

Key hurdles to ICT industry growth

The information and communication technology industry (ICT) is a key contributor to the services sector, not just as a service industry itself, but more and more as a key enabler across other parts of the sector. Traditionally, financial and professional services have relied on ICT for their day to day operations. Through the 1980's and 1990's EFTPOS dramatically changed the industry, and more recently online banking has again revolutionised their customer service.

As technology has evolved, we have seen ICT play a much more important role in other parts of the services sector – in the provision of health and education, the management of energy and transport, and obviously the delivery of audio-visual, media and entertainment services.

While these changes have been groundbreaking and profound for both industry and consumers, and business and consumer take up of new ICT products such as IP-based video and mobile broadband continues on a rapid growth path, the actual use of ICT to manage, control and deliver services is still in its early stages. That is, the big benefits that ICT can deliver to business, consumers and the wider economy, are still to come.

This is good news at a time when our screens are filled daily with stories of financial and economic disaster, and our politicians and governments search for every available opportunity to drive economic productivity and create jobs to turn the tide.

ICT can go a long way to providing some of these answers and opportunities, but for it to reach its full potential governments, regulators and the industry need to adopt a new pro-investment mindset.

We need major investment in fixed and mobile communications, in devices, content, smart applications and services. Targeted investments in these key areas can unlock productivity improvements for other industries across the board.

It is the ICT sector that must make the majority of these investments. At the moment this is not occurring. And it is not just due to the impact of the financial crisis.

The economic downturn is an exacerbating factor, but it is not the root cause of this lack of investment in ICT. The truth is that, leaving aside the mobile sector, Australia has seen investment in ICT drop away in recent years, largely due to the way the industry is regulated.

It is time for change. Governments and regulators must encourage investment, rather than put up barriers and stand in the way.

If they do, investment will flow. And business can embrace ICT as a tool that reduces costs; boosts productivity; and stimulates the development of innovative products and services.

ICT and productivity

Around the world ICT has been branded as a great economic hope, capable of driving the productivity enhancements required to restore genuine, sustained growth in the world's developed economies.

At the recent World Economic Forum in Davos, British Prime Minister Gordon Brown argued that nations failing to invest in digital infrastructure would be left languishing behind their competitors.

In the US, IBM research¹ shows that investing US\$10 billion to provide high-speed broadband internet access would create 498,000 jobs in a year. If you double that investment and put another US\$10 billion into computerising health care records and other health, it would create a further 212,000 jobs. Tripling it to enable energy companies to use ICT to monitor and manage their infrastructure more efficiently would yield a further 239,000 jobs

In total, investment of US\$30 billion in smart, ICT based, productivity-enabling infrastructure in the US would yield an estimated 950,000 new jobs.

Similarly, a Concept Economics study commissioned by Telstra has revealed that mobile broadband is cutting costs by reducing the need for travel, saving time and generating new business – and that Telstra's Next G™ network alone could increase GDP by up to 0.7 percent per year in Australia. That is a big contribution from one company's investment.

However, while the benefits that broadband can bring appear to be well understood, too often investment in ICT infrastructure is seen as peripheral and the application of “intelligent ICT applications” in areas like water, energy and transport, that and reduce costs, increase efficiency and optimise economic and environmental outcomes, barely rate a mention.

A new way of thinking

Around the world telecoms companies and governments are entering into pragmatic, “win-win” partnerships to bring-on much needed investment in next generation ICT networks.

These partnerships are driven by a shared realisation that commercial and government levers need to work in unison to unleash the capital required to fund these networks.

We are seeing a move away from mandated solutions and the micro-managing of outcomes through regulation.

Mandated solutions are a recipe for failure – they kill off innovation and risk-taking, and guarantee the cheapest and least capable solution.

¹ *The Digital Road to Recovery: A Stimulus Plan to Create Jobs, Boost Productivity and Revitalize America*, The Information Technology & Innovation Foundation, Jan 2009, <http://www.itif.org/files/roadtorecovery.pdf>

“Win-win” partnerships recognise this and use a wide a range of regulatory, fiscal, tax and spectrum levers to generate commercial investment in ICT.

Australia could benefit greatly from such an approach.

Telstra’s exclusion from the Federal Government’s National Broadband Network process did not mean that Telstra was suddenly uninterested in broadband. Quite the opposite, broadband has always been and remains core to Telstra’s transformation and future growth strategies, regardless of the Government’s RFP.

This is clear from Telstra’s track record of investing to improve coverage and broadband speed on both its fixed and wireless networks.

Telstra’s Next G™ network is the world’s fastest wireless broadband network, its peak network speed of 21 Mbps providing a normal user experience of between 550 kbps to 8 Mbps. It is also Australia’s largest mobile network, covering 99% of the population and over 2 million square kilometres. Telstra has announced it expects to again upgrade the Next G™ network to provide a peak network speed of 42 Mbps by the end of 2009.

Telstra has also just announced a \$300 million upgrade of its cable network to provide download speeds of up to 100 Mbps. The upgrade will commence in Melbourne with customers expected to be able to access the higher speeds by the end of 2009.

