhetoric of the Government's Innovation Agenda ([Government 2.0 Taskforce 2009](#), 2, 8). A key reason (albeit not the only one) given to justify the publication of public sector information is that people will come along and build innovative new services on top; using, for example, maps plus zoning information plus land sales information to produce new ways of informing purchasers of real estate just how much they're going to have to spend.

This, then, is the broad set of themes and narratives within which policy developments in copyright will be framed. This is not a story in which freedom of expression – or indeed, any kind of individual expression – plays much of a role. The Innovation Agenda is chiefly concerned with economic policy, which tends to put an emphasis on the role of copyright in markets, business models, and the 'creative industries'.¹³ It is the players in these industries – the producers and commercialisers of copyright content, and other players such as Internet Service Providers and online companies – that are the focus of such policies.

Nor is the Government 2.0 Agenda, for all its emphasis on *access* to information, much concerned with its expressive use, as opposed to its re-use in the construction of various 'digital services', such as new mapping products, data analysis, research, or providing consumers with new sources of information. It is true that Government 2.0 proponents have worked with government on making more material available under license terms that allow for re-use, and terms which, the Government 2.0 Taskforce advocated, should by default be as free as possible. The Taskforce recommendation, for example, was that material should be licensed, as a default, under the Creative Commons BY licence, which imposes only the requirement that a re-user attribute the source, and does not restrict commercial or any other use. But this work on the consensual publication of government information will be of little relevance when a core freedom of expression problem arises: such as the re-use of material not published with government approval and control.

As the controversy over WikiLeaks' publication of government cables demonstrates, a government may simultaneously support the Government 2.0 Agenda and seek to exercise strong control over material not included within sanctioned data releases. The real test of the trend towards publication of public sector information and the use of Creative Commons licences will occur when a user, relying on a Creative Commons licence, does something not approved by government. If a climate change sceptic, for example, made extensive, selective (but attributed) use of government mapping and climate data to oppose government environmental policy, how would government respond? The Government 2.0 Agenda has focused little on this question.¹⁴

IMPLICATIONS OF THIS INNOVATION AGENDA FOR COPYRIGHT REFORM

The three-stranded policy agenda of Government 2.0, Innovation and the Digital Economy has many implications for the way that copyright is conceived, and, most likely, reformed. This paper deals with only three and does not purport to be comprehensive.

But first, the following comments come with a major qualification. The argument presented here assumes that these Innovation and Digital Economy agendas will be influential in the way copyright policy is perceived, and priorities for copyright reform are chosen. It must be acknowledged, however, that the impact of this framing on policy agendas may be diluted by the fact that copyright policy-making is presently housed within the Attorney-General's Department. It is no accident that the authors of the National Innovation Review wanted IP to become part of micro-economic policy (for example, part of the finance or treasury portfolios) ([Cutler & Company 2008](#), 85); nor is it an accident that the authors of the Government 2.0 Report proposed that the administration of the licensing of government documents should move from the Attorney-General's Department to the newly-established Office of the Information Commissioner ([Government 2.0 Taskforce](#), Recommendation 7). The authors of both reports rightly perceived that the Attorney-General's Department does not see copyright in these terms. Neither proposal received government support ([Tanner 2010](#), 11).

Even so, the Attorney-General's Department is part of the government, and cannot entirely depart from the narratives that are dominant in other parts of government. It is worth considering, therefore, some implications of seeing copyright through a Digital Economy and Innovation framework.

ATTENTION TO CERTAIN ASPECTS OF COPYRIGHT POLICY

One important implication of a narrative focused on Innovation, the Digital Economy and Government 2.0 is that it may tend to emphasise certain areas of copyright policy, while areas of copyright policy that are less clearly related to Innovation and the Digital Economy, such as the concerns of visual artists, may struggle to get attention.

