

On Removing Your Head from the Sand¹

by
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Introduction.

Thank you for the opportunity to participate in this year's Comms Day program. The program description for 2006 pretty much says it all:

Traditional telecom revenue models are collapsing. Distance-based revenues are disappearing. Voice and messaging is going all IP. But broadband capabilities provide new opportunities in exciting areas such as IPTV, gaming, content downloads, and video streaming.

The same revolution is transforming the media world. Print advertising and classifieds are migrating to the WWW. Broadcast television and radio face both challenges and opportunities from the digital revolution. Even the compact disc's days are numbered in the face of amazing advances in flash memory and broadband capability.

Because I believe all these observations to be true, I came here today to share my views of how these trends have also led to a digital definition of economic and social development.

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Put simply, **all media are rapidly converging into a seamless digital sea that is roiling with change.** Even as regulators march boldly into the 1980s as they try to keep up with the reality of change, the world of the 21st century is already a digital world – a world defined by bits and bytes – that has already moved way beyond the thinking of those who would micro-manage the process.

In today's digital world,

- telephone companies are also Internet service providers (ISPs);
- ISPs have become telephone companies; and
- cable television companies are becoming both;
- broadcasters are moving to digital television
- trying to keep up with computer companies that make television accessible on computer screens;
- satellite providers offer both television and Internet access;
- wireless modems are found all over the urbanized world;
- even electricity companies use their rights-of-way and service infrastructure to enter the communications business; and
- railroads use their rights-of-way to earn fees from communications providers.

On the applications side, electronic commerce is growing by leaps and bounds – by-passing local taxing authorities while creating new pressures for policy makers to address issues such as:

- encryption technology,
- digital signature and certification authorities,
- gambling, pornography, fraud, and
- the protection of privacy.

In short, technology has changed; consumer wants and needs have changed; and in most of the world, government regulations have changed – but not in Australia. Here elected leaders say “the rules are set and won't be reviewed until 2009.”³

³ Back in December, 2005, the communications minister said, “If you follow these kinds of things you could be forgiven for believing that the Government is on the cusp of introducing major regulatory changes. Nothing is further from the truth... We will review the regulatory arrangements again in 2009 and until then we expect all companies to plan and operate within the rules that have been set – including Telstra.” See Helen Coonan, Minister for Communications, Information Technology and the Arts (DCITA), “2005 – A Telecommunications Odyssey,” Address to Deutsche Bank, in Sydney, 14 December 2005. These views were also reflected in the minister's speech to ATUG on 8 March 2006. See Stephen Bartholomeusz, “Telstra holed below the waterline,” *The Age*, 9 March 2006.

That means we are talking about 4-5 years before there are changes. As everyone in this room knows, 4-5 years is an eternity in the digital space. Think back four years when broadband was only a dream. Today it is a reality to:

- nearly one in four (25 percent) of the households in Korea and
- one out of five (20 percent) in Canada, a sparsely populated country more like Australia.

Even in Australia, despite regulations that discourage broadband deployment, more than one out of ten (about 11 percent) premises are broadband subscribers.

Think back 10 years, when the WWW, as we know it today, was only a year old. The fact is that a year is a long time in the digital space – and **to freeze regulations for 4-5 years is to stick one's head in the sand, as if changes in technology and/or consumer preferences can be programmed on a computer.** But there is a problem: Except in George Orwell's *1984*, this is not a good description of how technology evolves or people behave.

Notwithstanding these assertions, regulations do seem to be changing... but in the wrong direction: They are expanding and becoming more intrusive.

- A new requirement for a local presence plan
- Operational separation between the wholesale and retail elements of the business
- Increasing authority for political and regulatory authorities to intervene in and actually run the business.

Indeed, **there have been two major policy statements this month alone** – one focused on telecommunications and one focused on media. In both cases, **we saw the *expansion* of regulations and a headlong rush into the 1980s, as if the digital revolution had not been happening.**

Like many business leaders and punters, when government looks at the digital revolution, it sees opportunity. But not the opportunity for jobs, innovation, growth and economic and social development.

Instead, governments too often see another opportunity to impose:

- new taxes,
- new fees,
- new regulatory burdens, and
- new “public service” requirements.

What governments often fail to see – and this certainly applies to governing authorities here in Australia – is the need for an even-handed regulatory regime and public policy changes to encourage investment, promote innovation, and, in general, facilitate the continued progress of the digital revolution and the many benefits it can bring to people, business enterprises, and communities throughout the land.

