

Digital
disruption
Short fuse,
big bang?



SHORT FUSE BIG BANG

1/3

SHORT FUSE
BIG BANG

LONG FUSE
BIG BANG

SHORT FUSE
SMALL BANG

LONG FUSE
SMALL BANG

AUSTRALIAN ECONOMY

ONE-THIRD OF AUSTRALIA'S ECONOMY
FACES A 'SHORT FUSE, BIG BANG' SCENARIO

Why digital?

As we emphasised in the first paper of this series last year, a lucky country makes its own luck over time.

Building the Lucky Country: Business imperatives for a prosperous Australia is based on a clear premise. This is that our country's future prosperity will require sustainable sources of national wealth, visionary strategies that serve the interests of government and business, and agility in the execution of public policy and business opportunity. It is the quality of agility that we focus on in this second report of our series.

One-third of the Australian economy faces imminent and substantial disruption by digital technologies and business models – what we call a ‘short fuse, big bang’ scenario. This presents significant threats, as well as opportunities, for both business and government

So why, in an environment cluttered with white papers, indices and predictions on the digital revolution, do we at Deloitte feel we have something new to say? In our research, we found that studies to date have either focused on the technologies involved and the potentially exciting changes that some parts of the economy face, or on analysis of new business models spawned by disruption.

To the CEO or government leader, there has not yet been a comprehensive attempt to meld the projected magnitude of disruption in various industry sectors with the likely timeline of this disruption. Nor, for that matter, has there been practical advice to leaders on how to pull together the right strategic responses. We have, in *Digital disruption – Short fuse, big bang?*, set out to address all three, along with the bigger meaning of digital in government and society. Australians expect technology to improve efficiencies and productivity; they also need a convincing narrative from leaders about the future role of digital innovation in shaping public policy and a fair, equitable society.

As with all of our work at Deloitte, we hope that this paper enhances your capacity to act. In the digital age, how quickly and how thoughtfully we act will determine our future.

Introduction

The key questions for leaders are: how is digital disruption affecting their organisation? And how well are they responding to minimise the threats and maximise the opportunities presented by this change?

Australia's business and government leaders do not need to look far into the future to see the new wave of digital disruption headed towards them. It is already here, transforming the way companies and agencies operate and how they engage with their customers.

With dramatic news of digital-related restructuring among many household names, it's easy to feel the sky is falling. Even the mighty Microsoft announced in July 2012 the first loss-making quarter in its history as a public company after writing down the value of its online advertising business by US\$6.2 billion.¹

In this paper, we show that one-third of the Australian economy faces imminent and major digital disruption – a 'short fuse, big bang' situation. We also stress the importance of each organisation looking at the issues it raises in fine detail, before developing specific, pragmatic and proportionate responses.

However, we also show that digital opens up unprecedented possibilities. These innovations are changing economies and markets, and reinventing relationships between organisations, suppliers and customers. They are changing society.

Whether you're delivering goods or services online, recruiting new talent via LinkedIn, developing a mobile app or ditching your document retention department, you're already experiencing the upside of digital technology.

In some ways, today's innovations – broadband, smartphones, the cloud, the ability to analyse complex data sets, social media and other tools that make it possible to 'digitise' business processes – are just extensions of the computing and online advances of the past few decades. Yet it is a mistake to see the digital revolution as a function of technology, rather than one of business evolution.

Moreover, even as extensions of existing technologies, these innovations are powerful, pervasive and have multiple indirect impacts. Digital reduces barriers to entry, blurs category boundaries, and opens doors for a new generation of entrepreneurs and innovators. In turn, incumbent market leaders will face substantial pressures.

We refer to changes – both positive and threatening – as 'digital disruption'. It's a neutral term; a description of what is happening.

For some, digital disruption will be explosive and immediate – a force that rocks the foundations of their business. For others less vulnerable to digital trends, the changes will be slower and more subtle. For others again, digital innovation will be the cornerstone for future value creation.

¹ <http://www.microsoft.com/en-us/news/Press/2012/Jul12/07-02CorpNewsPR.aspx>

Mapping disruption

In this second paper of the *Building the Lucky Country* series, we look at how Australian companies and the economy as a whole are being disrupted by digital innovation, and the outlook for the future.

We consider both the scale of the residual impact of digital – what we call the ‘bang’ – and how soon those industries will be affected – the length of the ‘fuse’. This is captured in Deloitte’s Digital Disruption Map (see page 9).

We find that sectors such as finance, retail, media, and information and communications technology have a short fuse and can expect a big bang. At the other end of the spectrum, miners, construction groups and many manufacturers have longer fuses and face less incremental disruption to their business.

Sectors like education and health, while set to experience profound changes, have a longer fuse and potentially a greater opportunity to plan their response.

Most importantly, we believe it is critical to take a granular view. We consider industries, sub-sectors, companies of varying sizes and even differences between business units within companies. With each being affected differently, it’s essential for leaders to develop their responses based on a detailed and nuanced view.

This analysis was completed by Deloitte Access Economics, in combination with service line and industry experts from across Deloitte.

Designing a compelling response

The aim of this report is to provide a structured framework to help guide the thinking of business and public sector leaders and policymakers. In Part II, we outline three key responses leaders can consider as they manage disruption and create value:

- Recalibrating cost structures
- Replenishing revenue streams
- Reshaping corporate strategies.

We also enumerate specific actionable levers available to leaders within each area of response.

Putting plans into action

In Part III, we look at how business leaders can use these levers to create coherent and effective strategies at the business-unit and enterprise level. Once developed, the right strategies will form a compelling narrative for external and internal stakeholders. A key part of these strategies will be cultural change.

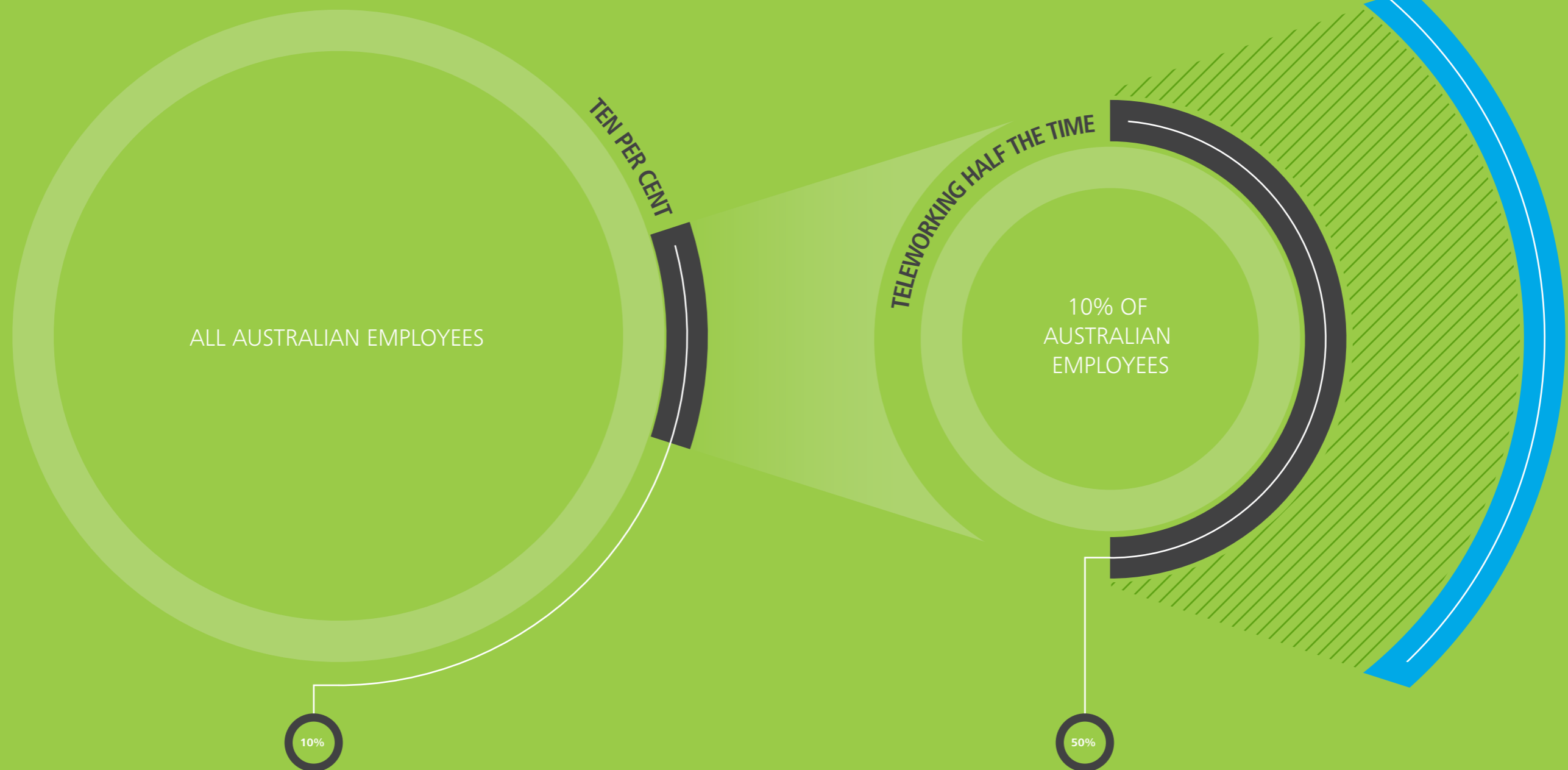
We also consider what these trends and issues mean for the public sector – that enormous business that makes up a third of the Australian economy – and more widely for the notion of government.

In the same way that businesses need to reconsider their strategies in light of digital disruption, we believe governments must explore new ways to drive efficiency, source revenue and potentially redefine the very boundaries of the public sector. Through its regulatory role, government will also play a central role in shaping the digital landscape, realising economic and social goals, and fostering innovation.

Part I

AUSTRALIA WOULD GAIN BETWEEN \$1.4 BILLION AND \$1.9 BILLION ANNUALLY IF JUST 10% OF THE COUNTRY'S EMPLOYEES WERE TO TELEWORK HALF THE TIME, SAYS DELOITTE ACCESS ECONOMICS

Source: Access Economics, Impacts of Teleworking under the NBN, July 2010, page iii.



Part I

Taking a granular view of digital disruption

There is no debate that digital innovation – including advances in computing, networks, devices and the capabilities they unleash like cloud computing and data analytics – is a profound force in our economy.

We describe the impact of these innovations as digital disruption and see it as a measure of how much the arrival of new digital technologies will drive change for business, the economy and society as a whole.

The digital economy isn't just about speeding up communication across borders or changing the skills workers need; it's about changing the very nature of consumption, competition and how markets work.

More profoundly, it is also driving a significant shift in the balance of power between organisations and individuals. The explosion in connectivity and the availability of information is putting today's consumers, employees, citizens, patients and other individuals squarely in the driver's seat.

Australia's Internet economy is forecast to grow at twice the rate of GDP between now and 2016 – from \$50 billion to \$70 billion.² In the year to May 2012 in Australia, online retail sales were estimated at \$11.3 billion, or around 5.2 per cent of all retail spending. They are expected to continue growing by about 15 per cent a year, well above the 4 per cent expected for traditional retail sales.³

The number of smartphones and tablets in use worldwide continues to surge. Some 491 million smartphones were sold globally in 2011 and even more are expected to be sold in 2012.⁴ Forecasters expect 119 million tablets to be sold worldwide in 2012.⁵ Australians are among the most eager adopters of these technologies; our nation is one of the world's top five in terms of smartphone penetration.⁶

There are widespread implications for our economy, which faces an injection of competitive pressure in virtually every sector that will rival the impact of economic reforms introduced in previous decades.

Indeed, mastering digital disruption will be vital to Australia's prosperity and the living standards of all Australians. As a sparsely populated country a long way from major markets, we will have to use technology intelligently to get the most out of our people and unique assets like resources, farmland and tourism.

As value chains shift within industries, executives and policymakers face big strategic questions. As they formulate responses, we believe it's essential not to generalise.

Digital innovation is significant, but it won't affect every industry in the same way. Even within industries, companies with different business models face very different questions. And even within one business, different business units will find themselves more or less exposed to digital – both in terms of threats, and opportunities.

2 Deloitte Access Economics, *The Connected Continent*, August 2011, p. 2, 41.

3 National Australia Bank Online Retail Sales Index, May 2012.

4 Worldwide Quarterly Mobile Phone Tracker, International Data Corporation, February 2012.

5 Forecast: Media Tablets by Operating System, Worldwide, 2010–2016, 1Q12 Update, Gartner, April 2012.

6 Sterling, Bruce, '42 Major Countries Ranked by Smartphone Penetration Rates', *Wired Beyond the Beyond* blog, 16 December 2011.

What do we mean by digital anyway?

When you hear the word 'digital', your mind races to the latest Internet service or mobile device. Both leverage digital technology and are key to our ability to communicate more quickly, widely and cheaply, and in turn to introduce innovations from borderless supply chains.

The powerful breakthroughs in computing and telecommunications – including broadband, mobile and e-commerce systems – have also made it possible to buy and sell in new ways, increase automation, and gather and analyse unprecedented amounts of data.

However, it's also useful to think about digital at a more conceptual level. As author Ronald Tocci formally defined it, a "digital system is a data technology that uses discrete (discontinuous) values".⁷

Over the past 40 years, many new technologies have been introduced which have caused disruption and met this definition of digital. The introduction in the 1970s of the 'digital computer' is just one; the switch from analog to digital mobile phones is another. Neither technology today requires the 'digital' prefix.

This proliferation of cheaper and more powerful communications technologies has further reduced barriers to entry in many sectors, giving many businesses the impetus to reconsider their core *modus operandi*. Furthermore, by viewing their operations in a digital form – that is, as a set of constituent parts that can create independent data and processes and then be reassembled – a myriad of opportunities to add value can be developed.

In this new world, third parties or competing internal systems can focus on discrete parts of a business and find new ways to add value. In retail, for instance, there are now often clear distinctions between items such as pictures of merchandise, the websites that present them and the payment systems used by customers. Digital retailers can also more readily partner with existing and emerging logistics, payment and mobile providers to increase efficiency or find new routes to market.

Intensity and potential

The idea of digital disruption is about how much additional change a business will experience in the years to come, and how a business can realise its potential across a spectrum of digital opportunities by building on the way it currently uses digital technologies and organises business processes.