One obvious example of a likely priority area is the impact of copyright on companies building the physical and non-physical infrastructure of the digital economy, from Internet Service Providers to YouTube and beyond. Relevant issues would include the Safe Harbours which protect service providers from copyright liability for infringements that their users commit, as well as the broader set of exceptions that apply to digital activity, and ways to address infringement through file-sharing (such as graduated response). Seeing issues through the lens of the Digital Economy and Innovation Agenda doesn't dictate a single policy response to these issues. Government, for example, wants to encourage *both* online digital content business models *and* create an environment for innovative technology companies ([Department of Broadband, Communications and the Digital Economy 2009](#), 21-22, 35-39). Reconciling the conflicting demands will be a challenge even within this narrative framework.

Another obvious example is government-owned copyright, because of its impact on the publication and re-use of public sector information, which important to the Government 2.0 Agenda. Or rather, not so much Crown copyright as the CLRC would have had it in their 2005 report,¹⁵ which recommended abolition of copyright in a number of government publications, but the *management* (and in particular the Creative Commons licensing) of public sector information.

Other issues in copyright could be repackaged as Digital Economy issues. An obvious example is the issue of orphan works: material covered by copyright but for which a

copyright owner is not readily identifiable. One way to see orphan works – that fits well within a Government 2.0 'narrative' – is as a barrier to digitisation by public sector institutions like libraries, galleries, museums and archives.

In some respects, this will be a welcome shift of attention, and a necessary recognition of the extensive changes that have occurred to the digital environment since the last real reforms aimed at addressing copyright in that environment, which occurred as long ago as 2000.¹⁶ A decade on, and in the wake of the rise of Web 2.0, it is arguably time these issues were reconsidered. It does, however, pose challenges for stakeholders whose problems lie outside the obvious digital economy policy concerns.

THE CHALLENGE FOR THE CREATIVE ARTS

A second, related implication of the framing IP policy in terms of Innovation and the Digital Economy is that in this policy paradigm, the creative arts risk neglect, or, at least, their concerns may have less salience. The creative and cultural arts are not readily conceived in such terms. It matters little how often you point out that Star Trek's communication devices influenced the development of mobile phones, or *Neuromancer* helped give imaginative form to a future Cyberspace, government is not going to start funding more science fiction writing. As Cunningham and others have pointed out, the arts have long occupied an awkward place in discussions of innovation, which has tended to be seen as the preserve of science and business ([Cunningham 2004](#); [Haseman and Jaaniste 2008](#)).

This mindset is most clearly illustrated in the government's Innovation Agenda, *Powering Ideas*, which is all about science and business ([Department of Innovation, Industry, Science and Research 2009](#)). But in reality none of the government policy documents discussed here come to grips with the role of the creative arts. In *venturousaustralia*, for example, there is little mention of the creative industries generally, and no real discussion of artists or the cultural industries. Indeed, the Report practically admits it is all too hard:

'Capitalising on the contribution of the creative and liberal arts to Australian innovation presents a challenge. The Panel recognised the need to bring together the learned academies, the professional and representative bodies in the arts, humanities and social sciences and public agencies to navigate a way for the creative sectors to realise their potential as a platform for national innovation. This is where creative and human capital can drive productivity, with both social and economic benefits for Australia.' ([Cutler & Company 2008](#), 51).

If you can see in these statements any concrete vision of how the arts can play a role in a Digital Economy, you have keener eyes or more imagination than I. The best suggestion is more funding for arts training in the universities; no doubt useful, but it underlines how distant the creative arts are from the core of the Innovation Agenda.

The *Digital Economy Future Directions* Report does better. It talks quite a lot about digital 'content': as a driver of broadband take-up; as a source of digital skills development; and as being important to cultural identity. There's a certain amount too of trumpeting of the ABC's digital initiatives (at 35-39). But it is interesting to note that the talk in the Report is all about 'online content' and business models for distribution, and on film, media and communications. There's almost nothing on creators as individuals or as creative human beings, or, indeed, the arts more generally.

The challenge, then, for the creative arts, to the extent that they want a role in copyright reform or particular changes, either to articulate their role within an Innovation-focused narrative – or find other, equally compelling ways of communicating their interests in IP.

CREATIVE ARTS AS (MERE) INPUT?

