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THE GLOBAL  
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*Australia and the World*

***Connecting and Integrating  
Australia, Asia and the World***

The *digital economy* and its role in creating a strong, modern,  
globally-oriented Australian economy and society

**Digital Economy Scoping Brief**

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***In partnership with:***



Under the auspices of the Australia Program theme '*Connecting and Integrating Australia, Asia and the World*', The Global Foundation recently convened an exploratory Roundtable meeting in conjunction with PwC and Telstra.

The Roundtable marked the beginning of a comprehensive program of engagement by the Foundation to explore and better understand the digital economy.

Of course, the idea of an emergent digital economy is not a new one. However the forces driving this change – including universal broadband, 'always on' internet access, big data and inexpensive computing power, 'crowd' generated social services and ubiquitous smart mobile devices – are new and have the potential to create significant economic and social disruption.

The recent Roundtable identified four areas where breakthrough thinking was required if Australia was to leverage the productive, inclusive and innovative opportunities inherent in the new economy. These include productivity, innovation and collaboration, social inclusion and hierarchy and control.

What follows are scoping briefs on each of the breakthrough areas designed to frame and assist future discussion and collaboration.

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## Productivity

*This scoping brief focuses on obstacles and opportunities for greater productivity in a digital economy*

### The productivity problem

Unlike most of the developed world, Australia has been regressing in terms of productivity over the last few years. A recent global productivity survey by the US Bureau of Labor Statistics<sup>i</sup> found that of the 19 countries studied between 2010 and 2011, Australia experienced:

- The greatest decline in manufacturing output per hour (-4%)
- The second greatest increase in local currency unit labour costs (+3.1%) behind Japan which had suffered a tsunami
- The most severe currency appreciation resulting in overall USD costs per unit of output increasing by 15.8%.

Austerity measures in many other developed countries have forced through productivity improvements. Australians by contrast have been living in a relatively comfortable economy with rising wages and a strengthening dollar that has bought them more. This has resulted in a subconscious mindset amongst many Australians of 'Why strive for productivity for no apparent need?'

### The digital adoption problem

Australian businesses are technology followers, not pioneers<sup>ii</sup>. This is somewhat at odds with its consumers who, despite some infrastructure constraints, are relatively quick adopters of new technology (Australia for example has one of the highest penetrations of smart mobile devices).

Conservative business leaders continuously defer to what is working well in the US or UK (and it generally is just these two countries) before they consider investment. We have no national technology champions that provide the inspiration to challenge this mindset.

## Cultural obstacles

Long held cultural beliefs <sup>iii, iv</sup> reduce the appetite to back new technology and view productivity a subject to be avoided:

- ‘A fair go for all Australians’ means that legislation, tariffs and quotas are preferable to tackling productivity and that governments will not prioritise winning technologies or businesses because that means others will miss out
- ‘Faith in government authority’ results in waiting for the government to lead before investment is made
- An historical dependence on Britain then America means we defer to what has become established practice in the US or UK rather than pioneer
- ‘Work should be hard yakka’ means that getting the job done in tough conditions matters more than working smartly or more efficiently.

## Structural obstacles

Industrial and commercial structures provide disincentives for technology led productivity:

- Corporate protectionism and duopolies in most sectors mean that protecting today’s revenue is more important to business leaders than creating tomorrow’s competitive advantage through productivity. Productivity is therefore addressed in a reactive way, rather than adopting a proactive approach as seen in other economies (e.g. Germany)
- The relative scale of the Australian market (22 million population versus 312 million in the US) means that high fixed cost investments in technology have a smaller customer base over which to spread recoup the costs, making them less attractive.

## Weak leadership

The controversial words of Donald Horne <sup>iv</sup> from the 1960s unfortunately still hold true in many ways “Australia is a lucky country mainly run by second rate people who share its luck”. The sad reality is that many of Australia’s business and political leaders have limited vision, low ambition and low appetite for risk compared to counterparts other countries.

Mediocre political leadership is reinforced through the short three year election cycle that provides little opportunity for governments to make the hard choices that will be unpopular in the short term but benefit productivity in the long term.

The general level of digital ambition among Australian businesses remains relatively low in the apparent absence of inspirational digital business leaders and limited awareness of Australian companies with proven digital track records. There are no Australian companies in the world's top 100 private digital companies <sup>v</sup>.