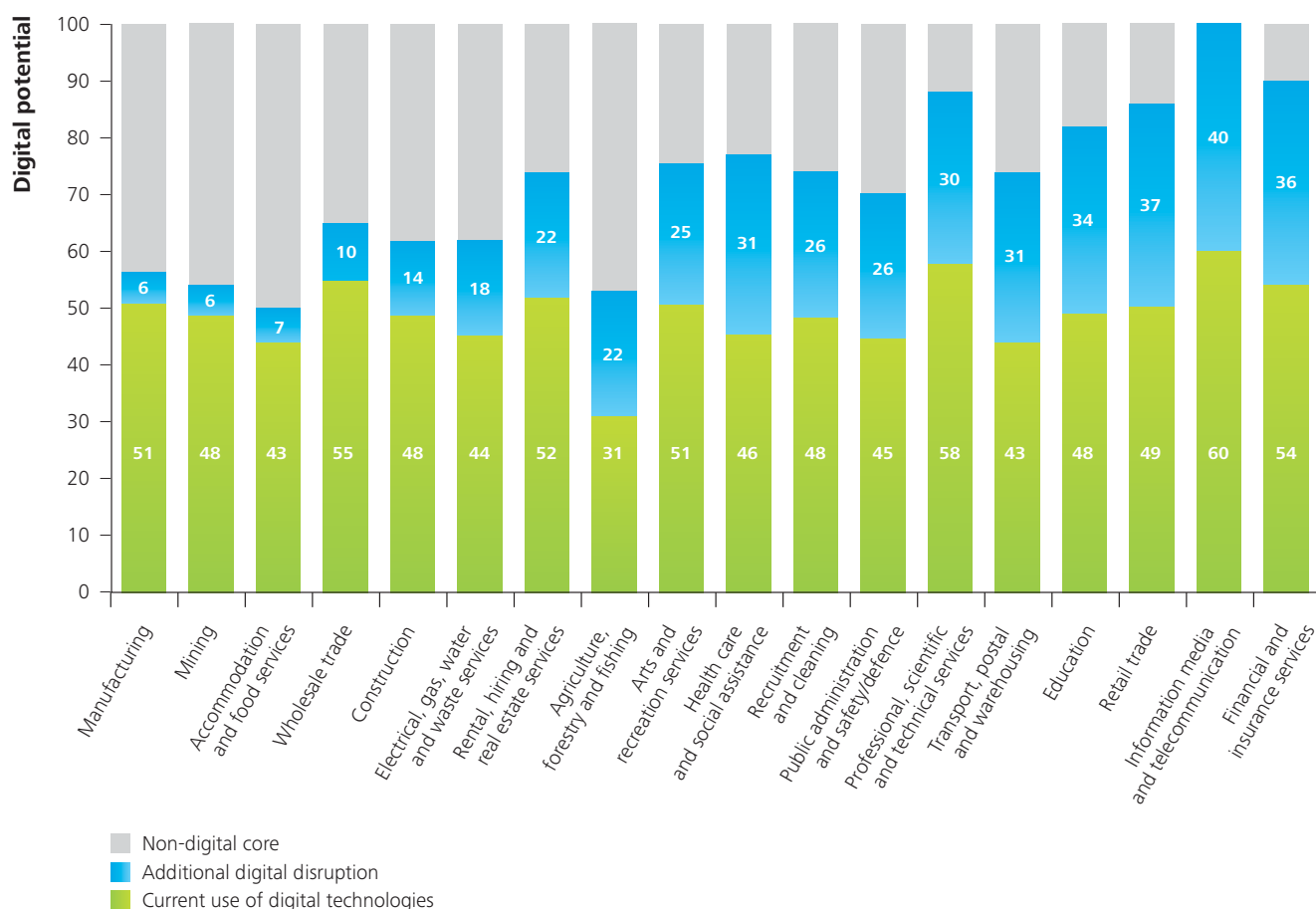
To quantify how digital disruption is affecting the economy, we contrasted the current digital 'intensity' with the total digital 'potential' of various sectors. Intensity is a measure of how much a sector has already been reshaped by digital innovations and how relevant digital technologies are to its operations today. Potential captures the maximum future digital intensity, with the difference between intensity and potential pointing to how much further disruption the sector might expect.

⁷ Tocci, R., *Digital Systems: Principles and Applications*, Prentice Hall, 2006.

In Chart 1, we apply this concept to the 18 major industries within the Australian economy, tracked by the Australian Bureau of Statistics (ABS). It becomes clear that sectors such as financial services, IT and media have some of the highest levels of total digital potential. It's also clear that even though these sectors have already changed considerably due to digital technologies, there is plenty more disruption ahead.

Conversely, we can see that while sectors like mining and manufacturing have relatively low levels of total digital potential, they have already implemented many of the digital innovations available to them. Combined, these two factors mean we would expect to see less digital disruption in those sectors.⁸

Chart 1: Digital: current intensity and incremental disruption



⁸ We would also note that the ABS's approach to classifying sectors is necessarily broad brush, which makes it difficult to discuss some complexities within sectors. The health and social assistance industry (which we refer to as Health), for example, includes enterprises as diverse as hospitals, aged care facilities and childcare services. On the other hand, while tourism includes many organisations with common experiences of digital disruption they are included in separate industry classifications: an airline is in transport; a car hire company is in rental, hiring and real estate; while a hotel is in accommodation.

Deloitte's Digital Disruption Map

In our Digital Disruption Map (Figure 1), we look at the same 18 industries and compare their vulnerability to disruption from two perspectives: the size of the impact and the imminence of change. The map considers the extent to which digital disruption will affect specific industries, plus the timing of that disruption.

To assess the degree of digital disruption for each industry, we considered factors including:

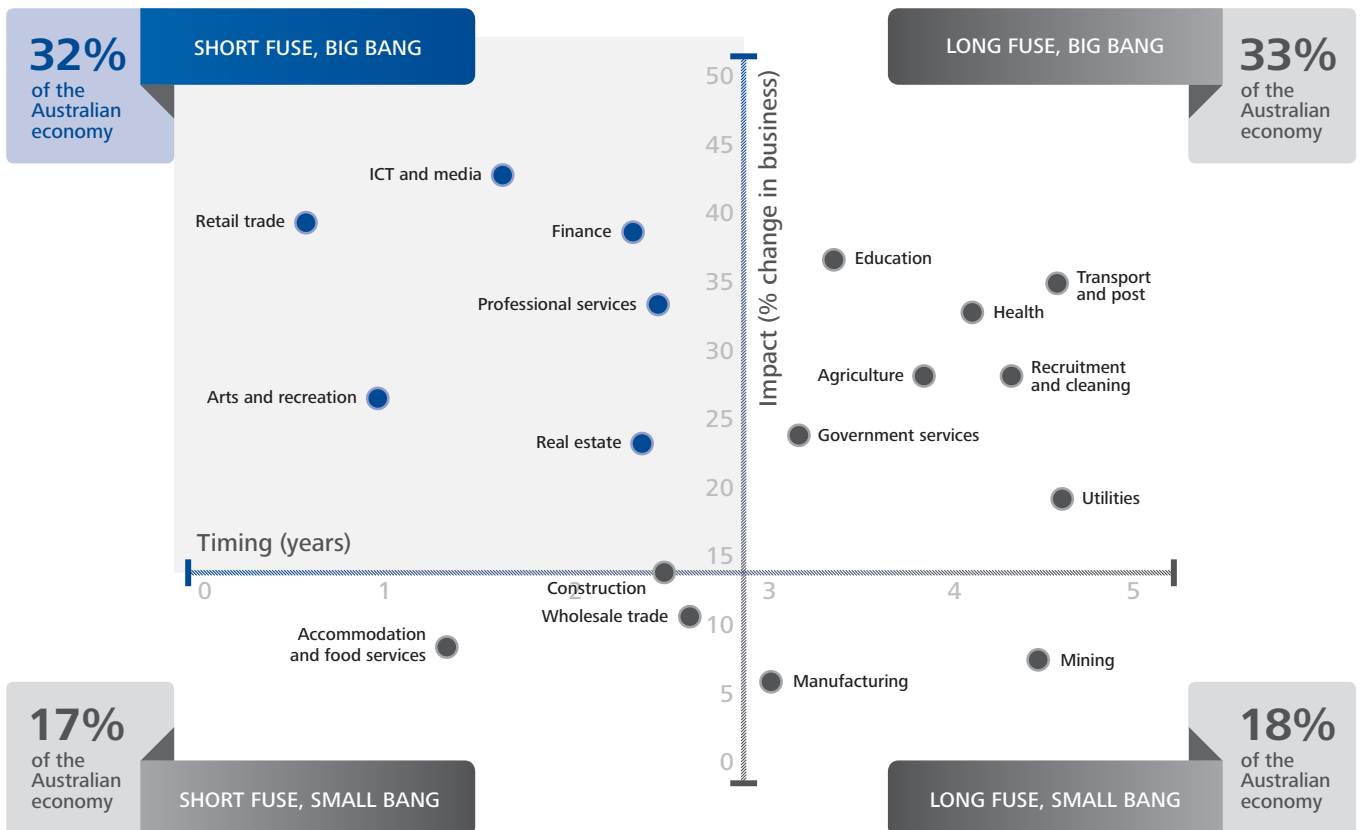
- The extent to which products and services are delivered physically
- The propensity of customers to use digital channels
- The importance of broadband and computing infrastructure in business operations
- How mobile a company's customers and workforce are, and their average age
- The significance of social media and innovations like cloud computing

- How digital innovation might be inhibited by government regulations or other factors.

This gives us a ranking of how different industries will be more or less affected, and whether it will be soon or further down the track. Companies that stand to experience significant digital disruption within the next three years are said to be on a 'short fuse'. Those that can expect major change in four to ten years are on a 'long fuse'.

We then describe the size of the impact, or 'bang', as the expected change in percentage terms across a range of key business metrics. Companies that can expect to see a 15–50 per cent change in their metrics, such as mix of revenue channels or cost structures will experience a 'big bang'. Below 15 per cent, companies will feel a smaller 'bang'.

Figure 1: Deloitte's Digital Disruption Map



As shown on the map, the industries we expect to face both significant and imminent disruption by digital include finance, retail trade, arts and recreation, professional services, and information, media and telecommunications

To put our results into perspective, the sectors that fall within the most pressing 'short fuse, big bang' quadrant comprise about one third of the Australian economy. Those in the long fuse, big bang quadrant represent a further third of the economy, followed by short fuse, small bang at one sixth, and long fuse, small bang accounting for the remaining sixth.⁹

About our approach

Our analysis combines hard data and expert opinions; that is, what the official data sources say and what Deloitte believes will happen down the track based on our in-depth experience, judgement and market knowledge. We recognise this approach isn't precise nor perfect, but it is designed to help business and government leaders think about digital disruption in a granular way.

As shown on the map, the industries we expect to face both significant and imminent digital disruption include finance, retail trade, arts and recreation, professional services, and information, media and telecommunications.

Long fuse, big bang industries that expect significant disruption, but over a longer timeframe, include those where government and large business play a greater role, and where regulation can be expected to slow the pace of change. Education and transport are good examples.

Some of the most profound changes will be felt in sectors like education and health. Changes such as electronic health records and remote diagnosis are already being introduced in parts of the health sector. Over time, we will see these services being delivered in fundamentally different ways.

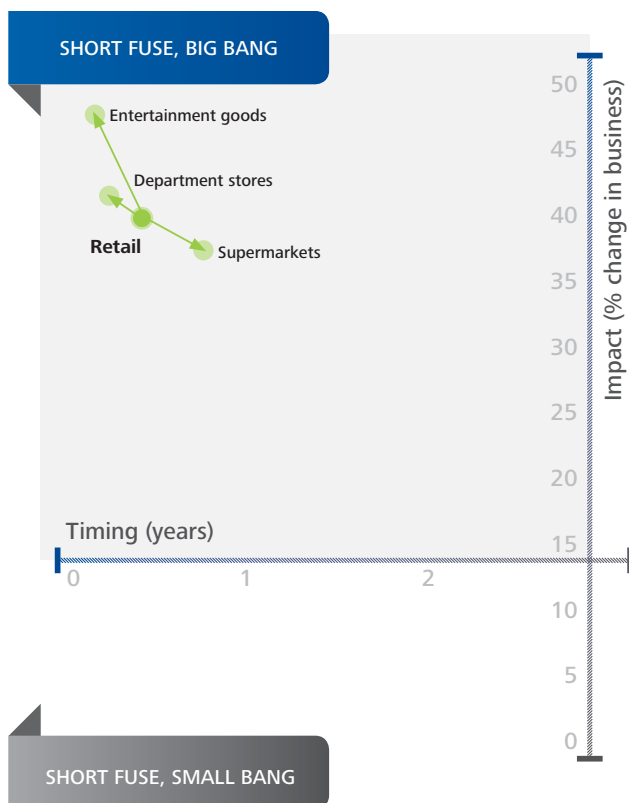
The short fuse, smaller bang quadrant includes sectors such as wholesale trade, which have already experienced considerable change from technology and globalisation.

The long fuse, smaller bang group are those industries that have lower levels of total digital potential and that can expect to see the least additional disruption compared to the changes that have come through in recent years, such as manufacturing and mining.

A detailed discussion of the methodology underlying the map is presented in the Appendix.

⁹ These percentages cover the Australian economy, comprising the 18 major sectors measured by the Australian Bureau of Statistics. They are not a measure of total gross domestic product (GDP), which considers these 18 sectors as well as the value of 'other services' and ownership of dwellings.

Figure 2:
Digital disruption in parts
of the retail industry



Differences within industries

We also considered how digital disruption varies within industries. For example, retail trade businesses generally face a relatively short fuse and an average magnitude of digital disruption. But as Figure 2 shows, there will be differences among department stores, supermarkets and entertainment goods stores, for example.

Entertainment goods stores will face greater and more imminent digital disruption. Department stores will also experience above-average digital disruption, as online retail and globalisation intensify competition. However, supermarkets face fewer direct threats from overseas players, due to the perishable nature of grocery goods and the relatively low value of many items, which means that online sales are still a low proportion of total grocery sales. Even so, as businesses with high transaction volumes, supermarkets should be prepared for significant disruption.

Other dimensions

Of course, disruption has many dimensions other than sectoral – location and size are also important. For example, many bigger businesses have faced relatively more disruption to date, meaning smaller businesses may face more incremental disruption from here on.

There is also a geographic dimension, with some states and cities more or less affected than the average. For example, NSW’s relative strength in the financial and ICT sectors (and its smaller-than-average mining industry) leaves it facing a bigger digital bang and a shorter fuse than Australia as a whole. This is even more true for the Sydney CBD, where almost one in three white-collar workers is in the finance sector.¹⁰

¹⁰ Deloitte Access Economics’ Employment Forecasts publication, December 2011, p. 20.