While the various reports discussed here seem to neglect the role of the creative arts in general, there is one part of the sector that does rate frequent mentions: Australia's galleries, libraries, archives, and museums (the 'GLAM' sector). This brings me to my third implication. There is a risk, when the framework for policy thinking is Innovation and the Digital Economy, that GLAM institutions are conceived only as generators of information inputs into the Digital Economy.

This insidious risk is best illustrated through a quote from *venturousaustralia*. The quote is from a scientist, and clearly it is in science terms that he is thinking, but it encapsulates, in a few words, the kind of thinking we risk when considering *only* an Innovation angle:

We should aim to create an open scientific culture where as much information as possible is moved out of people's heads and labs, onto the network, and into tools which can help us structure and filter the information. This means everything - data, scientific opinions, questions, ideas, folk knowledge, workflows, and everything else - the works. Information not on the network can't do any good.

...[Ideally we should aim for] extreme openness. This means: making many more types of content available than just scientific papers; allowing creative reuse and modification of existing work through more open licensing and community norms; making all information not just human readable but also machine readable; providing open APIs [application programming interfaces] to enable the building of additional services on top of the scientific literature, and possibly even multiple layers of increasingly powerful services. Such extreme openness is the ultimate expression of the idea that others may build upon and extend the work of individual scientists in ways they themselves would never have conceived. ([Cutler & Company 2008](#), 95)

First, note how everything from data to folk knowledge and opinion is treated as one homogenous mass. It's all just so much grist for the mill. This kind of attitude – which is not uncommon in the theorising and enthusing over the Information Society and Information Economy ([Burrell 2001](#)) – risks eliding the difference between information on the one hand, and knowledge, experience or opinion on the other. And there are costs to seeing written material this way. Siva Vaidhyanathan has pointed out, for example, in the context of the Google Book project, that, indexing and searching books in the same way we index and search the Internet does not make sense. The difference can be experienced by searching Google Book and then the Library Catalogue by keyword. One gives you random books that contain the word; the other gives you books on the subject you're interested in – and perhaps books, and authors, you never would have discovered otherwise ([Vaidhyanathan 2007](#)).

When we conflate different kinds of information, we risk this problem writ large. Do we really think that all that matters is the information we can extract from scientific work? That it doesn't matter, for example, who conducted the research? Or who funded them? How do authority and accountability get factored into this number-crunching vision? I am not saying that extracting information is a bad thing, or that there is not much to learn from using scientific research in the ways envisaged in the quote; nor that putting more information online is bad. On the contrary, much can no doubt be learned using the kinds of techniques envisaged. But if we focus *only* on this kind of use to the exclusion of all else, we lose something important. The line '*[i]nformation not on the network can't do any good*' suggests an exclusive focus on re-use and data analysis that is troubling (it also, unfortunately, echoes a common attitude in university students).

Note too the last idea: 'that others may build upon and extend the work of individual scientists in ways they themselves would never have conceived.' This is a truism repeated by many copyright theorists over time. But if we see the second comer as somehow *more* valuable and

more important – which an Innovation and Digital Agenda sometimes risks doing – we lose sight of something more important. The attitude echoes the rhetoric of the Death of the Author, that is, the Barthes or Foucaultian thinking about the collective creation of meaning. In the Barthes/Foucault idea of the Death of the Author, emphasis was put on the role of the audience in constructing meaning from text ([Barthes 1977](#); [Foucault 1970](#)). In this newer vision, the attitude is writ large and impersonal and mathematical: it feels like the source is not conceived of as the starting point for a dialogue – but rather, as a data point.

This is the context for the discussion of the work of galleries and archives, which are characterised as a subset of Australia's 'national collections' – defined as including 'cultural, geological, historical and zoological collections.... archives, galleries, research repositories, libraries, museums, Indigenous knowledge and keeping places.' ([Cutler & Company 2008](#), 95). According to *venturousaustralia*, national collections:

are essential resources for researchers in all fields, from basic scientific research to the social sciences, humanities and creative arts. They play a vital role for educators (from pre-school to postgraduate) and for the broader community in building scientific, historical and artistic knowledge and literacy and in fostering cultural knowledge, identity and cohesion.