Let me quickly address these benefits.

1. Telecommunications underpins Australia’s prosperity.

Australia’s productivity growth reached record highs in the 1990s. An acceleration of over one percentage point in our productivity growth shifted Australia from being a laggard to being a frontrunner among OECD countries.

A significant element in that acceleration was a commitment to allowing markets to work. Beginning with the decision to float the Australian dollar, and then to dismantle trade protection, reform labour and capital markets, to corporatise and privatise government-owned businesses, and improve the tax system, Australia replaced a near century of intrusive regulation with an approach centred on letting commercial forces drive better outcomes.

As the Productivity Commission has emphasized, those changes created a climate in which new technologies could be deployed quickly and effectively.

Telecommunications technology is one such example, and the benefits have been huge. Growth in the use of advanced **information and communications technologies has accounted for fully a quarter of output growth and a third of labour productivity growth in Australia over the last decade.**

At the same time, economic growth rates in the “traditional” contributors to our economy have been overshadowed by a new set of service industries. At the heart of productivity acceleration are:

- wholesale and retail trading,
- construction,
- finance & insurance, and
- business services

The impacts of ICT applications in these industries and others have been far-reaching. Most obviously, new information and communications technologies have provided businesses with opportunities:

- To undertake **existing tasks** more quickly, cheaply and effectively by substituting information goods for other inputs, especially labour (increasing labour productivity); and
- To enable the development and introduction of **new value-adding** and efficiency-enhancing products, processes and organisational structures (multi-factor productivity).

Evidence of these impacts is all around us. **Information technologies have allowed Australian businesses to innovate in processes, products, methods and organisational structures** – business both large and small, in the cities or in the country, traditional or advanced.

New processes and organisational arrangements generate many benefits. These include:

- improved product quality, timeliness and customer convenience;
- greater product variety and customisation;
- reduced waste, transaction and coordination costs; and
- increased outsourcing and specialisation.

For example, ICT and scanning technologies have not only reduced production costs but helped businesses streamline their logistics and delivery services, moving away from storage-based (or warehouse) systems to fast flow-through systems (often called “just-in-time” in the manufacturing and other sectors).

These ICT-based approaches reduce the need for additional storage and handling and all the associated labour and real estate costs. All of this translates into:

- greater productivity,
- lower prices,
- improved quality and new products, benefiting consumers and shareholders alike, and

- extended periods of strong economic growth.

ICT has also played a role in the very **substantial and sustained productivity increases in those industries that have traditionally been the engines of the Australian economy – agriculture and mining.**

- Advanced telecommunications offer rural and remote Australians new ways of tapping into services traditionally only readily accessible in cities.
- Farming today is a sophisticated and technical business. Rural farming businesses now use the Internet for customs clearance, market research, risk assessment, product promotions and on-line sales, business-to-business trading, and supply chain management.
- Real time access to weather information has transformed crop spraying, harvesting, and stock management decisions.

The gains achieved are substantial.⁴ For example, time savings alone to **Australian farmers** have been valued at \$250 million a year, and each 1 per cent increase in farm profitability amounts to an overall annual gain of around \$80 million.

Equally, **Australia's mining industry**, which operates in a highly competitive global environment, has developed new ICT-based ways of improving the utilisation of its assets: by

- using new communications technologies for the management of mines, the transfer of data, mine safety, and
- tracking and tagging systems for the management of equipment.

Today, the Australian mining technology services sector, which relies on ICT, is a significant export industry in its own right.

2. Communities have benefited.

There have been substantial gains to community life. Consider **education and training**, where ICT impacts – for example, in the form of distance learning -- have been far-reaching and widely studied. As broadband access spreads throughout the educational system, there will be further gains, with high speed access already playing an important role in areas such as remote participation in continuing education and retraining.

⁴ The gains achieved, and the value of the potential gains going ahead, are difficult to quantify, and few serious attempts at such quantification have been made.

Equally, in the **health services**, systematic initiatives to encourage and facilitate the use of broadband access have brought early gains in terms of streamlining and improving the transfer of information. The most significant impacts on clinical practice are just beginning to surface, but the direction of the new trends is already clear – “e-health” innovations can support patients remotely, provide improved patient care, and deliver better health and research outcomes.

While these impacts have been felt world-wide, **Australia’s rural communities** are dramatic beneficiaries of new ICT by reductions in the “tyranny of distance”.