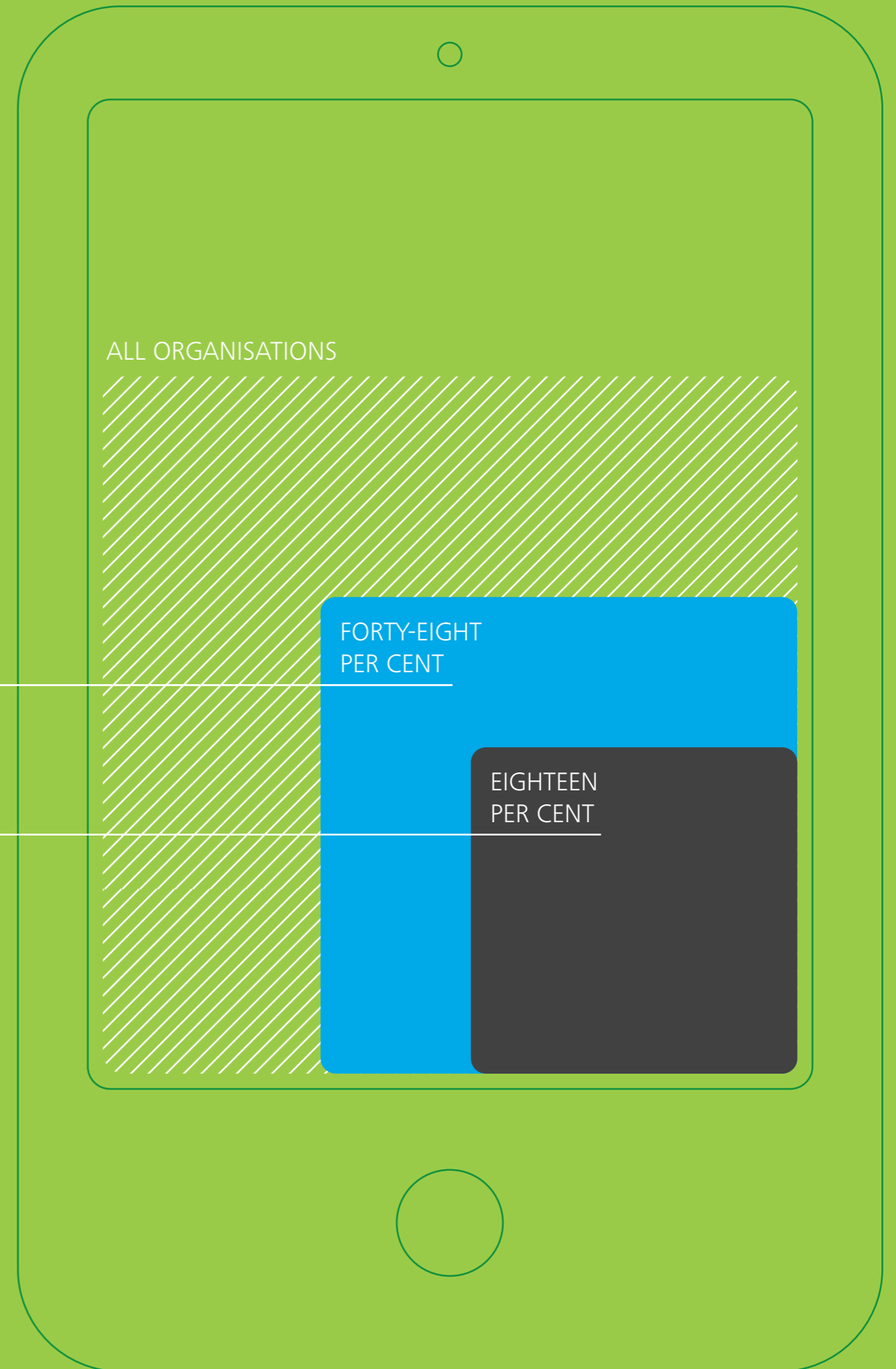
Part II

NEARLY HALF OF ALL ORGANISATIONS
(48%) PLAN TO OFFER MOBILE APPS TO
CUSTOMERS IN THE NEXT THREE TO FIVE
YEARS, COMPARED WITH 18% NOW

Source: Optus Future of Business Report – Research and Findings, 2012, p. 8.

2016

2012



Part II

Responding to digital disruption

Once an organisation arrives at a better understanding of the extent to which digital disruption will change its operations and outlook – and when – the next step is to decide how to respond.

In this section, we outline the three primary responses leaders can implement, both to minimise threats posed by digital disruption and, just as importantly, to maximise their organisation's digital potential. These are:

- **Recalibrating cost structures** – making changes in terms of people, supply chain and overheads to better control costs and compete with digitally-powered, low-cost newcomers

- **Replenishing revenue streams** – building new sources of revenue across segments, geographies and business models as legacy streams dry up in the wake of digital disruption

- **Reshaping corporate strategies** – reconsidering assets, risk and corporate agility to position the organisation for success in the increasingly digital world.

We will explore these responses by delving into their related levers. A company's choice of responses and levers will be governed by how quickly and how significantly it expects to experience digital disruption, and how that impact might vary across its business units.

Figure 3: Levers available to leaders in responding to digital disruption



Recalibrate your cost structure

One of the most profound business challenges posed by digital disruption is that new digital attackers often have substantially lower cost structures than incumbents. A recent study of Australia's retail environment, for example, found that online prices were between 19 per cent and 64 per cent lower than those charged in stores.¹¹

In this environment, large scale can switch from being an advantage to a disadvantage. New digital players are often also well placed to offer superior levels of variety and convenience. To remain competitive, incumbents must recalibrate their cost structures by dramatically rethinking how they approach the three principal drivers of cost: the cost of goods sold through the supply chain; staff costs; and administrative overheads.

The greater the amount of digital disruption in a sector, the more extensive and immediate are the required changes. Fortunately, the problem can often also become the solution given that digital innovations themselves present new ways to cut costs.

1. People

The total cost of people is a major factor for any business. According to the 2011 Deloitte Human Capital Trends report, 84 per cent of surveyed companies were either transforming or planning to transform their human resources functions, with the chief reason being to drive cost savings (85 per cent).

The quality of human capital is also critical. Firms need the best people they can find, and to succeed they need to build the value of people over time. This might be achieved through training and good management or, where the pace of change is great, sourcing staff who can contribute the skills required to remain competitive.

Figure 4: Total cost of people



¹¹ Kierath, T. and Wang, C., Australia Retail: Internet Retailing Boom 2.0, Morgan Stanley Research Asia/Pacific, June 2011, p. 2.

Enhance recruitment

The Internet has transformed recruitment in multiple ways. Online job search engines such as Seek and MyCareer have made it quicker and easier to post positions, and for candidates to search for roles. More recently, the growth of social media networks such as Facebook, LinkedIn and Twitter has increased the ability of companies to promote their employment propositions and find quality people.

Deloitte, for instance, uses these three networks extensively to tap the high-quality networks of its staff and alumni to find candidates. We also use them to encourage candidates to ask questions of existing staff about the experience of working for the firm. This has reduced the money we spend on conventional recruitment techniques by 80 per cent between FY2008 and FY2012, and we've found that candidates sourced through this network-driven approach join more quickly, are more engaged and stay longer.

More broadly, digital HR has shifted the boundaries of the job market. Finding the right person for a job is now less limited by geography, culture or working hours. Smaller organisations are now also better equipped to compete for talent as the cost of promoting roles and reaching prospects falls. But there are also risks that need to be managed. LinkedIn, for instance, provides recruiters and competitors with a powerful tool for searching through the talent within organisations.

Broaden training, knowledge sharing and collaboration

In Australia, businesses spend an average of 1.5 per cent of revenue on training each year. Well-designed online training programs can reduce these costs as courses can be deployed on a wider scale.

Digital innovations make it possible to provide more targeted and flexible approaches to training by reducing workers' attendance of duplicate or unnecessary sessions, and allowing them to complete course elements at home or while travelling. For managers, they can prove to be a handy tool for spotting talent.

Properly segmented, digital business functions can be supported with a defined set of knowledge assets. These assets, ranging from training material to delivery templates, can have associated experts distributed across the company and with partner organisations.

Some businesses are also harnessing their retiring workforce's capabilities through part-time and remote support using mobile solutions. The newly retired engineer, for instance, is able to travel the world for leisure while still contributing a half-day of productive work mentoring younger staff.

Finally, online technologies allow organisations to reinvent conventional ideas of training and information sharing. By using the relatively cheap and easy-to-implement internal collaboration and communications tools now available, companies can increase the exchange of knowledge among staff, foster informal networks and unlock the huge reserves of tacit knowledge residing within the business.

Increase flexibility and worker mobility

Digital innovations offer opportunities to improve staff retention by providing more flexible working arrangements and allowing teams to use their own devices, such as smartphones, tablets and home computers. Companies can in turn reduce office space and travel needs, tap into new models – such as using shared office facilities in locations where they have small teams – and explore ways to give staff more autonomy.

As of the 2006 census, only 6 per cent of Australian workers reported teleworking arrangements with their employer.¹² The Government's objective is to double this to 12 per cent by 2020.¹³ Estimates from Deloitte Access Economics suggest that if 10 per cent of Australian employees were to telework half of the time, the total annual gains from teleworking would be in the order of \$1.4 billion to \$1.9 billion per year.¹⁴

The new mindset is that organisations need to provide core systems that can be accessed by staff, suppliers and others via a wide range of computing devices. While there are security and data cost challenges to navigate, this is often a win-win situation. The business is free to concentrate on providing systems, while staff can use their preferred devices. This approach can be taken a step further by the company itself moving core systems to the cloud, as discussed later in this report.

Operate by remote control

As the data produced by business systems increase and more digital technology is deployed, it becomes possible to control even very complex systems remotely.

For example, miners are managing more machinery remotely from centralised locations; health specialists are delivering services over wider geographic areas; and energy providers are able to manage whole fleets of power stations with precision.

Landlords are also using real time monitoring and automation technologies to fine-tune the operation of their buildings to reduce energy consumption, cut costs, reduce greenhouse emissions and improve tenant satisfaction by addressing issues before they affect occupants.

Access talent offshore

There is significant potential to use digital technologies to access talent in offshore locations for back-office and other tasks. A 2010 Macquarie University study found that 36 per cent of Australian businesses surveyed were already sending work offshore, 21 per cent were in the process of moving some activities offshore, and 12 per cent were discussing it.¹⁵

This isn't just a question of sending work from Australia to low-wage countries either. As we recommended in our first paper in this Lucky Country series, there is a strong case for providing special visas to skilled workers. This was recognised by the Government with the April 2012 announcement that American workers in licensed occupations would be granted immediate access to provisional Australian licences on arrival, and of measures to link Australian employers with skilled US workers.¹⁶

Reconsider workforce management and engagement

The days of leading and managing a group of people that worked and played side-by-side every day are long past. Instead, digitisation gives organisations the opportunity to shift from traditional enclosed, hierarchical workforces to networked and distributed models.

The distributed workforce allows the very best talent to be sourced from across the globe to work in virtual teams. Organisations and operations in remote or less-populated locations that have historically found it difficult to attract and retain talent are finding some reprieve in these workforce-model changes.

12 Analysis of the 2006 ABS time use survey, quoted in Australian Bureau of Statistics (ABS) 2008, Household use of information technology, Australia, 2007–08, catalogue number 8146.0, Canberra, December.

13 Department of Broadband, Communications and the Digital Economy (DBCDE) 2011 National Digital Economy Strategy, p. 40.

14 Access Economics, Impacts of Working under the NBN, 2010, p. 24.

15 Stephen Chen and Hassan Kharroubi, 'The State of Offshoring in Australia: Preparing for take off', Macquarie University, June 2010, p. 2, 7.

16 'Skilled American workers to fill labour shortages', media release, 3 April 2012. www.minister.immi.gov.au/media/cb/2012/cb184743.htm

There are many other associated benefits, such as improvements in the effectiveness and efficiency of collaborations, cost savings from virtual workspaces, diversity and inclusion, and attraction and engagement of new generations of talent. Indeed, in a compensation survey of 1,400 Chief Financial Officers, workplace flexibility was listed as second only to subsidised training or education as the most critical factor in attracting and retaining top talent.¹⁷

In our experience, there are three key considerations that make such a strategy effective:

- **Engaging your workforce:** Without physical contact or proximity to the person, it can be hard to keep staff engaged in your organisation and your work. The key is to know what they are truly passionate about, and to help them nurture that passion
- **Clarity around the work:** Roles and responsibilities should be clearly defined and broadly understood by all team members so that work can be 'parcelled out' and integrated as part of larger projects. Hand-offs between individuals and teams can also be streamlined using collaboration tools

- **Connectivity:** Sharing information, ideas, issues and opportunities is essential for productivity and effectiveness. Communication across a virtual, distributed team is possible when the tools chosen are appropriate for monitoring the balance required between the workforce and the work.

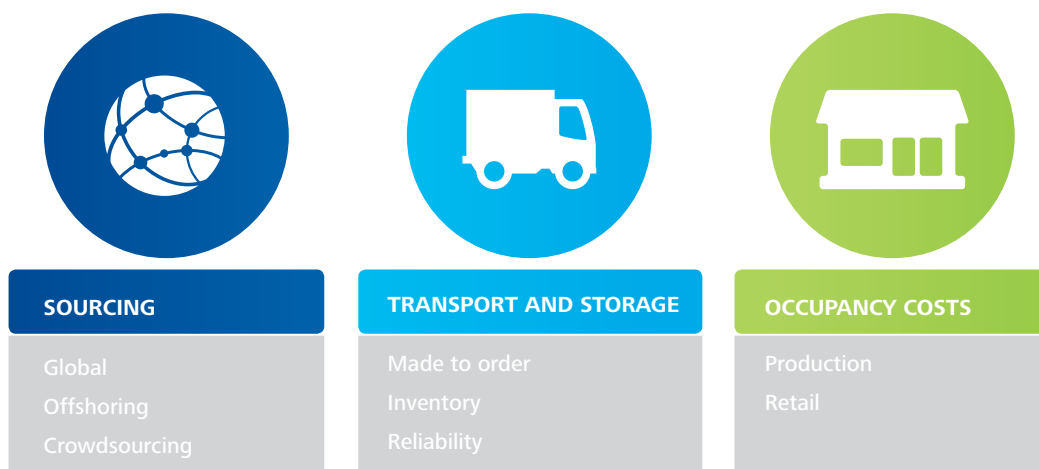
Underpinning these three considerations is a necessary change in mindset. People need to feel comfortable with new ways of working and must be kept engaged, which can be achieved using social media and other communications innovations.