## **Embrace change or be a victim to it**

Technology, digital communications and a high currency have made the world smaller, broken down our geographical isolation and exposed Australian businesses to genuine global competition:

- Manufacturing businesses have struggled to compete on price
- Retailers are now competing with global online stores that offer a wider range, lower prices and a superior customer experience.

Services are likely to be the next sector exposed to technology led competition as lower cost international providers crack the challenge of delivering a high quality service from overseas.

Embracing change means proactively tackling productivity before you are forced to and adopting the investment attitude to technology that is reflected by your international competitors.

## **Digital game changers**

Australia has the potential to gain more from technology and communications led productivity than most countries. Its high labour cost and dispersed population mean that the impact from more efficient processes and reduced physical transportation should yield greater returns for every dollar invested.

But as a nation we need some game changers to break through embedded structures and cultural obstacles:

### **1. Establish The Case For Change:**

- Politicians, business leaders, workers and society as a whole must be dissatisfied with the status quo and demand change

- The media have an important role here as do our political and business leaders

## 2. Promote Visionary Leadership:

- Ignite the natural resourcefulness and 'have-a-go' spirit of Australians
- Create digital business pin-ups to serve as role models for Australian business
- Actively invite exposure to international markets to stimulate competition and force productivity improvements
- Work to break down traditional investment attitudes and encourage businesses and lenders alike to invest in productivity initiatives

## 3. Deliver The Infrastructure:

- The NBN in metro and bush areas will go a long way to eliminating the tyranny of distance and enabling digital investment
- Review and update legislation to reflect today's cross border digital economy and make Australia the best place in the world to operate a digital business.

## 4. Develop Silicon Creek, an Australian Digital Cluster:

- Focus investment on a suburb that already exhibits the most potential, ideally with several existing technology businesses that will act as anchors
- Be prepared to back a winner without the threat of recrimination for unequal distribution of funding between states and businesses
- Promote links between business and technology universities to encourage technology transfer
- Provide financial and legal support to the cluster so it can focus on value accretive activities.

### References

i 'International Comparison of Manufacturing Productivity and Unit Labor Cost Trends, 2011', Bureau of Labor Statistics, December 2012, "[International Comparisons of Manufacturing Productivity and Unit Labor Cost Trends, 2011](#)", US Bureau of Labor Statistics, 6 December 2012

ii The Global Innovation Index 2012 - <http://www.globalinnovationindex.org/gii/>

iii 'The End of Certainty: Power, Politics, and Business in Australia', Paul Kelly, 1994 "[The End of Certainty](#)", Paul Kelly, 1994

iv 'The Lucky Country', Donald Horne, 1964 "[The Lucky Country](#)", Donald Horne, 1965

v The 2012 Digital 100: <http://www.businessinsider.com/the-2012-digital-100-the-complete-list-1-100-2012-9>

## Digital Innovation and Collaboration

*This scoping brief focuses on obstacles and opportunities that exist for innovation and collaboration to play a greater part in Australia's response to the digital era.*

### Introduction

One of the key attributes of a leading and competitive digital economy is the ability to collaborate and innovate effectively. Where does Australia sit versus leading nations? What barriers need to be overcome to progress the economy in the digital era?

### Australian innovation in a world context is lagging behind

The global innovation index of 2012, published by INSEAD and the World Intellectual Property Organization (WIPO, a specialized agency of the United Nations) paints a striking picture of Australia in a global context.

Key highlights:

- Australia ranks 2nd for ease of starting a business but 38th in ease of paying tax
- Gross expenditure on R&D ranks 13th and production of scientific journals and articles sees Australia rank 10th
- Australia has a ranking of 9th for ICT use
- However, it ranks 23rd for set up of ICT businesses and 21st in using ICT to create new organisational models
- Current ranking of 39th in the world for production of scientific and engineering graduates
- Amount of R&D investment from abroad sees Australia rank 76th
- Australia ranks 59th for high tech exports and 84th for computer and communication services exports.

Whilst a strong infrastructure in terms of broadband penetration is in place and building, what is it being used for? Comparisons from the report indicate it is not for the creation of tech enterprises which will further the digital economy.

Leveraging the infrastructure to create new ICT businesses and novel ways of working will be the backbone of the Australian economy in the digital era. The figures presented indicate these types of business and ways of working are currently small in number.