Again, note the characterisation of collections – whether of art, bugs or dinosaur bones – as a 'resource' and an input. A sole emphasis on the input role of such material again reifies information over both knowledge and wisdom ([Roszak 1994](#)). There is, of course, nothing wrong with seeing the value of national collections as essential resources. What we risk, however, in seeing policy through an Innovation frame, is seeing national collections *only* or *mainly* in those terms, and downgrading in importance the many other roles such collections play. I recognise that this language may be overstated precisely to identify and promote a value in cultural institutions and cultural production that has (until recent technology) of necessity remained untapped – and which IP rights or other rules (like privacy, for example) in a strong form could readily prevent. In making the case for change, sometimes you have to make the case that there are these further uses for cultural content that only someone *other* than the copyright owners can deliver. And the recommendation that flows from this conception – that National Collections actually be funded to make material available online – is a good one. But it is important to keep in mind that there is more than the Innovation story to our cultural institutions.

CONCLUSIONS

Narratives and stories matter in policy-making. I have sought to explain some of the key narratives that have surrounded copyright policy-making in the recent past, and narratives and themes, particularly around Innovation and the Digital Economy, that I think will be important in the near future. Let the debate begin.

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- *Convention for the Protection of Human Rights and Fundamental Freedoms*, opened for signature 4 November 1950, 213 UNTS 22 (entered into force 3 September 1953).
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- *Copyright Amendment Act 2006* (Cth).
- *Human Rights Act 2000* (UK).
- *Human Rights Act 2004* (ACT).

ENDNOTES

1. Australia has enacted a number of IP reforms in the last decade: the *Copyright Amendment (Digital Agenda) Act 2000* (Cth); the *Copyright Amendment (Moral Rights) Act 2000* (Cth); the *US Free Trade Agreement Implementation Act 2004* (Cth), the *Copyright Legislation Amendment Act 2004* (Cth) and the *Copyright Amendment Act 2006* (Cth). Several involve major reforms. All, bar the moral rights reforms, were triggered by treaty obligations. For a more comprehensive discussion of the recent history of copyright reform up to the end of 2006, see [Weatherall 2007](#).
2. There is, of course, a debate about the effectiveness of the exception to achieve this goal: see, for example, [Weinstock Netanel 2008](#).
3. There are certain specific respects in which Australia's exceptions may be broader than US fair use. For example, Australia's parody fair dealing exception allows both parody *and* satire, where US case law has sometimes suggested that satire, which does not necessarily require re-use of copyright material, may be harder to justify as fair use: *Campbell v Acuff-Rose* 510 US 569, 580-581 (1994). But see *Suntrust Bank v Houghton Mifflin* 268 F 3d 1257, 1268 (2001) (taking a broad definition of parody that may result in a defence as broad as found in Australia). This is not the place to enter into a long debate about comparative exceptions.