2. Supply chain

Digital innovations make it possible to dramatically lower the total cost of delivering goods and services by reinventing supply chains.

Indeed, the key source of advantage for many new entrants is their ability to cut costs and accelerate time to market, while increasing intelligence and transparency within their supply chains.

Figure 5: End-to-end supply chain



Source: Deloitte Access Economics, 2012.

¹⁷ Robert Half International, 2012 Salary Guide, Accounting and Finance, p. 12.

Improve quality and reliability

Companies can use innovations such as real time monitoring and data analytics to improve the reliability of supply chains, delivery performance and inventory management. A key benefit is that digital tools can be used to collect massive amounts of sensor, telemetry and Web data to fuel predictive analytics, which heuristically find patterns behind stock shortages, geographic demand variances and maintenance needs, and help resolve other complex problems.

Here in Australia, the 1,000-store retail chain Just Group has simplified and accelerated its stocktake process using a world-first, Bluetooth-enabled technology system. This enables it to complete its twice-yearly stocktake faster, reducing the time it needs to keep stores closed. Called RapidStocktake, the solution won *Logistics & Materials Handling* magazine's 2011 Information Management Award.¹⁸

Advances in supply chain technology can affect performance in many other industries as well, from electricity production to the delivery of health services.

Offload costs to partners and customers

Digital innovations make it easier to offload – or at least share – costs with others in your supply chain. There are now many more ways to increase self-service options for customers and to extend this concept to suppliers and other business partners.

On the customer side, business and governmental organisations are cutting costs and improving convenience through websites and mobile apps. Many are also using social media channels such as Facebook and Twitter to enhance customer service.

At the business-to-business level, companies are taking an 'outside-in' approach and opening up their technology systems and data to suppliers and other partners. While this isn't new, digital principles are allowing retailers to partner with financial services providers and logistics companies to offer a seamless retail, payment and delivery experience. The result is much lower transaction costs.

In another example, mining companies are integrating their systems effectively with their engineering, contracting and services partners, greatly simplifying the process of delivering multi-billion-dollar projects. An extension of these ideas is 'crowdsourcing', where organisations seek input from external and often unknown contributors ranging from networks of subject-matter experts to businesses and talented amateurs.

Core to this approach is maintaining – or moving towards – open technology architectures that make it relatively simple to share data or capabilities with others. This includes embracing open technology standards where possible, such as using XBRL for financial reporting. This can enable organisations to become more agnostic about which software systems they use. Another advantage of cloud-based solutions is that they are typically built in line with these open-architecture principles.

¹⁸ 'Australian Supply Chain and Logistics Awards: winners announced', 17 November 2012, <http://www.logisticsmagazine.com.au/news/australian-supply-chain-and-logistics-awards-winner>

Reconsider transport and facilities

New approaches to moving and storing goods have evolved with the digital economy, including advanced just-in-time inventory models. Products can be made when ordered, reducing warehouse costs. For example, Harvey Norman orders beds to be constructed after they are purchased, rather than before.

Occupancy costs are also dramatically lower for 'e-tailers' compared with traditional 'bricks and mortar' retailers. While online-only businesses can have rental cost-to-sales ratios of less than 2 per cent¹⁹, traditional retailers can face ratios around 19 per cent.²⁰ These trends are leading businesses throughout the supply chain to reshape their logistics and facilities requirements.

Source globally

The sourcing of low-cost products from cheaper locations has been turbocharged by e-commerce. In one study, US-based businesses said they cut costs by 19 per cent by sourcing products and materials from cheaper markets.²¹ This process has been made far easier – and more transparent – in recent years with the emergence of online services such as Alibaba.com, which connects businesses and suppliers worldwide.

Review tax structures

Changes in global supply chains affect the location of the key functions, assets (including intangible property), risks, and the taxable presence and allocation of profits across the relevant tax jurisdictions, which creates opportunities for a multinational business to reduce overall tax costs through relocation to lower-tax jurisdictions.

While these strategies can be highly attractive, there are tax complexities to consider in changing a supply-chain model or outsourcing core functions. Direct tax issues can arise, for example, in: determining how the disposal of existing assets is treated; whether there has been a transfer of intellectual property; how outsourcing functions are set up and structured; whether there are any transfer pricing implications; and taking into consideration tax incentives offered by other jurisdictions. Companies need to review supply agreements and answer questions about where business is being conducted and, in turn, the taxable presence of entities and the tax impact on employees arising from outsourcing functions.

A business's indirect tax obligations (e.g. VAT/GST, customs and excise duties, etc.) and the entitlements, incentives and regimes available to it may be significantly different as a result of any supply-chain change. For example, replacing local suppliers of materials, parts, and components with a single foreign supplier will raise a number of indirect tax issues stemming from the cross-jurisdictional movement of goods, such as VAT/GST, customs and excise duty liability on exportation or importation, and the recoverability of the tax incurred.

Irrecoverable VAT/GST and duty, delayed refunds and pre-financed payments will also have an impact on cost base and cash flow. The potential indirect tax compliance burdens associated with registrations, returns and filings, invoicing, maintenance of proper licensing and documentation (e.g. to support exemptions and suspension regimes and the recovery of indirect tax incurred) also need to be understood.

This picture can be further complicated by free trade agreements and withholding taxes (or similar) affecting the true cost of the input. So, while digital innovations may open up many new possibilities, care must be taken to structure them so that they are tax effective.

19 'Retail Rebellion', Andersen Bowe blog post, accessed 19 July 2012. <http://andersenbowe.com.au/retail-rebellion>

20 Zoe Fielding, 'Westfield Appoints Digital Chief,' Australian Financial Review, 1 May 2012. http://afr.com/p/technology/westfield_appoints_digital_chief_xwBjeeEveOrq4XDgMl1jAI

21 'Supply Management Research Reveals the Magnitude of Global Sourcing', Chief Learning Officer blog post, accessed 19 July 2012. See: clomedia.com/articles/view/supply_management_research_reveals_the_magnitude_of_global_sourcing

3. Overhead

HR, IT, finance, real estate and security each generate significant administrative overheads – but these and other administrative operations are being transformed by digital. Administration is one instance in which digital disruption moves beyond business-unit costs and offers opportunities for enterprise-level cost savings.

This section considers a range of ideas for finding these savings. To put them into action, it can be valuable for organisations to first quantify current costs. This can provide a detailed understanding of the overheads they carry now and provide benchmarks to use when considering the value of new approaches.

Move human resources processes online

Above and beyond recruitment (discussed in the previous section), businesses are using digital technologies to move their entire HR processes online. This is being achieved through business-to-employee (B2E) applications that use intra-business networks, allowing companies to reach employees and manage the dissemination of information.

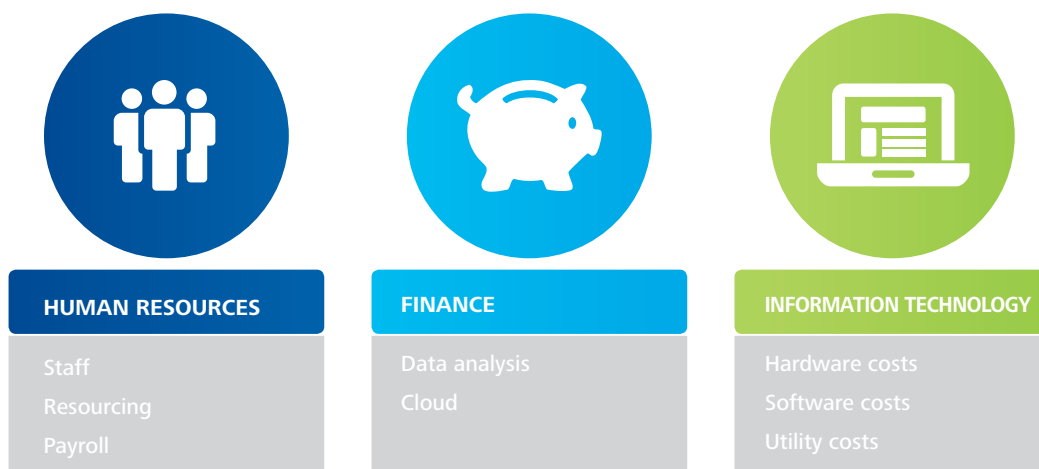
These applications can be used to manage time sheets and remuneration, work planning and resourcing, ordering office supplies and stationery, and managing rosters and leave. There are also new options available for monitoring and feeding back on staff performance in real time, rather than semi-annually or annually.

Consolidate and expand finance

Technology is enabling organisations to reduce costs and increase capabilities by consolidating finance functions across the enterprise. New tools that can be accessed via secure internal networks make it easier for managers to generate reports automatically, rather than requesting them from finance.

Advances in business intelligence, data analysis and visualisation tools are also ensuring these reports are more meaningful and can be delivered fast enough for decision-makers and teams to make changes in real time. Furthermore, better communications – including mobile data – are making external finance expertise or services more accessible. This might include tax and auditing advice or business processing services.

Figure 6: Administrative overhead



Source: Deloitte Access Economics, 2012.

Leverage cloud computing

Cloud computing is joined at the hip to digital business. As business functions are better defined, and aligned to processes and data rather than with enterprise systems, they can be enabled by a wider range of services which don't necessarily reside within the enterprise.

Digital services delivered through 'the cloud' usually start with niche functions, such as expense management, and quickly extend through HR, finance and marketing. They also allow organisations to change the way they work by offering greater flexibility and mobility to workers, making it easier for teams to access services and files through any Internet-connected device.

Cloud-based services make IT more flexible, allowing users to store information, software and shared resources in data centres that are accessible via the Internet. Because they are external, cloud services allow companies to reduce the computing infrastructure they own directly and, in turn, the size of the teams required to manage it. This approach also removes some of the biggest risks associated with building your own IT systems: whether they will work, upfront costs, and write-downs as they become obsolete.

In effect, computing infrastructure is moving from being something that organisations own and manage to becoming an external utility. In the same way that we now use taps connected to water networks instead of digging wells, cloud computing offers a step-change in how we access business technology. This means that only paying for the level for service you need is likely to become a new *modus operandi*. It's also the reason new services like Instagram, the online photo-sharing platform famously bought by Facebook for US\$1 billion, have been able to add up to a million new users a day without melting down.²²

From a tax perspective, whether moving IT functions and computing infrastructure to the cloud gives rise to a permanent establishment in another jurisdiction, relevant for both direct tax and VAT/GST, also needs to be considered. The application of VAT/GST (i.e. on top of service charges made by cloud providers or internal allocations or recharges of costs), and the recovery (or not) of that additional impost, will depend on the jurisdiction and classification of the transaction.

Use open source software

Businesses should explore whether they can cut costs by using open source software solutions, especially where they are 'hosted' externally as a cloud-based service. An example is Drupal Gardens, which is a cost-effective, open source-based website publishing system delivered online.

Open source software is typically cheap because it is developed by communities instead of being 'owned' by a commercial entity, and some applications have become very robust and well supported in the market. However, it can create additional management requirements for organisations, so most use it selectively.

Reconsider your location

An extension of 'cloud thinking' is to move whole business processes and associated teams to alternative locations, within Australia or internationally. Digital technologies greatly facilitate such relocation, outsourcing and offshoring. They can also make it easier to create physical and virtual centres of excellence, optimised in terms of cost and capabilities. One of the powerful advantages many new entrants possess is their freedom to build such structures, rather than being shackled by legacy systems.

²² Matt Burns, 'Instagram's User Count Now At 40 Million, Saw 10 Million New Users In Last 10 Days', TechCrunch, 13 April 2012. <http://techcrunch.com/2012/04/13/instagrams-user-count-now-at-40-million-saw-10-million-new-users-in-last-10-days/>

However, companies may encounter regulatory and tax issues when moving to centralise or move support and administration through shared services entities. These changes can raise questions about where workforces are located and create associated tax implications for employers and employees. If the function being outsourced or offshored is a core function of the business, it may have a 'high value' element to it, which could raise issues around the taxing of intellectual property. Service charges or internal allocations or recharges of costs associated with such movements may also attract VAT/GST.

Embrace mobility

Mobility in the hands of customers is a much-discussed subject, but mobile commerce goes much further. In fact, mobile commerce is far more mature and proven in business-to-business (B2B) areas, such as field force and supply chain automation.

The opportunity to drive down administrative overheads exists across all enterprise functions, including HR, IT and finance, as well as marketing, supply chain and customer care. It also applies to all application types: transactional, analytical, and social and collaborative. Placing transactional and data capabilities in the hands of employees through mobile devices, for example, can make them more efficient and effective. In fact, many are moving ahead of their IT departments by bringing their own devices to work.

For some companies, more radical improvements may be achievable through machine-to-machine (M2M) capabilities. This can go as far as removing the requirement for human intervention altogether, and presents an extreme case of transaction cost reduction. To take advantage of all of the opportunities that mobility presents, companies need to put strategies in place that consider all of the interactions occurring in the B2B, business-to-employee (B2E) and business-to-consumer (B2C) dimensions of their business.

Cut marketing costs

When it comes to marketing, digital technologies enable many ways for organisations to cut marketing and advertising expenses and move towards more measurable marketing channels that can be scaled in line with campaigns and business imperatives. Instead of large upfront investments in television ads and other major pieces, or paying fees to middlemen, organisations are launching a wide range of smaller and relatively low-cost digital campaigns through search engines, social media and other digital channels.

Aggregation and analysis of market and customer data is revolutionising the product development process, enabling goods and services to be tailored to the needs of individual consumers and organisation. Data analysis is now enabling granular market segmentation and precision targeting as never before, delivering on the long-held promise of the 'market of one'. With the Chief Marketing Officer in some categories spending more on technology than the Chief Information Officer, the centre of marketing gravity is shifting, and cost optimisation through technology and data literacy have now joined strategic thinking and creativity as pre-requisites for marketing success.

In the following section, we examine the opportunities that the increasing trend of personalisation presents.

The opportunity to drive down administrative overheads exists across all enterprise functions, including HR, IT and finance, as well as marketing, supply chain and customer care

Replenish your revenue streams

The agility and cost advantage of digital competitors can threaten incumbents' traditional revenue streams. However, digital innovations also open up opportunities to generate new sources of income. The key challenge is to replace the lost legacy revenue streams as they disappear, thus avoiding a performance gap.

The more exposed an organisation – the shorter its fuse and the bigger its bang on our Digital Disruption Map – the more quickly such gaps will open up and the more market pressure it will feel. By opening up new avenues for business improvement, digital innovations allow organisations to target new customer segments and product areas. Companies can also reach new geographic markets interstate and overseas, and can even introduce radically different offerings under whole new business models.