Key indicators across government, institutions, business sophistication, infrastructure, Science and R&D demonstrate that a globally oriented economy and society is yet to take shape.

The challenge lies in bridging the gap between having the local capability to innovate and actually creating businesses and services with the potential for a global footprint.

## **Innovation and collaboration challenge**

The lack of foreign investment in R&D appears to support the perception that Australian industry is derivative, that there aren't many novel, or innovative ideas to invest in.

This is a long held belief, somewhat based on fact with government structures, business and cultural models borrowed initially from the British Empire and USA <sup>1</sup>. In spite of this view, or maybe because of it Australia has built a prosperous economy, some have argued it is a position borne out of luck, Donald Horne in his book the Lucky Country certainly thought so, this was written in the 1960's and little seems to have changed.

It could be argued that attitudes have been shaped over time by the belief that there is no need to innovate or collaborate, with an unconscious bias taking over, in that everything will work out fine because it always has.

The Australian economy is often looked at with envy from abroad with its stability, growth and relative immunity from global forces, it does paint quite an isolated picture though, one at odds with the intertwined nature of economies today.

The digital era is shaping a global economy, where distance is no longer a barrier; products, services and information are available from anywhere, anytime. The issue is that Australia is not visible in this space, absolutely comfortable to consume, but relatively little is being produced locally and exported.

The innovation index demonstrates that good ideas exist in Australia <sup>2</sup>. Recent investments from abroad in firms like Atlassian demonstrate this. The challenge lies with government, institutions and business to inject pace into local innovation, give great ideas the conditions to flourish locally and become international propositions quickly.

As the new global economy and digital era takes shape, a greater degree of collaboration is required between government, business, institutions and social sectors <sup>3</sup>. Recognition is also required that as a small country economy greater collaboration and integration with global supply chains are key to a competitive economy.

## Changing the discussion

### 1. Foster innovation & collaboration:

- Create a national incubation process where innovative ideas are given the conditions to thrive
- Absorb the required skills both local and international to build the required expertise
- Create Australia's Digital cluster. The centre of excellence and expertise, regarded worldwide as a leading reference point and magnet for innovation and investment.

### 2. Change policy to grow local expertise:

- Urgent policy change to foster start ups in Australia before they go elsewhere. There are currently 65 tech start-ups in Silicon Valley started by Australians.

### 3. Encourage investment in innovative businesses:

- A tiny proportion of Australia's GDP is spent on Venture Capital, only \$120 million – out of \$1.8 trillion funds under management in Australia – was invested by Australian venture capital firms last year. Make it easy to support innovation through simple tax structures.

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1. Australia, The recreational society: David Mosler, 2002
2. The Global Innovation Index 2012: <http://www.globalinnovationindex.org/gii/>
3. The Australian Innovation Systems report 2011:  
<http://www.innovation.gov.au/Innovation/Policy/AustralianInnovationSystemReport/AISR2011/executive-summary/links-and-collaboration/index.html>

## Social Inclusion

*This scoping brief focuses on new technology and the digital divide*

### The new digital divide

New communications technologies have created a truly connected, networked world. They change the way people live, work, play, relate, organise and participate in society. The number of connections on the network – emails, text messages, tweets, text and video content – is growing exponentially. The social impact of communications technologies is tremendous.

The internet provides entertainment, access to news and information, job opportunities and information on government and social services. Online tools and services like banking, bill paying, online shopping and travel bookings make life easier for internet users.

Nine out of ten Australians now describe the internet as a “very important” or “important” part of their lives (Ewing and Thomas 2012).

The importance of information and communication technologies is set to grow further as more and more services move online.

Mobile internet is also set to overtake desktop access, with Smartphone and tablet penetration across the Australian population predicted at 65 per cent and 29 per cent respectively by 2017. Smartphone penetration in the 15 to 65 age group is already at 68 per cent and projected to rise to 92 per cent by 2017 (Frost and Sullivan 2012).

The importance of the internet worldwide is such that internet access is recognised as a right by the law in several countries, including France, Finland and Spain.