4. This case generated a number of judgments on various issues. The key judgment in relation to the fair dealing exceptions is the first Full Federal Court judgment: *TCN Channel Nine Pty Ltd v Network Ten Pty Ltd* (2002) 111 FCR 417.
5. A broader criticism can be made that the Issues Paper gave only the most superficial consideration to the policies that underlie Australia's copyright exceptions: free speech was not the only issue given relatively short shrift. Despite this, several submissions made to the government squarely raised issues of freedom of expression: for example, the submission of the Australian Broadcasting Corporation; the submission of the Centre for Comparative Constitutional Studies (Simon Evans and Andrew Brooks). Submissions to the inquiry are available online at http://www.ag.gov.au/www/agd/agd.nsf/Page/Publications_Copyright-ReviewofFairUseExeption-May2005.
6. The UK does not presently have a parody exception to copyright infringement. The introduction of such an exception was proposed by the 2006 Gowers Review, ([Gowers 2006](#), Recommendation 12). Following the Gowers Report the UK Government conducted further public and stakeholder consultations on the proposal to introduce new copyright exceptions, and concluded that there was 'insufficient justification' for a parody exception, and that existing fair dealing defences (such as criticism/review), as well as the public interest exception, were sufficient to protect the interest in freedom of speech as required by Article 10: [UK Intellectual Property Office 2009](#), at 34 para [323].
7. *British Oxygen v Liquid Air* [1925] 1 Ch 383, 393; *Commonwealth v Fairfax* (1980) 147 CLR 39, 55 (High Court of Australia; Mason J sitting as a single judge); *Hyde Park v Yelland* [2001] Ch 143, CA, 158-59. See [Burrell and Stellios 2005](#).
8. OECD Communications, 23 November, 'What recession? The world's 10 biggest Internet firms increased revenues by 10% during crisis year 2009' <http://bit.ly/aMEizb> OECD IT Outlook – referencing the [OECD 2010b](#).
9. See, for example, early policy documents such as that of President William Clinton and Vice President Al Gore, *Framework for Global Electronic Commerce* ([Clinton and Gore 1997](#)). The fundamental philosophy reflected in that document, and others at the time, was that the private sector should lead; that 'governments should encourage industry self-regulation wherever appropriate and support the efforts of private sector organizations to develop mechanisms to facilitate the successful operation of the Internet. Even where collective agreements or standards are necessary, private entities should, where possible, take the lead in organizing them': *ibid* at 3. For a European equivalent, see Ministerial Declaration from the European Ministerial Conference, *Global Information Networks: Realising the Potential*, 6-8 July, 1997.
10. Information on the government's cybersafety plan can be found at the website of the Department of Broadband, Communications and the Digital Economy: <http://www.dbcde.gov.au>.
11. Web 2.0 is a poorly-defined concept used to distinguish 'older' or 'classic' uses of the Internet and a series of more recent uses. One way people distinguish 'Web 2.0' companies and applications are by reference to their use of the World Wide Web as a 'platform': that is, as applications that use the Web as a platform on which to found interactive services. Another common defining feature is the use of 'collective intelligence' – the incorporation of input and material provided by users as a core aspect of the business or application (think YouTube). For an attempt to tease out the issues, see [O'Reilly 2007](#).

12. The *Declaration of Open Government*, released 16 July 2010, is available at <http://www.finance.gov.au/e-government/strategy-and-governance/gov2/declaration-of-open-government.html>.
13. The work of the OECD on 'Digital Content' is a particularly fine example of this conceptualisation of copyright. This work, as described by the OECD (at <http://www.oecd.org>), has involved 'stocktaking studies in ... scientific publishing, music, on-line computer games, mobile content, user-created content, digital content and the evolution of the film and video industries and public sector information and content. The work focused on 'the changing value chain of these content industries, the development of new business models for digital content (generation of new revenue streams), drivers and barriers to growth, sectoral transformation and changing market structures, and their impacts on growth and employment.'
14. It might be argued that since Creative Commons licenses are stated to be irrevocable, the push for publication under such a license stands in the way of government attempts to censor subsequent use. This is true, but it says nothing about how government might respond in terms of future releases of information – or future rewriting of Creative Commons licenses in light of experience.
15. See Copyright Law Review Committee, [Crown Copyright, Final Report, \(2005\)](#). The CLRC recommended abolition of copyright in a number of Crown publications. This recommendation appears to have been overtaken by an open licensing approach and the Government 2.0 Agenda.
16. *Copyright Amendment (Digital Agenda) Act 2000* (Cth). While significant reforms to copyright occurred in both 2004 and 2006, these were largely driven by the AUSFTA and did not represent any kind of considered response to the significant changes occurring in the online environment. Web 2.0 technologies only really in their early stages even then. Even the Internet Safe Harbours, introduced in 2004, were treaty driven (as being required by AUSFTA Article 17.11.23), and based on a model developed in the US back in 1998 (*Digital Millennium Copyright Act 1998* (US)).

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Some of Dr Henderson's contributions to the research community, which are reflected in the journal articles and conference papers, have been (1) demonstrating that identity is a critical

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Dr Henderson also sits on two international peer-reviewed journal editorial advisory boards (AEC and CWIS) and is an editor for an annual special issue for a peer reviewed international journal on e-learning (CWIS). Michael also continues to influence professional practices of school teachers through active participation as a State Council Member of the Victorian ICT in Education teachers association (ICTEV).

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