An important principle here is to allow customers and employees to take organisations to new and perhaps unexpected places. For example, with the arrival of services like Napster, consumers showed a desire to download music. While incumbents sought to stop this completely through litigation, Apple saw it as an area of unmet demand and developed legally acceptable products through its iPod and iTunes businesses.

This type of change should be expected in many sectors, including those that seem impervious. For instance, a seemingly innocuous innovation such as online services that make it easier for individuals to share cars – or travel together – may come to challenge the traditional place of the taxi and shuttle bus industry.

4. New segments

One of the great benefits of the Internet and other digital innovations is that they make it easier to move into adjacent product and customer segments. For many businesses, a particularly compelling opportunity is the ability to offer new products to current customers more readily.

The sale of niche products like obscure books and specialised music is a good example of this trend. Whereas traditional retailers might have been limited in their potential to reach customers, search engines and highly targeted, low-cost online advertising have made new segments accessible.

These tools will only become more powerful. As people become more comfortable with the use of the data, businesses will increasingly use data collected by functions such as map searches and email to deliver more relevant information and advertising to potential customers. Mobile phone network operators are also offering businesses more opportunities to capitalise on information about consumers' locations.

The following three strategies can help companies reach new customers and sell more products to existing ones.

Personalise product and service offerings

Digital connectivity has disrupted the way buying decisions are informed, when they are made and how they are transacted. Global accessibility, peer-to-peer learning, self-education and comparison shopping are all easily available to consumers. A confronting trend for retailers is watching customers using their smartphones to search for competitive prices while standing inside their stores.

In response, leading organisations are allowing consumers to connect, design and configure products to their unique personal preferences. At face value, this can be intimidating and even frightening, leading to ever-multiplying product stock-keeping units, diseconomies of scale and supply-chain chaos.

The art of using social media to grow revenue lies in fostering exchanges that directly support sales, or that deliver value back to customers in terms of information, service or the ability to shape future products and services

On closer consideration, however, the perception of personalisation is delivered through more sophisticated use of marketing's 'Four Ps':

- The placement of products within the right physical and digital channels to best connect with consumers
- The presentation of products in a manner that highlights the attributes most relevant to customers' needs
- The promotion of products at the right time and in a style of conversation that best appeals to customers' emotions and desires
- The pricing of products according to their attributes and those of customers.

The application of advanced data analytics translates each customer interaction into a story of customer behaviour that can be used to hone product, sales, marketing and service strategies. This is being coupled with advancements in cloud-based computing, marketing automation, real time decision-making technologies and social media interactions to reinvent and personalise customer propositions and experiences.

Differentiate pricing through product bundling and versioning

Product bundling and versioning centres on producing different models of products and selling them at varying price points and as part of different packages. The business is typically attempting to attract higher prices based on the value a customer perceives. These sorts of 'quality discrimination' approaches have been around for some time, so what's different now?

Digital disruption is being felt in the improved ability of consumers to 'unpick' the perceived value of a product bundle or proposition, owing to the greater amount of information that is now at their fingertips. Transparency, authenticity and relevance become the key criteria for knowing when and where strategies like product bundling and versioning will have an effect. Taking a sophisticated approach to bundling or versioning now requires an understanding of consumers' buying patterns and an in-depth insight into the consumption patterns and behaviours surrounding discrete product attributes.

Redefining the bundling proposition beyond technical attributes to include 'product and service design' is gaining considerable momentum in differentiating between commodity and value-based pricing. The science of 'big data' customer analytics can also be combined with design-thinking approaches to identify the unmet value proposition that consumers are willing to pay for.

Leverage social media

Social media services are powerful tools for developing online communities that can help to reinforce and grow a business. The reach and power of brands is also amplified when customers use these networks to discuss products or share their buying and service experiences.

By its nature, the environment of social media is a difficult one in which to sell products too overtly, or even to deliver advertising in an effective way. However, it allows organisations to foster conversations between staff and customers, between customers themselves, and between both groups and prospects.

The art of using social media to grow revenue lies in fostering exchanges that directly support sales, or that deliver value back to customers in terms of information, service or the ability to shape future products and services. It is, in effect, the new 'word of mouth' and the aim is to support and grow advocates.

Telstra, for instance, has capitalised on this by creating its CrowdSupport service. This is a subsection of its website where customers can post queries about the telecommunications company's products and services and have them answered by both Telstra staff and other customers.

From a marketing point of view, social media services are the next frontier of targeting. They allow businesses to interact with consumers and prospects directly, and to put forward highly tailored offers at low cost. Messages and offers can also be targeted to particular demographics, or to specific Internet users based on their browsing habits. This allows for far more granular segmentation than marketers have traditionally enjoyed.

The challenge with social media is not whether companies should seek to leverage it, but rather how to do so to the greatest effect. The 'ticket to play' is having in place the right listening mechanisms at an operational level to manage customer service issues, and brand reputation risk, and equally to recognise positive feedback for improved customer retention and revenue protection.

More advanced organisations are going one step further and undertaking rich social media analytics to lift these listening insights to a strategic level, informing new product design, product optimisation, channel optimisation and even identifying new and niche markets for incremental revenue growth.

But listening is a one-way street. Where authenticity and trust are critical to success, the most fearless organisations are using social media to invite their consumers not only to co-create in product and service design but to do so as co-investors; providing transparency and visibility to financial data and product performance that allows consumers to contribute proactively and then share in the benefits of revenue growth.

5. New geographies

The reach of the Internet and its ability to be used for targeting specific customers make it a unique and powerful platform for advertising, selling and delivering goods and services well beyond traditional markets and geographies.

One of the key changes for many businesses today is that the notion of 'where' business is done is shifting. For retailers, it's shifting from the physical world of shops in specific locations to serving customers nationally and internationally using online channels. Even then, the exact 'location' of transactions is shifting from traditional websites to social media networks, and from consumers who use fixed connections to those using mobile devices.²³

Education is another good example, because online channels can be used for service delivery and not just marketing. For instance, the elite American universities Harvard and MIT recently announced a US\$60 million partnership called edX, which will see them deliver some courses online, for free. The University of California, Berkeley is also joining. Given those institutions charge up to US\$200,000 for a full degree, this is a significant change in direction. Their aspiration is reportedly for edX to have one billion students.²⁴

23 For further discussion of these trends and particularly how the use of payment systems is changing, see *The future of exchanging value: Uncovering new ways of spending*, published by Deloitte Australia in 2012.

24 Darrow, Barb, 'MIT and Harvard say open-source edX can educate a billion people', 2 May 2012 at <http://gigaom.com/2012/05/02/mit-and-harvard-say-open-source-edx-can-educate-a-billion-people/> and 'UC Berkeley joins edX', news release issued 24 July 2012 at <https://www.edx.org/press/uc-berkeley-joins-edx>

Business leaders must also recognise that much of the growth in global markets for goods and services is shifting from the traditional Western economies led by Europe and North America to emerging markets. According to one leading forecaster, annual consumption in emerging markets – including Africa, Brazil, China, India and Indonesia – will rise from US\$12 trillion in 2010 to US\$30 trillion in 2025.²⁵

Put another way, the number of people in the world with enough discretionary spending power to be regarded as ‘consumers’ will rise from 2.4 billion today to 4.2 billion. The vast majority of those new consumers will be in markets that are today regarded as ‘developing’.²⁶ Moreover, those future consumers are mainly young people who are growing up with digital technologies.

If Australian companies are to remain relevant and competitive in this changing global landscape, it will be critical to be competent in digital innovation and active in seeking new markets, both in terms of virtual network environments and physical geographies.

Pursue digital marketing strategies

As discussed throughout this paper, organisations can use online advertising, email marketing and social media to reach new markets for their offers and to increase awareness of their products and services.

When preparing these digital marketing strategies, companies must consider their distribution and supply chain strategies. Being able to deliver products or services on time and for the right price will be the ultimate determinant of a company’s ability to go beyond its existing geographic boundaries.

Become a platform for innovation

The online environment is more than just a marketing and distribution platform. It is the cornerstone for new forms of business. The Holy Grail of online business is to make your organisation a platform for wider value creation within larger digital ecosystems that extend well beyond traditional geographies, and in ways that enable it to collect revenue.

Among the best-known examples is Apple, which has made its mobile devices and iTunes online store a platform through which application developers, entertainers, authors, educators and others can sell their innovations. This is an example of a highly ‘curated’, or controlled, environment. Other well-known platforms include the Google marketplace for Android applications and the burgeoning Amazon.com network.

This strategy is conscious within companies like Amazon. CEO Jeffrey Bezos wrote in a 2011 letter to shareholders: “Invention comes in many forms and at many scales. The most radical and transformative of inventions are often those that empower others to unleash their creativity – to pursue their dreams.”²⁷

There are also examples emerging within Australia, such as the way telecommunications companies like Optus are expanding their digital content and services offerings, how GraysOnline has created a new marketplace with its auction service, and in the Commonwealth Bank’s plans to introduce point-of-sale payment terminals that support software applications created by third parties.²⁸

We are also seeing the emergence of more niche online marketplaces, such as the locally-founded 99Designs for connecting designers and clients, and Envato for buying and selling digital products.

25 Yuval Atsmon, Peter Child, Richard Dobbs, Laxman Narasimhan, ‘Winning the \$30 trillion decathlon: Going for gold in emerging markets’, Executive Summary, McKinsey & Company, 2012, p. 6.

26 Atsmon et al, *ibid*.

27 Excerpted from the ninth paragraph of a 2011 Amazon.com letter to shareholders entitled, ‘The Power of Invention’ filed on 13 April 2012 as part (Exhibit 99.1) of a Form 8-K filing with the Securities and Exchange Commission.

28 Commonwealth Bank media release, ‘World-firsts in technology change the game for businesses and consumers’, 17 July 2012.

6. New business models

Digital offers the potential to create business models built around capabilities that may not have existed even a decade ago. Some of the digital innovations explored below are enabling entirely new business models and in turn opening up new revenue streams. Not surprisingly, many of these centre on the powerful combination of mobile devices and broadband data services.

Leverage mobile devices

Businesses can reach customers in new ways using applications that appear on their mobile devices, such as the apps offered by Coles and Woolworths to help grocery shoppers, or niche loyalty applications such as eCoffeeCard for capturing coffee purchases at cafes and storing them in your mobile phone.

In addition, payment systems are migrating to mobile phones and other portable computing devices. 'Virtual wallets' that allow users to swipe their mobile phone to make a payment in a shop, or get on a bus, offer a high level of convenience for customers. While their introduction depends on investment and coordination among finance firms, device manufacturers and retailers, they can be expected to grow quickly in Australia. They will also drive increased pressure for financial institutions to support real time funds transfers.

Whether companies have an existing e-commerce platform or are starting from scratch, it is important to develop online assets that will work effectively across computer, tablet and smartphone platforms. Leaders should also step back and look at their business models; simply replicating an existing business on a mobile platform may mean missing larger opportunities to review the entire value chain and identify the real underlying capabilities of a business.

Exploit location awareness

Thanks to GPS and the way cellular networks function, smartphone users can now pinpoint their location. So too can their carriers and, with the appropriate permissions, other businesses. This is opening up dramatic new business possibilities to drive revenue and launch new business ideas.

Location-based services (LBSs) use a set of computing capabilities to deliver content and functions that are relevant to the user's location. The most popular examples in use today are social media platforms such as Foursquare, and mapping functionalities that enable the user to find the nearest ATM or restaurant.

LBSs can be used to deliver functionality and content in a more relevant and useful format to consumers. Further, as part of a company's value chain, they can help to optimise resource usage (route optimisation is a common example). In turn, they present the opportunity to create new business models.

Car manufacturers, for example, have deployed LBSs to provide in-car monitoring, anti-theft functionality and driver-related information, such as traffic data. Now they are considering how the same systems can be adapted to transform the motor vehicle into an advertising and content-delivery platform.

Deliver services through the cloud

The cloud isn't just about increasing efficiency; it is also about supporting brand-new business models. As some companies look to spin out non-core functions, new opportunities arise to bring together previously uneconomic capabilities.

For instance, innovators are looking to harness intellectual power distributed globally through 'question and answer' services, while others are disrupting business-supplier relationships by commoditising relationships. Sites like Spotify.com have introduced a whole new model for distributing music and garnered millions of users worldwide. Indeed, it's likely that the most disruptive cloud services haven't even been thought of yet.

Introduce new pricing strategies

As digital allows businesses to emerge with radically different cost-bases, it is natural that we will see new pricing models. Take an information business in the digital economy: where information is formed through bits, and the cost of distributing bits is near zero, the ability to charge scarcity prices is diminished.

As Chris Anderson's book, *Free*, argues, "if 'price falls to the marginal cost' is the law, then free is not just an option, it's the inevitable endpoint."²⁹ Of course, there is often still a sizeable sunk cost of production that needs to be recovered. What emerges are multiple variations on the theme of 'freemium', whereby content and other elements are given away for free, and money is made indirectly from the community that the 'giveaway' creates.

Price innovation in the face of digital does not mean giving everything away for nothing, but it does mean creatively pursuing indirect mechanisms and cross-subsidy avenues to reap the benefits of the new digital economy.

Expand your capacity to innovate

Australia has historically been very good at certain aspects of innovation. However, we tend to do our best technological innovation from within organisations but fail to recognise its greater value or see it as irrelevant to the core business. Further, we often suffer a lack of scale to pursue conventional venture capital models. While many Australian businesses define themselves as 'fast followers', our lack of rapid and scalable innovation makes it more challenging to keep up when external disruptive innovation reaches our shores.

Digital offers solutions here by allowing individual pieces of value to be more easily spun out, and expanding innovation and funding options for organisations. Online systems are enhancing organisations' ability to accelerate innovation internally, and to gain input from external experts. For instance, firms are using wikis and other knowledge-sharing and collaboration tools to accelerate discussions and develop ideas.

Externally, organisations are seeking ideas and even funding from 'the crowd' – outside and typically unknown experts, including customers and partners – by asking questions in relatively public environments. For example, pharmaceutical groups can post challenging questions on the InnoCentive online service. If a person provides a solution, the company rewards them with cash.

Entrepreneurs are also increasingly able to post ideas for new business ventures online and receive funding from potentially large numbers of supporters and investors. In Australia, these include crowd-funding sites such as Pozible, iPledg and Kickstarter, which are challenging traditional funding models and regulations.

These funding approaches might not seem relevant to large corporations, but we believe the concepts can usually be applied. The most important is that in the fast-moving and often unpredictable digital arena, there is value in seeding a range of small bets, seeking input from a wide range of sources and then scaling up those investments that gain traction.