Improvements in access have given new hope to rural communities, allowing them to market themselves to the world, while also giving those who live in country areas access to information, entertainment, communication and goods on a scale that seemed difficult to imagine a decade ago.

With many services (such as banking) closing their “bricks and mortar” presence in rural Australia, the availability of on-line replacements has been crucial to the viability of country communities.

At the same time, the ability to provide high quality communications links is now essential to retaining young people and attracting professionals to regional areas, and in that way has helped contribute to the demographic, economic and social renewal of non-metropolitan living.⁵

3. New investment is needed for those gains to be sustained.

The many benefits Australia has derived from new communications technologies have come primarily from *using*, rather than *building*, IT goods and services.

It is true that new networks and services have been developed – most notably for mobile communications – but **much of the productivity advance Australia achieved in the last decade was secured by *adding new uses to existing infrastructure***.

Indeed, **the spread of the Internet into everyday life happened very quickly** following the deployment of the World Wide Web in 1994, primarily because this new way to communicate required little change in our core infrastructure.

⁵ See the writings of Bernard Salt on this point – especially his research on what he calls the “sea-changers” and the “tree-changers.”

Applications that made the Internet so compelling were things like email and web-browsing. The intelligence needed to run these applications could be readily handled by PC's, which were widely available. And the existing phone network provided adequate connectivity for those applications to get off the ground, however frustrating it may have been when the World Wide Web was known as the "world wide wait".

That era, however, is now truly behind us. **We can no longer take a "cheap ride" on yesterday's infrastructure** (POTS – plain old telephone service) using tomorrow's technologies (PANS – the pretty amazing new stuff).

Indeed, today we even need new investment in POTS because most Internet users and many mobile phone users depend on the POTS infrastructure for all or part of the connections they enjoy with others. Still, investment in the POTS assets used to provide Internet and mobile service has lagged since the late 1990's.

Occupancy levels in the distribution plant have become unacceptably high, leaving only limited spare capacity to respond to growth.

But it is not only the basic service that needs improvement. The very **success of the Internet creates an imperative for higher speed data services to be available to everyone**, no matter where they live. This is an area where Australia lags badly.

In terms of broadband penetration, Australia ranks close to the bottom (17th) in the OECD. In percentage terms, in Australia, less than 11 per cent of the households subscribe to broadband, compared with

- the US at 14.5 per cent,
- Canada at 19 per cent, and closer to home,
- Korea at 25 per cent subscribe to broadband.

Moreover, the **access speeds in Australia compare poorly to those available internationally.** Telstra's standard offer of 256kb pales in comparison to baseline broadband access speeds elsewhere:

- 2 Mbps in the US,
- 4 Mbps to 8 Mbps in Korea and Japan.

Lifting our game here requires upgrading the first generation ADSL networks that we now have in place. The investment needed is not only in the exchange facilities, but in moving fibre optics ever closer to the home – e.g., Fibre-to-the-Node (FTTN) -- and office, thus allowing order of magnitude increases in transmission speeds.

Finally, we also need to provide for **new wireless networks** – both for mobility and to extend genuinely high speed broadband services to those parts of Australia where land-lines are not economic. The move to 3G is only a first step in this direction – but even that will require large capital outlays if 3G is to be truly available throughout the areas where Australians live and work.

4. The stakes are high

Whether or not these investments are made has far-reaching implications for Australia's economic and social future.

This is first and foremost because **Australia depends more heavily than other countries on the quality, efficiency and innovativeness of its telecommunications system.**

The fact of life is that Australia is exceptionally remote from major global hubs and world economic centres. With the exception of New Zealand, our biggest trading partners -- China, the United States, Korea, Singapore, and the UK – are more than 6000 km away.

No other major OECD economy is so far away from its primary trading partners.

At the same time, enormous distances separate our cities and rural areas at home. As the world's only island continent, Australia has a land mass similar in size to the US, but its population is barely one fourteenth of that of the US.

Australia's cities have among the lowest population densities in the world, and no two Australian cities with a population of over one million people are within 600 km of each other.

This is not to understate Australia's assets, which are considerable. Natural resources are booming. Australia is uniquely positioned to expand existing trade ties and to build trade with the emerging economies in Asia. Other assets include:

- Australia's geography
- its diversity and international connections through commerce and family ties,
- its high standard of living and political openness and stability.