A 2011 report to the United Nations Human Rights Council notes:

*...the unique and transformative nature of the Internet not only to enable individuals to exercise their right to freedom of opinion and expression, but also a range of other human rights, and to promote the progress of society as a whole (UN Human Rights Council 2011).*

## Technology changes lives

**It helps promote democracy.** Political campaigns, revolutions and civil wars are now fought out – at least partly – via social media. A 2011 study analysing more than three million tweets, gigabytes of YouTube content and thousands of blog posts found that social media played a central role in shaping political debates in the Arab Spring. Conversations about revolution often preceded major events and helped raise international expectations for the success of political uprising (O’Donnell 2011).

**The internet changes education.** Being able to access technology easily and safely is fast becoming vital in education. In Australia, 94 per cent of student users go online for information on school-related work weekly or more often; 74 per cent at least daily (World Internet Project 2012).

**It brings people closer to family and friends.** Almost 70 per cent of Australians report “somewhat and greatly increased” contact with friends as a result of internet use; 62 per cent report the same for contact with their family. Interestingly, internet users also spend more face-to-face time with their family than non-internet users (World Internet Project 2012).

**Technology is important for personal wellbeing.** A 2011 UK study which challenged participants to go one day without using any technology found that 40 per cent of the 1,000 participants experienced loneliness when not able to go online. More than half of participants felt upset and deprived without internet connection (Barnett 2011).

**The internet is changing the way healthcare is delivered.** Telemedicine can enable greater access to healthcare services for rural and remote Australians who traditionally have poorer health than their urban counterparts. While not yet widely used, anticipated benefits of telemedicine are better health outcomes and more cost-effective delivery (Moffatt and Eley 2011). Electronic health records enable the sharing of patient data between providers, making care provision faster, easier and safer.

## Not everyone benefits

While the socio-economic benefits of technology are obvious, they are not available to everyone. A lack of access, online skills and education on the risks of the cyber world limit the experience for poor and disadvantaged groups.

**The poorest and most disadvantaged lack access.** Australia’s more affluent households have almost universal broadband access – but almost four in ten households in the lowest income group do not have home broadband. Overall, 21 per cent of

Australian households do not have a home internet connection. This level is much higher for certain groups:

- Only 62 per cent of people with a reported disability have internet access at home, and only 53 per cent used the internet at any location
- Only 54 per cent of people aged 60 years or over have internet access at home (ABS 2011)
- Indigenous households in central Australia are 76 per cent less likely to have internet access than non-Indigenous metropolitan households (Rennie et al 2011).

**Older Australians struggle with the internet.** Online skills are another aspect of the 'digital divide'. A quarter of Australians agree that the internet is "frustrating" to work with (Ewing and Thomas 2012). Less than 60 per cent of Australians aged 65 and over use the internet, likely indicating a lack of digital literacy skills and confidence as well as access.

This move to the mobile web is likely to create further access and skills challenges for particular groups, including poor and disadvantaged Australians, people with disability, senior Australians and people in remote locations.

**New technology can be risky.** The digital age brings with it great online social, educational and entertainment resources and experience. It also brings risks, which means that staying safe online is integral to a rewarding and positive online experience.

Potential issues vary by age group but can include the misuse of personal information (cyber crime), online scams, cyber-bullying, unintended consequences of posted information (once online, always online) and illegal and offensive websites. Australian studies suggest that between 10 and 20 per cent of children and young people have been cyber bullied (AIFS 2012).

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## Hierarchy and Control

### *This scoping brief focuses on digital disruption*

*If the environment is changing faster than your business, you're dead!*

– Jack Welch, legendary Chief Executive of General Motors

Social media is but one of five digital pillars currently driving business model disruption, disintegration and re-imagination.

The others are 'always on' internet access (underpinned by inexpensive computing power and universal broadband), 24x7 social services provided by 'the crowd', big data leveraged by smart algorithms, and ubiquitous smart mobile devices.

Combined, these forces of disruption are having a profound impact on traditional business, possibly faster and in ways never seen before.

It was not simple hyperbole that prompted former Telstra chief executive, Ziggy Switkowski to question recently whether the corporation would survive the internet!

With the internet empowering the individual consumer and sole trader as never before, could we be witnessing a profound reversion back to the most elemental feature of markets – peer to peer interaction?