Reshape your corporate strategy

Business leaders will also need to review their corporate strategic posture in light of digital disruption. They need to ask enterprise-level questions about: what new investments they should consider and what legacy assets they need to divest; how they can manage new risks across the organisation; and how they can make their companies more responsive to the changes digital is creating. Simply put, they need to create a new company that has a chance not only to survive but also to thrive in this new world.

²⁹ Chris Anderson, *Free: How Today's Smartest Businesses Profit By Giving Something For Nothing*, Random House Business Books, 2010, p. 173.

The notions of timing (fuse) and impact (bang) highlighted in our Digital Disruption Map become critical here – the more immediate and significant the digital disruption, the greater the effect on asset prices

7. Asset mix

Digital disruption is shifting the sands of the profit landscape. Value is migrating and business leaders aren't always sure if they're experiencing short-term cyclical change or long-term structural change. What is clear is that many legacy assets are losing value and there is a widespread need to invest to capitalise on new, digital-related opportunities.

More subtly, companies are developing new digital value in their supply chains and processes. For some, these changes will force them to rethink the very nature of their core business.

Divest legacy assets

There may be narrow windows of opportunity to divest certain vulnerable assets before the market decimates their value. If the fuse is too short, that window may have already closed. Indeed, most leaders are surprised at how quickly market changes strike.

More generally, to remain competitive, businesses may divest legacy assets that will be – or are already being – superseded or made redundant by new technologies and digital innovation. These might be physical or intellectual property assets, or whole businesses. The notions of timing (fuse) and impact (bang) highlighted in our Digital Disruption Map become critical here – the more immediate and significant the digital disruption, the greater the effect on asset prices.

Among the most obvious assets that should be reviewed are 'bricks and mortar' facilities. Bookstores, department stores, travel agents and DVD rental outlets, to name some examples, are all acutely aware that their customers have been moving online for some time. They're now facing difficult decisions about what assets they should let go, and whether they may have left it too late to sell at strong prices.

The impact on real estate extends well beyond retail. The ability to relocate labour nationally and internationally is reshaping the office market, the improved ability to telework is affecting residential markets, and changes to supply chains are driving major changes for providers of logistics and warehousing facilities.

While some business categories will remain fairly protected – such as food court operators or health care providers, which retain a strong link to physical locations – there will be many others that find digital disruption radically changes their real estate needs and investment strategies. For instance, document storage companies are likely to be divesting physical space but investing in electronic storage capabilities and processes.

In industries such as entertainment and media, digital technologies are having a significant impact on legacy content-distribution operations. What were once integrated businesses are now finding that there is inherent value in the content side of businesses – news, films, TV shows and so on – but their distribution assets are vulnerable. These less-essential assets include cable TV networks, printing facilities and transmission towers.

Marketing assets should also be considered. For example, the value of catalogues or billboard locations may decline as consumers look online for coupons.

At the highest level, business owners should review the current and projected value of their companies and ask whether that value is growing or declining as digital innovations grow and competitors introduce new models. If it is declining, they will face difficult decisions about whether to sell out or invest to catch up. This can be particularly important for owners approaching retirement who may hold unrealistic expectations about the value of their businesses.

Invest in new capabilities and make acquisitions

While some assets may lose value, new investments in digital-fuelled, higher-growth markets can create shareholder value and help balance business portfolios. These won't always be distinct assets, such as buildings. Instead, they will often be: investments in supply chains and business processes; strategies that find a balance between developing capabilities in-house, buying off the shelf and acquiring businesses; and investments in people and organisational culture.

Capturing new value created in the digital economy will depend on the ability of companies to develop strategies that bring consumers closer.

For this reason, businesses need to focus their technology investments on enhancing processes and building their capacity to anticipate and respond to rapid changes in consumer behaviour. This is consistent with the view that consumers are driving the digital economy, and that further technological advances and social trends will continue to tilt the balance of power towards them.

Another capability inviting investment is data analytics, due to the increasingly greater potential to capture and gain value from information about customers, operations and other factors.

Even in a sector like mining, which is less directly exposed to digital disruption, there is substantial opportunity to build value by investing in productivity-enhancing technologies. The Australian mining technology, service and equipment industry had revenue of \$86 billion per year in 2010–11 thanks to the support it provides to Australia's mining capability.³⁰

There will also be digital investment opportunities adjacent to technological developments. An example is clean energy. As machine-to-machine technologies foster the growth of environment-related industries like sensory and smart networks, there will be major investment opportunities.

Consider tax opportunities

How a company funds or restructures its business (i.e. with debt or equity) raises a number of tax implications, but it is important to remember that the transaction will need to be based on a commercial objective and not for the dominant purpose of obtaining a tax benefit, which could see any benefit denied.

Changing the asset mix essentially looks at the ratio of physical and digital assets and any change in either of these types of assets may lead to different tax considerations.

A major benefit of a business moving its assets from physical to digital may be a reduction in the maintenance of (often large) tax-depreciable asset registers. For example, the tax implications of a business shifting the majority of its IT infrastructure needs to the cloud may turn hefty capital expenditure, maintenance and depreciation into deductible expenditure in the form of possible service fees that may be deductible, or royalty payments that could be subject to royalty withholding tax. As mentioned above, however, the service fees or any internal allocations or recharges of costs associated with the shift to the cloud may also be subject to VAT/GST.

However, simply changing a business's asset mix may not be enough to ensure competitiveness. A company may also need to consider the best location in which to operate in terms of research and development (R&D) and other tax incentives, and whether shifting to a cloud-based model would change where the business was taxed.

Cloud-based business models will affect the collection and payment of transaction-based taxes such as VAT/GST. The classification of the particular cloud offerings (i.e. as goods, services or anything else, or a combination of these) will drive the VAT/GST treatment. In a global supply chain, this would be particularly complicated by a necessary evaluation of the location of the cloud business and relevant taxing jurisdiction, and 'end-user' and 'use and enjoyment' aspects. Complications may also be presented by different payment models for the cloud and differences in B2C and B2B deployment. However, the VAT/GST treatment of the cloud is uncharted territory for most tax authorities. In Australia, the Australian Taxation Office has not yet made any definitive pronouncements on the GST classification issues and how Australian businesses should be dealing with these in a global environment.

30 Ed Shann, *Maximising Growth in a Mining Boom*, Minerals Council of Australia, 2012, p. 22–23.

8. Risk management

In the digital context, risk management needs to encompass the business risks presented by: new production, distribution and marketing approaches; concerns about cyber-security in a data-centric world; and, critically, the often overlooked risk of inaction.

When companies consider all three of these types of risk – business, technology and crime, and strategic – it becomes clear that there is a need to move to new and agile risk management models better suited to the digital era. Like the digital environment itself, these will tend to be capable of gathering and gaining insights from data in real time, and be designed to anticipate and quickly respond to issues that may be hard to predict.

Recognise the danger of inaction

It's vital to recognise that when it comes to digital disruption, the biggest risk may in fact be doing nothing at all. Because risk-management systems are typically geared towards considering the potential downsides of proposed courses of action, they can often fail to capture the risk of inaction and can be left behind as the world moves on.

This demands nothing short of a new approach to risk. The speed of technology change and its adoption by individuals, businesses and governments – mean that reliance on annual compliance-based risk approaches – or standardised processes and methodologies using historical evidence or metrics – can actually leave a business exposed.

Risk management approaches need to be rethought in order to offer flexible and scalable frameworks to meet different types of risk in real time. Businesses also need to consider how digital disruption can be appropriately managed to provide opportunities for growth. Rather than shutting down social media as a potential risk, for example, organisations might choose to use it as a way of engaging staff, airing difficult topics in a safe environment, taking the pulse of the organisation, reducing research costs or better connecting to clients and markets.

Consider business risks

The business risks that companies can and should consider include: damage to corporate reputations arising from social media campaigns; financial risks from portfolio decisions; competitive risks from new entrants with innovative business models; and economic risks arising from the way digital innovation may change business cycles.

As discussed elsewhere, substantial changes to the way a business operates – particularly in terms of its workforce and supply chain – can raise significant tax implications. From this perspective, it is critical to have appropriate reporting processes in place that can track the status of transactions from order to delivery so as to account for revenue and expenditure correctly, especially across borders. It can also be challenging to ensure that reporting obligations are met on a timely basis with all relevant regulators.

Major tax risks, such as that of transfer pricing adjustments resulting in double taxation of the same revenue, can usually be proactively managed through advance agreements with relevant tax authorities. For innovative supply chains, such agreements can mitigate the risk that authorities will review and adjust tax outcomes several years down the track.

Any significant business change should also be accompanied by a review of governance materials, particularly if there are changes to the organisation's operations, strategy or overall corporate direction. For example, introducing a new digital sales channel requires both new IT and operational processes, and new financial controls. It is also likely to affect a wide range of internal and external roles and relationships.

It's vital to recognise that when it comes to digital disruption, the biggest risk may in fact be doing nothing at all

Invest in security

Digital systems cannot operate without security. It's essential for organisations to take a structured and risk-based approach to managing this issue, and to recognise that the need to secure data is an unavoidable administrative overhead that comes with operating in the digital marketplace.

The cornerstone of delivering security is to have a clear understanding of the information you hold and use – including customer, employee, third-party and intellectual property data – and what value it would have in someone else's hands. You then need to consider how to hold those data. Will core information be held by you, or can other organisations hold it on your behalf?

The payment card industry originally issued the PCI Data Security Standards in the wake of repeated credit card information leakages. This firmly established the notion of encrypting sensitive data and/or using tokenisation to replace elements of sensitive data to protect consumers. It also helped drive the growth of third-party businesses that specialise in managing information. These precedents continue to shape secure data approaches; it's important, however, to recognise that you can outsource data management, but not risk.

Guard against cyber threats

The most obvious risk heightened by digital innovations is cyber-security. Fifty businesses participating in a 2011 study on cyber-crime experienced an average of more than one successful cyber-attack per company per week – a 44 per cent increase over the rate experienced in 2010.³¹

BAE Systems Chief Information Officer D. Michael Bennett has commented: "Three related trends in information management are combining to create a perfect storm for information risk management: (1) the blurring of the lines between business and personal use – both increasingly supported by the same devices; (2) the invasion of security-indifferent consumer devices into the workplace; and (3) the rising demand for more IT support, with less specificity around requirements and a greater demand for lower IT costs".³²

The pace of digital change therefore needs to be matched by security improvements to protect valuable customer, employee and intellectual property data. This requires strong control policies and mechanisms, layered defences, sophisticated monitoring capabilities and training procedures. It also means being prepared and having contingency plans in place should things go wrong.³³

The costs and risks associated with security incidents are substantial and growing – a 2011 study found a median annualised cyber-crime-related cost of US\$5.9 million among participating businesses, an increase of 56 per cent over the previous year.³⁴ It should also be noted that not all losses can be recovered; for instance those related to company perception in the case of website defacement.

9. Capacity to act

Enterprises stand to gain from digital disruption if they can identify key trends, minimise losses from threats and build new value through smart investments. But this requires a capacity to act – or corporate agility.

Being agile is about a willingness to make decisions and mobilise quickly. It's about fostering an organisational culture that values innovation and in which people are responsive to change. It's about tolerating failures as teams try new approaches, and as Clayton Christensen and others have noted, it often requires organisations to support innovative business units to overcome the inertia that can come with incumbency.³⁵

31 Ponemon Institute, Second Annual Cost of Cyber Crime Study, Benchmark Study of U.S. Companies, August 2011, p. 1.

32 Quoted in The Wall Street Journal, 'The View From the CIO's Office: Three chief information officers talk about how they deal with some of their most difficult problems', by Michael Totty, 2 April 2012.

33 For more information, see 'Evolve or Fail', a paper by Ted DeZabala and Irfan Saif of Deloitte USA, and George Westerman of the Massachusetts Institute of Technology Sloan Center for Digital Business, published in the Deloitte Review (US), Issue 9, 2011.

34 Ponemon Institute, *ibid* footnote 31.

35 Clayton M. Christensen, *The Innovator's Dilemma: The Revolutionary Book that Will Change the Way You Do Business*, Collins Business Essentials, 2003.

There are certainly plenty of obstacles to achieving change. In our work, we see companies struggling to enter new product segments and markets due to inadequate product development efforts and business development budgets. Sometimes, they fail to catch up to innovative competitors and changes in customer preferences because staff – and often leaders as well – are risk-averse and resistant to change.

A good example of the importance of corporate agility relates to capital allocation. According to a recent study, businesses that are relatively good at shifting capital rapidly between business units are more profitable. The authors of that report found that businesses need targets, tools, rules and processes to break through the corporate inertia caused by *status quo* leadership and corporate politics.³⁶ The ability to allocate capital quickly and well is central to remaining competitive in markets being changed by digital innovation.

Create a burning platform

Companies need strong leadership to respond to digital disruption, which often means having the will to change. But how do you create a ‘burning platform’ in a large organisation, especially in the fast-moving and often intangible area of digital disruption?

One approach is to present clear, stark scenarios of how technologies are likely to evolve and how those changes will affect the business and its markets. If management sees the magnitude of looming change, it is more likely to muster the resolve to make difficult choices early enough to ensure the company’s long-term prosperity.

An example from our experience is a pulp and paper company that recognised early – in the mid-1990s – that the combination of desktop computers and the Internet would drive down demand for newsprint paper stocks but increase demand for office-style paper. Intellectually, the company realised it needed to refocus its assets, but the real impetus to change was a provocative dramatisation of a newscast from the future which aroused management’s emotional desire not to lose ground to the company’s biggest competitor.

A counter example is the experience of Sony in the personal music device market. Despite inventing a whole new market with the Walkman portable music player, correctly foreseeing the future for that market and having most of the technology and music pieces in place, it still failed to beat Apple’s iPod and related content products. The reasons for this have been widely debated, but appear to boil down to timing, technology trends and, perhaps most significantly, a lack of the agility and will necessary to refocus the company around the opportunity.

There is a significant timing issue here, of course; many companies have struggled because they’ve been right about the trend, but wrong about the timing. With that in mind, businesses can conduct detailed scenario planning to try to increase the accuracy of their timing. Once they’ve invested, they should also plan to help foster the growth of the new markets they are betting on.

Place digital on the board agenda

Digital disruption is so pervasive it deserves a place on the board agenda. Directors should be asking how new technologies and trends are changing their businesses and markets. They should also be assessing the organisation’s capacity to respond, either at dedicated sessions or as a regular item for discussion and debate.

Notably, the need to improve corporate agility is today being driven by institutional shareholders seeking higher returns after several years of capital losses. They may be less averse than boards and management to see decisions taken that cause significant change.

³⁶ Hall, S. Lovallo, D. Musters, R., ‘How to put your money where your strategy is’, McKinsey Quarterly, March 2012.