The potential of ICT for the services sector and the broader economy

The ICT sector perhaps stands to benefit more from ICT than any other. As a sector that largely deals with the transmission of information both between organisations and between organisations and consumers, there is enormous potential to reduce costs, improve service delivery, boost productivity and cut down on carbon emissions.

The health industry is a prime example. According to the OECD, health expenditure share of GDP on average across OECD countries was about 9 per cent in 2007². That is a lot of capacity taken out of an economic system.

Using ICT we can reduce these costs while improving care.

An Ovum study³ found that in 2005, productivity improvements due to use of mobile broadband solutions across the U.S. health care industry were worth almost \$6.9 billion, and estimated that by 2016, that number would triple to \$27.2 billion.

Here in Australia, high-speed, almost ubiquitous mobile broadband can help reduce the need for patients and health practitioners to travel through:

- remote diagnosis and self monitoring of chronic illness and disease
- transmission of high resolution, digital images and x-rays from the road
- access of patient files on location in emergency situations

All of this is happening in Australia right now via the Next G™ network.

² Health at a Glance 2007, http://www.oecd.org/document/11/0,3343,en_2649_34631_16502667_1_1_1_1,00.html

³ The Increasingly Important Impact of Wireless Broadband Technology and Services on the U.S. Economy, 2008, http://files.ctia.org/pdf/Final_OvumEconomicImpact_Report_5_21_08.pdf

As just one example, BreastScreen Victoria uses Telstra's Next G™ technology to improve the speed of transmitting mammograms from mobile screening units in regional areas.

Previously the photographs took three to five days to be delivered. Now it's a near-instant transfer of high quality digital scans allows for rapid assessment of the results by radiologists in Melbourne and same day advice to women in regional areas.

Similar examples of cost reduction and productivity improvement can be found in the education, financial services, energy and entertainment industries. And there is enormous untapped potential in mining, transport and agriculture.

- Schools are using the faster speeds available over Next G™ technology to provide higher quality distance learning programs, as well as conducting virtual excursions where students are shown attractions in different states and can interact with presenters on site.
- Kalgoorlie Consolidated Gold Mines uses Next G™ sensors to monitor noise, vibration and air blast around its mine sites. This has made it easier for the company to comply with environmental regulations, and reduced the chance that the nearby township will be disturbed by mine operations.
- The Australian Institute of Marine Science has been able to deploy multiple Next G™ technology-enabled environmental monitoring buoys in the Great Barrier Reef. This has not only substantially reduced their costs, but also allowed them to monitor environmental conditions in real time and from a larger number of sites.
- Zylotech, a security and surveillance company uses Next G™ technology to transmit video of incidents to clients around Australia. The ability to transmit high quality video at high speeds is critical to its business, with other benefits including more timely resolution of security incidents, faster medical assistance, reduced property loss/damage and lower insurance premiums.
- Pacific Hydro, an independent Australian 'green' power producer develops and operates facilities for generating power from wind, water and geo-thermal energy. The company estimates Next G™ technology has seen its communication infrastructure at remote sites cut by up to 95 percent, and its time cost by up to 99 percent.

Conclusion

Now more than ever businesses are looking for ways to boost productivity while at the same time reducing costs – innovative and targeted use of ICT can help make this happen. If we are to grasp the productivity enhancing opportunities of an ICT enabled economy, we have to find ways to stimulate commercial investment in essential infrastructure. For this to occur Government and the ICT industry need to work together constructively to remove the barriers to investment that are currently in place. Should this occur, then consumers, businesses, and the economy as a whole will be the beneficiaries.

Snapshot of the communications industry and its contribution to the economy

Industry snapshot

According to the Australian Communication and Media Authority, in Australia at the end of June 2008 there were:

- 7.23 million active internet subscribers, of which 5.66 million were broadband services.
- 22 million mobile services, of which 8.55 million were 3G services
- 11 million fixed services

And competition was strong:

- 372 fixed voice providers
- 6 mobile networks (3 3G networks and 3 GSM networks)
- 4 cable networks
- 19 carriers with active DSLAMs
- 225 wireless internet providers
- 48 satellite providers

At this stage, the impact of the financial crisis has not had as profound an impact in communications as it has in the broader economy. Overall the comms sector output grew by 1.6% in the December quarter and by 2.8% across the year compared with the GDP contraction of 0.5% in the December quarter and anaemic annual growth (0.3%). Annual growth in nominal consumer spending on comms (4.7%) has marginally out-performed broader consumer spending (4.6%) but has not matched the extra-ordinary growth in household disposable income (13.6%) fuelled by once-off payments from the Federal government and continuing strong wages growth.

Annual growth in comms sector output remained around 2.8% despite some acceleration in the December quarter (up 1.6%).

The comms sector share of GDP increased to a record high at December 2008 (2.50%) continuing the uptrend observed over recent years. The comms sector appears already impacted by the GDP growth contraction although its sensitivity may be muted by the structural uptake of broadband, pay TV and next generation mobile services.