Each of these, and other assets, mean that Australia is especially well placed to play a leadership role in a Pacific century.⁶

But we cannot afford to be complacent.

⁶ On this point, see recent Regents Lecture at UCLA by Telstra CEO Sol Trujillo, "New Centres of Influence: A CEO's Perspective on the Asia-Pacific Rim from Down-Under. Los Angeles, 1 March 06.

Australia still lags behind in terms of productivity. Despite reforms that have boosted Australia's productivity growth, Australia's GDP per capita remains well below that of the US. In recent years the productivity gap between the US and Australia has increased, at least in part because the US has been more receptive to the deployment of new telecommunications technologies – technologies and applications that are especially helpful to small and mid-sized enterprises (SMEs).⁷

As much as half of the phenomenal labour productivity growth observed in the US over the last ten years can be accounted for by telecommunications – by the incorporation of innovations in computing and communications technologies into the capital stock and business practices.

We cannot scoff at international comparisons because we are operating in an increasingly global economy and global competition is accelerating.

We are observing a continuation of a **20-year-old trend**. Already by 1999-2000,

- over one-third of manufactured goods sold in Australia were produced overseas,
- about one-quarter of domestically produced goods were sold overseas, and
- the international integration of our economy has become even tighter since then.
- Australia's trade intensity – the ratio of imports and exports in relation to GDP – has increased from 16 per cent forty years ago, to 25 per cent in 1990, to 40 per cent today.

Over the past 20 years, the Australian economy has fundamentally changed. The Australian economy has globalized.

⁷ The fact is that large businesses take care of themselves. When new technologies come along, large businesses make private acquisitions if they are not available in the open market. Because SMEs don't have the scale, SMEs have to rely on offerings in the market.

Competing in this new global environment requires a telecommunications infrastructure second to none – to:

- connect Australians to each other;
- connect our exporters (many of which are small and mid-sized enterprises) to their trading partners; and
- create a platform for doing business with uncompromising standards of service and cost.

Take our agricultural exports. In some of Australia's most productive regions – Murraylands and Western Australia's wheat belt and Great Southern region – less than 10% of the population has access to broadband.

Increasing broadband coverage in rural areas would translate into increases in gross regional product and employment by 1.4 per cent in Murraylands and 1 per cent in the WA wheat belt.

The Australian Local Government Association estimates that a \$3 billion investment in regional broadband services is needed to improve access and the quality of broadband in regional Australia to unlock its export potential.

Such an investment could create more than 10,000 jobs and provide an annual benefit of more than \$920 million a year, or more than \$27 billion over 30 years.

5. But so are the obstacles

Yet the very factors that make it imperative for Australia to have a world class telecommunications infrastructure also create formidable obstacles to achieving that goal.

What I call “the DDT factor” – distance, density and terrain – work against Australia. Australia's long distances, low population density and hostile geography mean that we face a much higher cost of building, maintaining, and delivering services over our networks (electric power, highway, railway, telecom, etc.) than in most other developed countries.

Australia's four cities of a million or more cover less than one-tenth of one per cent of Australia's land mass, and the entire population in urban centres and localities live on a land area equivalent to 0.3 per cent of the continent. But Telstra must, and does, provide service wherever Australians live and work.

The result is that Telstra's average line density is approximately 1.3 fixed lines per square kilometer. Compare this to

- **Canada**, the next most sparsely populated OECD economy, where line density is about two times higher than it is here – and more of the population lives in a narrow geographical belt, or to
- **the US**, where line density is almost 20, while it is over 140 in the UK and over 150 in Germany... compared to, remember, 1.3 in Australia.

The effect this has on costs has been recognized by the Productivity Commission, whose data show that **Australia's telecom network is structurally more expensive to build and maintain compared to other developed nations.**

The Commission found that, in Australia, low density areas, with only 5 percent of the lines, account for 25 per cent of the total cost of providing telecommunications services. In contrast, the less populated areas in the US account for just 10 per cent of total cost.

The cost penalty, however, is not only in the most sparsely populated parts of this vast continent. Even our largest cities are significantly more spread out than similarly sized cities overseas. For example, in US cities with over one million inhabitants, the average distance between dwellings is some 14 meters, compared with 21 meters in Australia. The result is a telecommunications network in Australia that must span longer distances.

Telstra is exceptionally well-placed to meet the challenges this creates. There is in Telstra over a century of experience in connecting Australians to each other and to the outside world. There is also a willingness to make the investments required to provide Australians with the telecommunications network they need and can legitimately expect.