Leverage business intelligence, analytics and collaboration

One option available to CEOs is to make better use of information available to them. As digital solutions result in ever-more-available data, and analytics discovers the meaningful patterns within those data, approaches to business intelligence are maturing to change the way that management responds to information. A truly information-driven business thinks in advance about how each dataset will affect its decisions, rather than waiting to see the data and then deciding how to react.

Just having the right information doesn't guarantee the right decisions are made. For this reason, businesses are increasingly looking to bring together expertise from across organisational boundaries as a catalyst for finding new ways to approach old problems.

Digital collaboration brings together informal and formal ways for people to learn about each other's capabilities and backgrounds. Ranging from random dialogue to directed collaboration – such as crowdsourcing to gain input from staff, customers or others – this activity is anything but unplanned. It also often results in strategic solutions, such as new products, or in the rapid mobilisation of an expert group in the face of a crisis. Gathering a wide range of views can also help organisations reduce risk and spot opportunities.

Model your financials

To support decision-making, it's vital to understand a company's true cost base and cost drivers, and to see how these might change as the business responds to – or takes advantage of – digital innovations. This requires the detailed collection and analysis of current information, but is also likely to involve reinventing the way this is performed as the business changes.

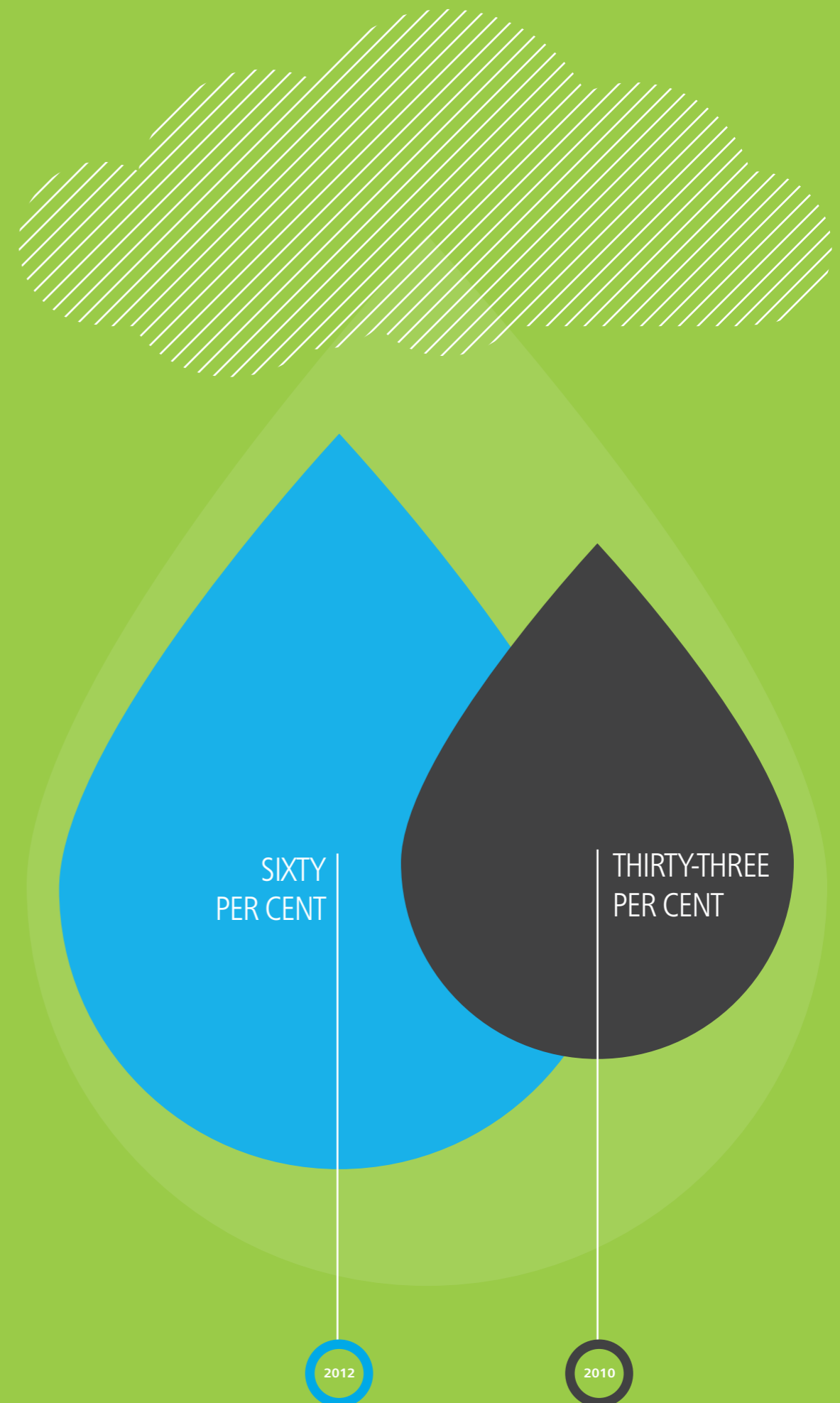
From an asset-mix perspective, businesses need to understand the true cost of assets and how that flows through their financial reporting. From an operations point of view, organisations tend to be strong at planning for and executing the use of assets. However, from a financial perspective, it is important to create an appropriate cost-accounting model and financial view to support decision-making and asset allocation.

A truly information-driven business thinks in advance about how each dataset will affect its decisions, rather than waiting to see the data and then deciding how to react

Part III

60% OF CHIEF INFORMATION OFFICERS SURVEYED* FEEL THAT THE CLOUD IS IMPORTANT AND WARRANTS A STRATEGIC RESPONSE WORTH UNDERTAKING – ALMOST DOUBLE THE NUMBER OF CIOs WHO FELT THIS WAY TWO YEARS AGO

* Source: 2011 IBM Global CIO Study, p.15.



Part III

How leaders can prepare for action *Business and government*

In Parts I and II, we explored the nature of digital disruption and the responses available to leaders. In this section, we explain how these ideas can be applied in practice within organisations. We focus on their application to business and government specifically, and illustrate our discussion with the example of how a model organisation might go from understanding disruption to considering its responses and putting new strategies into action.

The way forward for business leaders

Understand the impact of digital disruption on the portfolio

The first step for a large organisation is to take a portfolio view and consider how digital will disrupt – or is already disrupting – the various business units that make up its operations (see Figure 7).

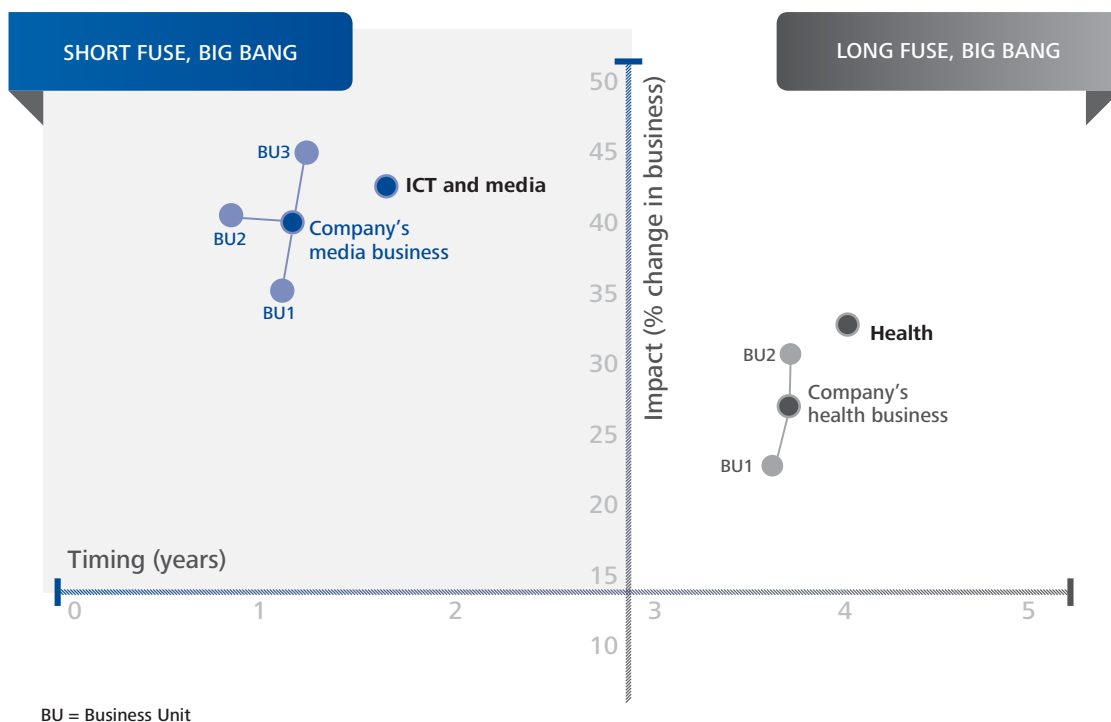
In this case, the company has two main areas of business: media services and health services.

The analysis shows that the media business is most prone to disruption, but slightly less severely than the media and ICT industry as a whole. It also shows varying levels of exposure for the three main units within the media business. The company's health business faces less immediate disruption; but again, management needs to consider how its experience will differ to the overall industry and between its two business units.

By assessing each business unit individually and then creating such aggregated views, the company can assess the significance of digital disruption across its activities and identify priority areas for consideration – either because a business unit is threatened or because it is positioned to pursue new opportunities.

Most importantly, the company can consider which responses need to be made at the business-unit level and which will require enterprise-wide action. A very specific question is to ask how much of the company's business – as a percentage of sales, for instance – lies in each of the quadrants in our Digital Disruption Map.

Figure 7: How a large company might map its business units in terms of digital disruption



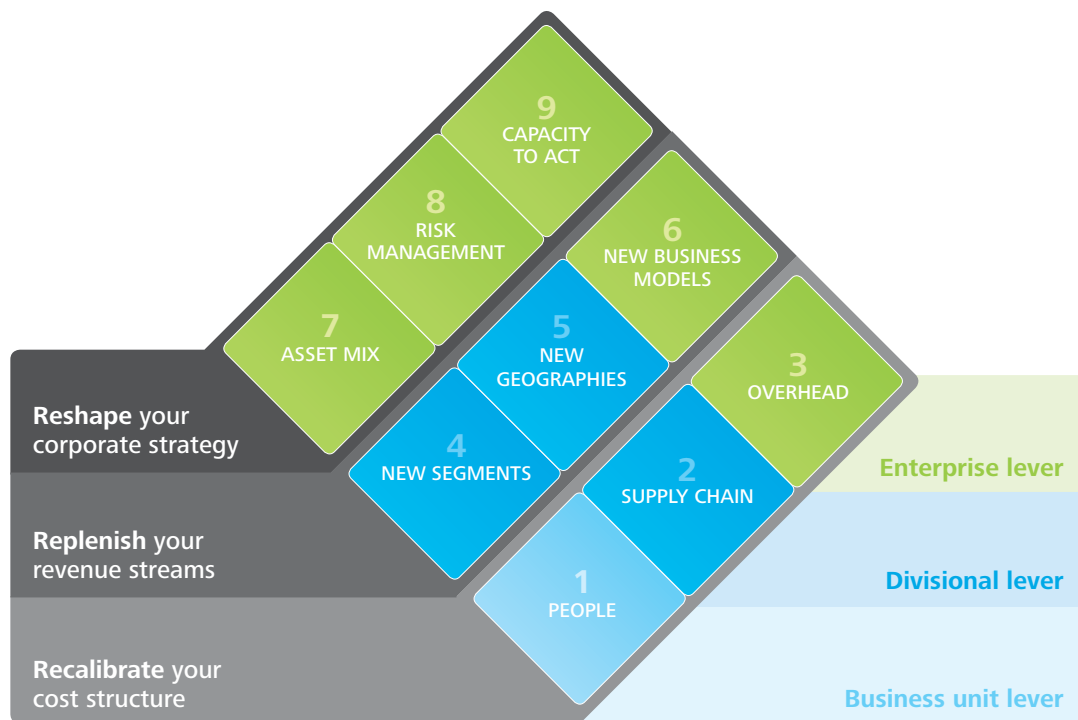
A portfolio of business unit and divisional responses

The next step is to consider the impact of digital disruption at a more granular level, looking at the individual business units that make up the company's portfolio.

This will help the company develop a range of targeted and appropriate responses, instead of implementing generalised and potentially destructive actions.

We believe each business unit should work towards developing its unique strategy, based on its own application of the three responses and levers outlined in Figure 8.

Figure 8: Identifying areas for focus from available responses and levers



For many companies, the relevant levers will be those shown in blue, with the first response to disruption being to consider whether staff levels are appropriate within each business unit.

Strategies for each division within the unit will be created in terms of these categories. There will be a strategy for addressing the threats and opportunities presented by digital disruption by people, segments, geographies and supply chain. A sample is shown in Figure 9.

Figure 9: Sample business-unit strategy



Enterprise-level responses

To manage – and capitalise on – digital disruption, it may also be necessary to make a range of enterprise-wide changes. The extent to which a company pulls each lever will depend on its perceived placement on the ‘fuse’ and ‘bang’ axes in the digital disruption maps created for the entire company and each business unit.

Interestingly, while most companies tend to focus on the responses they can make at a business-unit level, when it comes to managing digital disruption, there are more levers available at the enterprise level. These are to consider the company’s overheads, business models, asset mix, risk management and capacity to act. Set out as an enterprise-level plan, this could appear as follows.

Figure 10: Sample enterprise plan



Creating a compelling narrative

The outcome of this granular analysis will be the development of a new strategic plan, with a range of actions designed to recalibrate costs, replenish revenues and shape a new corporate strategy. Some of these actions will be specific to business units, while some will cut across the enterprise.

The extent to which actions are deployed will be heavily determined by perceived exposures to digital disruption. The business must also be clear about who is driving the new plan – digital strategy questions now typically extend well beyond the IT department and require the support of a range of senior leaders.

No matter what the mix of actions and executive ownership, it is vital that management combines its chosen mix of responses into a single, compelling narrative that wins the support of the board, investors, staff, customers, governments, communities and other stakeholders. This narrative should clearly articulate:

- The ways and extent to which digital innovation is having an impact on the organisation, including both threats and opportunities
- How the business plans to respond, at a business-unit and enterprise level, the cost of such responses and the expected outcomes
- The need to change and the benefits that can be expected to follow.

An important part of the story will be how strategic changes translate into hard numbers. As business models adapt in line with digital disruption, transition periods can often be short and severe. The changes might involve significant revisions to revenue streams, cost structures, assets employed and their fair values. In turn, traditional balance sheet and funding structures relevant to the historic business model may no longer apply, and forecasting performance can become more hazardous than ever before.