Switkowski invites us to imagine a "Wikipedia model for corporate processes" where the company becomes redundant or, at best, assumes a mere 'curatorial' role:

*Got a technical issue? Invite the crowd to solve it or share their experiences. Need a breakthrough in R &D? Define the problem on the net and invite solutions in return for peer recognition or a small prize. Need start-up funding for an original idea? Ask online for individual contributions in return for preferred access to the innovative product once produced (AFR 11 Jan 2013).*

### The power of the consumer

For perhaps the first time since the emergence of the limited liability joint-stock company (the corporation), power is moving back to the consumer – enabled and abetted by social media services such as Facebook, Twitter, YouTube, LinkedIn et al.

New devices armed with social media applications now connect consumers with common interests, enabling the sharing of experiences, conversation, insights, recommendations, problem solving, and entertainment – virtually every aspect of private and community life.

And the growth of social media in Australia is quite phenomenal:

- 62% of internet users report they use social media
- Over 11M Australians use Facebook regularly – spending an impressive 18 minutes on the site each visit
- 20% of all internet time is now spent on social networks.

Not surprisingly, markets and marketing are now in the hot seat. The market has moved from ‘product’ to ‘experience’; what used to be known as the 4Ps (Product, Place, Price and Promotion) have been junked and replaced by the 4Es – Experience, Everyplace, Exchange and Evangelism!

Now every age has its class of high priests and booster gurus opining and proselytising on the transformational nature of the times. The internet age is no different. Steven Poole (AFR 19-20 January 2013) speaks of “cybertheorists”, even “cyberhucksters”, dreaming of a perfectible electronic future, “handing down oracular commandments about how the world can be remade” and the need to “abandon the old ways”.

To some degree Poole is probably right. We should be wary of herd-worship and neither overplay the virtues of the crowd nor the sexiness of sharing.

But equally, we should not underestimate the importance of the internet age putting power back into the hands of the individual – be they citizen, activist, revolutionary or, especially, the humble consumer:

- As consumers become more connected and empowered by information, they also become more fearless (the same is probably true for employees!)
- With a stronger voice, consumers now expect to be able to provide feedback, even shape products and services, as well as other decisions once the preserve of senior executives
- Consumers trust social connections more than brands and marketing messages
- Consumers now have the potential to maintain information-rich public identities across multiple communities, with the lines between social and professional increasingly blurred

- New social media cultural norms and language is emerging
- Consumers can now effortlessly content publish and content consume – anytime and anywhere
- Information exchange is instant and unfettered, with context much more highly valued in identifying and assessing information.

Of course, with every power shift opportunities emerge for new services and new businesses; these, in turn, inform new ways of conceiving community and, with them, broader implications for the body politic and democratic prospect.

Will more power in the hands of consumers lead to greater ‘democratisation’, that is, greater public enablement of ‘self-service’ and control of interaction with business and government? Or will the real fruits of technological innovation remain concentrated in the hands of those corporations who hold our personal data or control the infrastructure by which we live our lives.

Either way, it seems certain that business models will not remain as they are.

## Some insights for business

**The rules of product development and marketing have changed dramatically.** Product development through open innovation now includes real time customer feedback and crowd suggestions.

**The product decision-cycle has been democratized.** Consumers seek product and service advice, feedback and recommendations from their peers and other consumers online before making buying decisions. Amazon, eBay and iTunes’ product ratings and comment systems drive billions in additional sales, while services like LastFM, Twitter and Pandora can break new music globally in hours.

**Instant price transparency** via social media and price comparison services has made it much harder for bricks and mortar business models to charge a premium for in-store purchases. Traditional physical retail models are under massive pressure to reinvent or die.

**Either the pace of change has quickened or the scale of disruption increased.** This is being fuelled by thousands of lean, start-up challengers with motivated talent trying new business models via rapid prototyping, then using social media to quickly validate value with prospective consumers. Those that show promise quickly attract venture capital to attack incumbents.

**Post purchase feedback** - the voice of the customer can now significantly impact businesses quickly and efficiently. Poor product quality and service feedback is available to everyone, and reviews in services like Yelp (restaurants) and Tripadvisor (travel) can make or break businesses.

**Traditional advertising has become much less efficient and effective.** Strategies built around social media optimisation and search engine marketing are now a core component in identifying and engaging with customers – both current and prospective customers. And while consumers have become more cynical and less trusting towards marketing messages, companies can now listen, in real time, to the conversations and intent of their target audience.

How Australian businesses respond to these challenges will, in important ways, determine our future prosperity. To do nothing is to invoke a death knell.