But Telstra cannot, and will not, make these investments if we are subject to a regulatory regime based not on consistent and predictable rules, but on regulatory roulette – where the odds are stacked against our shareholders and our consumers.

The rules of Australia's regulatory roulette create huge risks for Telstra shareholders, and the recent expansion of those rules has created a situation where one agency of the government (DoFA) is trying to sell the assets of Telstra while two other agencies of government (DCITA and ACCC) are giving it away. No wonder institutional investors as well as punters here at home are confused.

We have reached a state of affairs where political authorities in Australia have created the worst of all worlds, as they:

- privatize the assets of Telstra,
- nationalize its management through intrusive regulations that give the minister the power to make management decisions that by-pass the board and management, and
- subsidize competitors with below-cost access rates and other regulations, transferring huge sums of wealth – measured in the hundreds of millions of dollars – from 1.6 million mums and dads who own Telstra shares to the government of Singapore, which owns Singapore Tel/Optus and to some of the world’s largest and most wealthy corporations in Hong Kong, the US and Europe.

6. Going forward

There is no question: **Advanced information and communications technology has contributed directly and substantially to Australia’s strong economic growth and social integration over the last decade.** It has

- **increased productivity** throughout the economy,
- allowed the rapid **rise of new industries**,
- **transformed traditional industries** – old mainstays, such as agriculture and mining, and
- **permitted wide-spread improvements** in the quality of life, especially so in regional, rural and remote areas that are far from the centres of economic and social activity.

The potential for further gains going forward is no less substantial. Despite high productivity growth, there is still a large productivity gap between Australia and the world’s most productive economies. Reducing that gap would allow sustained growth in our real incomes.

At the same time, **increasing productivity would make Australia more competitive internationally**, helping us overcome the cost penalty we suffer as a result of our uniquely great distance from our major trading partners.

Overall, as the only island continent, Australia has especially much to gain from improving and extending the communications infrastructure.

Delivering on those benefits will, however, require sustained investment.

- There is an accumulated **maintenance deficit** in the legacy networks that needs to be addressed.
- At the same time, **new networks and services** have to be put in place.
- **The DDT factor** – long distances, low densities, and inhospitable terrain – **means that network costs are structurally higher in Australia** than almost any other country. That means that investors who build and maintain these networks need to recover the full costs of construction, maintenance and service provision – along with a competitive return on their investment – or else they will not be built.

There are many, many ways these costs plus a reasonable return can be recovered to safeguard the risks taken by investors, but **one thing is certain: Network and service costs incurred as a result of the social or regulatory policies of a government cannot be laid at the doorstep of 1.6 million mums and dads who have invested their hard-earned savings in Telstra to send their kids to school, save for a rainy day, or fund their retirement.** That approach won't work anymore.

What will work is respect for the property rights and investments of Telstra shareholders. In terms of current issues, this means a ULL price of \$30 and safeguards for all new shareholder investments, including investments required to build-out FTTN.

7. Conclusion

Australian policy makers should not fail to recognize the **economic and social gains Australia can make from the wider availability of advanced communications technologies.** We all need to work together to provide a framework to achieve those gains, or our neglect will undermine our competitiveness as a nation:

- killing jobs,
- slowing growth,
- creating a divide between large and small businesses and urban and rural people and communities.

But this doesn't have to happen. For these reasons, Telstra must

- continue to act to protect the interests of its 1.6 million mums and dads who are shareholders,

- continue to oppose regulations that permit the massive transfer of wealth from Australian mums and dads who are shareholders to governmental and corporate interests in Singapore, Hong Kong and elsewhere, and
- continue to serve as an advocate for policy and regulatory reform that is pro-investment, pro-consumer, pro-innovation, and pro-competition.

Our advocacy will continue to

- demonstrate the big stake that Australians have in the comprehensive deployment of a 21st century network;
- highlight the substantial costs in deploying such a network; and
- explain the manner in which government policies and regulations currently obstruct, rather than promote, Australia's common interest in deploying the most advanced telecommunications networks and services.

While such a course may uncover differences and spark controversy with policy-makers and regulators, the high stakes require that we make every effort to streamline public policy and get the regulatory settings right so that we get a win/win for the public interest in Australia – for Australia's consumers, Telstra's customers and shareholders, and for Australia's global competitiveness.

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