As a result, it is incumbent on corporate boards to ensure that equity and financial stakeholders fully understand the degree and nature of change, and the shape of the profit and loss (P&L) and balance sheet during and after any digital transformation. This is particularly true of strategic assets, such as data and knowledge intensity, where a new or adapted business model underscores a fundamental change in assets and their method of valuation, which in turn affects financing structures and merger and acquisition (M&A) strategies.

It may also be necessary to develop new metrics for measuring performance, leverage valuations to capture the impact of the transformation, redefine the organisation's risk profile and describe its new operating environment – especially if it is more global and virtual than before.

Options for government leaders

Much of the above is analysis by business, for business. Yet as the largest single 'business' in Australia, government at the federal, state and local levels accounts for almost one-third of all spending in Australia.

So, how can and should the public sector respond, given that some of the prompts to digital action in the commercial world (profits, market share, competitor activities) are less evident for governments?

This section looks at the challenges and opportunities arising from digital disruption on three levels, which intentionally align to the concepts of recalibrating, replenishing and reshaping outlined in Parts II and III:

- **How can governments cut their cost of service delivery and increase their efficiency and fairness?**

New technologies allow governments to better understand the needs of their 'customers', as well as meeting those needs more cost effectively than ever before. Yet those cost savings aren't just for governments: the users of government services can save time and money as well

- **How can governments change the way their revenue is raised? Can we be more efficient and fair in new and innovative ways? And how should we respond to a rising challenge to our revenue base?** Tax systems are national but – as our buying and income earning is increasingly channelled through the Internet – the activities of businesses and families are becoming borderless

- **How can governments redefine the very boundaries of government itself? Does the rise of new technologies mean that government doesn't need to do things it has traditionally done? Are there now new areas requiring government involvement? And how will the public sector's role in setting the rules and regulations for businesses and families need to change?**

Finally, we'll explain how a better response by the public sector to digital disruption brings with it a hidden democratic dividend, while noting some broader implications for government policy.

Reinventing service delivery

The challenges and opportunities for Australian policymakers arising from digital disruption start at home. While governments account for one-third of all spending in Australia, they lack the usual profit and performance indicators available to executives and boards in seeing what is happening to their business.

While some agencies have made major strides such as moving tax returns and licence renewals online – and we are seeing the roll-out of e-health and online education initiatives – 'doing nothing' remains a more viable option than it should. Add in the conservative bias evident in many government operations – it is better to be safe than sorry if 'sorry' means ending up on the front page of a tabloid – and we have a recipe for digital underperformance among government operations.

Beyond that, governments – which are meant to be adept at long-range planning – are often more tightly bound to the chariot wheels of election and business cycles than many enterprises. That means attempts to harness the power and potential of new technologies are all too often affected by stop-and-go spending patterns and changes of funding fashions in the wake of changes of government.

This is, in our view, a real shame. At its simplest, 'government' is nothing more than our national social contract – the way in which we, as Australians, agree to raise money from companies and people to help the young, the old, the sick and the poor, as well as to build roads and protect the nation. That means digital underperformance hits hard, and often hits those whom society most wants to help.

This challenge is greater still because governments are naturally defensive, if not secretive. They possess reams of information yet, even allowing for appropriate privacy concerns, this national treasure is largely untapped. As shown by the new services and benefits that have flowed from making geographic information system (GIS) data widely available, it is by releasing this information that governments are often best placed to provide platforms for wider innovation.

Now, however, governments have the opportunity to do what the private sector is increasingly doing: tailoring service delivery and financial support to the needs and wants of the individual

As Australia's *Government 2.0 Taskforce* noted in late 2009, "Once public sector information is liberated as a key national asset, possibilities – foreseeable and otherwise – are unlocked through the invention, creativity and hard work of citizens, business and community organisations. Open public sector information is thus an invitation to the public to engage, innovate and create new public value."

Similarly, governments can now know a lot more about what their 'customers' want. Yet because that is a relatively new phenomenon, many departments and agencies are lost in 'business as usual' mode, failing to recognise that they can now tap into their customers' wants and needs in a manner never before possible, and then use that information to tailor their services ever more cost-effectively.

As Briggs (2009)³⁷ has noted, old methods of government service delivery have been based on individual transactions and built around specific programs. Now, however, governments have the opportunity to do what the private sector is increasingly doing: tailoring service delivery and financial support to the needs and wants of the individual. And we can do that with less onerous demands for authentication and personal information; once these are provided to access government services, a range of transactions could be grouped and done at the same time.

Then there is the mundane but obvious point that moving government services online can save not merely taxpayers' money, but that of users as well. Time is money, and if many services can be delivered online (rather than travelling to a shop and then queuing), then that can generate big savings too.

Taxing questions

Consumers and businesses are moving online fast, and that presents new challenges for how they are taxed. Tax authorities have to keep pace with businesses that capture the opportunities of digital markets and are able to enter and exit markets smoothly and regularly.

While tax systems are national, digital transactions are seemingly borderless, creating complications when considering the 'source of the revenue' and transaction taxes such as VAT/GST, as detailed elsewhere in this paper. Where does the sale take place if you buy music from iTunes rather than CDs from a bricks and mortar store? Where both supplies are being made wholly within Australia by GST-registered suppliers, both should be subject to GST. Yet the GST treatment is likely to differ where the supplier is based overseas.

There has been intense debate about the threshold for charging GST on imports in particular. The Productivity Commission found that the \$1,000 threshold doesn't really damage the international competitiveness of Australian retailers, though it recommended the threshold be cut if the tax collection process could be administered efficiently – a question now under examination.³⁸

37 Briggs, L. 2009. All Those Who Stand and Wait – Putting citizens at the centre, 21 May 2009, John Curtin Institute of Public Policy, p. 7.

38 Economic Structure and Performance of the Australian Retail Industry, 2011, see Chapter 7 and, specifically, p. 211–214.

Australia's threshold is higher than most other customs and VAT/GST regimes. Australian governments need to be part of, and in sync with, an international solution to what is a global problem. If they aren't, this could potentially lead to a move to offshore delivery models (something which has already started and will be made easier by digital innovation).

And which government gets to tax which part of the profit? Traditional tests for determining the source of income may not be flexible enough to accurately divide revenue among the jurisdictions laying claim to tax it. Traditional means of addressing revenue leakage – such as regulating transfer pricing – may well prove inadequate to a rapidly growing and changing task, as many argue that neither the tax treaties nor domestic laws can be updated quickly enough to cater for new forms of revenue that businesses develop in response to digital disruption.

There are particular risks to tax systems in a world going digital, with the 'tax competition' between nations set to go into overdrive. There are also issues regarding government transparency in the area of taxation. For example, the Henry Review recommended, "The government should establish a more transparent means of dealing with community ideas about the tax system by extending the Tax Issues Entry System website and further developing its use".³⁹ Already, the ATO has taken to YouTube to explain tax changes and set up a Twitter feed to gauge public responses to initiatives, and it continues to see the lodgement of tax returns shift from paper forms to the more convenient e-tax system.

Setting boundaries

Here is an even more fundamental issue: what should governments do? That's harder to answer than it seems, as the right role for government will itself change over time as technologies and society change.

Years ago, it was thought that governments had to run banks and postal services. Today, it is apparent that neither is necessarily a core role for the public sector.

Equally, the rise of digital disruption often means that small-but-nimble firms can compete with large ones, as we've seen with what is happening in retail. Yet to date, we still regulate and assess competition without understanding what has happened to the barriers to entry in some sectors. In turn, that may well mean that the authorities should now be less heavy handed than they have been in assessing everything from mergers and takeovers to urban planning.

The rise of digital opportunities and challenges is causing businesses to reassess their portfolios: do we own the right mix of business units for the future? Should we sell something we own? Or buy something we need? In effect, these same questions need to be asked of governments: has the changing business and consumer landscape generated by digital developments changed our need for what governments should do?

In practice, it's likely that digital developments will give governments better tools to use in fulfilling their roles, allowing them to take a lighter touch and become more responsive. In turn, governments may become more efficient and the rules and regulations they set for families and businesses may become less intrusive.

39 Recommendation 111 of Australia's Future Tax System: Final Report, Dr Ken Henry, 2010.

A hidden democratic dividend

Democracy has surprisingly humble underpinnings. One that Deloitte champions is simple: it is important to know what our governments are and aren't doing. That makes the way in which they report to us – and what they report – a vital part of a healthy democracy.

The more transparent a government's reports then:

- The greater is public awareness there is of the government's spending, taxing and regulatory intentions
- The better informed public debate is on the issues involved
- The greater certainty there is for families and companies as they make decisions.

Transparency helps ensure appropriate visibility of government actions. So it is no surprise that there is powerful evidence from the World Bank and others that governments can massively help their people when they do digital the right way. As the World Bank's *Doing Business 2012: Doing Business in a More Transparent World* report notes, "much attention is being paid to transparent policy making [around the world]. Governments are making business regulation and the regulatory process accessible, helped in many cases by e-government initiatives. The United Kingdom invites comment on regulatory proposals on the website of the Better Regulation Executive. Canada and the United States publish guidelines on the evaluation process underlying the cost/benefit analysis of new regulations."⁴⁰

After all, business knows a lot about the impact of new regulations, and allowing governments to receive anonymous comments through a website can potentially help them avoid some big mistakes.

In fact, that very anonymity is recommended by the World Bank as a way to limit the potential for corruption and patronage in government dealings. When dealing with government at arm's length – such as through a website – there is less chance for a bureaucrat to demand a favour, or to be biased on the basis of race, gender or age.

That's an important – if hidden – democratic dividend.

Implications for government policy

Finally, it is clear that broadband is a big enabler of digital disruption. In turn, that means governments can make a difference for others via policy support of some kind for high-speed broadband, as well as their support for competition in telecommunications generally.

Indeed, there are many success stories already evident, including where governments have supported digital innovation to great effect (such as the roll-out of fibre broadband in South Korea, the growth of high-speed data networks in Japan, and the spread of free Wi-Fi in American cities). Australia is of course working on its own National Broadband Network and seeking to find the most appropriate balance between fixed-line and mobile broadband infrastructure, and metropolitan and regional coverage.

High-speed broadband coupled with the adoption of cloud computing represent an unprecedented platform for governments to deliver public sector productivity improvements. Importantly, those gains will only be realised if there is a commensurate increase in the innovative capacity and culture within government institutions. In turn, that is most likely to be realised with an all-of-government approach led by a senior dedicated ministerial appointment (i.e. a public sector productivity czar).

It is clear that many businesses are struggling amid the 'two-speed troubles' of the moment as they juggle the impact of strength in Australia's interest and exchange rates. Indeed, many of the sectors on the wrong side of current economic conditions are also at the forefront of the challenges posed by digital disruption: those dealing with a shorter fuse. Retailers are a good example of this dual challenge.

That double-whammy is hitting a number of businesses hard. However, the flipside is that the better Australian businesses prepare themselves for a technological revolution that will affect their commercial environment – and the more that governments support them in those efforts – the more we can help the performance of businesses otherwise challenged by Australia's two-speed economy.

⁴⁰ World Bank, *Doing Business 2012: Doing Business in a More Transparent World*, p. 7, available at www.doingbusiness.org/reports/global-reports/doing-business-2012/

Appendix

Deloitte's Digital Disruption Map methodology

Deloitte's Digital Disruption Map was created by Deloitte Access Economics and considers two dimensions: impact and timing.

The map is based on 13 factors that affect the size and timing of digital disruption.

We have looked at 26 indicators of disruption, and collated the subjective judgement from industry and content experts at Deloitte, drawing on what Deloitte believes will happen down the track based on our in-depth experience, judgement and market knowledge. We recognise this approach isn't precise nor perfect, but it is designed to help business and government leaders think about digital disruption in a granular way.

Figure 11: Factors in Deloitte's Digital Disruption Map

Current digital intensity	Digital potential	Fuse length
Customers and clients (30%)	Online/physicality (60%)	Customers (20%)
IT infrastructure (30%)	Mobility/transportability (20%)	Competitors (20%)
Mobility (25%)	Social/consumers (10%)	Employees (20%)
IT human resources (15%)	Cloud/use of data (10%)	Technology (20%)
		Inhibitors (20%)

These factors are weighted and measured as follows:

- **Customers/clients** is measured by averaging five indicators:
 - The proportion of businesses in an industry that use e-commerce for sales
 - The proportion of businesses in an industry that use e-commerce for purchases
 - The share of income that comes via the Internet
 - The proportion of businesses with a Web presence
 - The amount of traffic an industry is generating on Google
- **IT infrastructure** is measured by:
 - The proportion of businesses with access to fast broadband
- **Mobility** is measured using four different indicators of telework:
 - The number of people working from home
 - The number of people able to work from home
 - The extent of the business's investment in facilitating telework
 - The proportion of employees able to work from locations other than home
- **IT human capital** is measured by:
 - The proportion of staff with information and communications technology skills
 - The proportion of businesses that have in-house or outsourced IT support.

For digital potential we looked at four key areas of change coming down the technology pipeline, as well as some proxy measures for the extent to which businesses are exposed to change:

- **Online** measures:
 - The physicality of goods or services and the ability to provide them online
- **Mobility** measures:
 - The proportion of businesses making sales to customers outside a local area, as an indicator of the transportability of goods or services
- **Social** measures:
 - How much businesses have to innovate to engage with consumers, as a measure of how much a business will need to use social media
- **Cloud** measures:
 - How much businesses currently use data processing and Internet publishing, as a proxy for how much benefit they will get from cloud computing.

For **fuse length**, a short fuse is major changes over a period of one to three years. A long fuse represents major changes over the immediate horizon, throughout a three-to-five-year period.

These timings reflect how some industries are affected by more immediate technologies and are spurred by consumers and competition, whereas others are more affected by long-term developments like cloud and machine-to-machine technologies, and can be held back by government regulation and other inhibitors.

We looked at five factors that influence the pace of change – that is, factors that act as accelerants or handbrakes on digital disruption:

- **Customers** will be the ultimate driver of digital innovation and disruption, so we look at:
 - The proportion of an industry's income that comes from the general public
 - The age of its customers, on the basis that younger customers are more likely to embrace change
- **Competitors** will be important influences on digital disruption, so we include measures of:
 - The level of competition
 - The extent of innovation
 - The extent of collaboration, as an indicator of a business's and industry's willingness to get ideas from outside their own model

- **Employees** play an important inside-out influence, so we include measures of:
 - Employee age (on the basis that younger employees are more likely to embrace and drive change)
 - Employee access to the Internet at home because (tech-savvy employees are more likely to drive change)
- **Technology** itself plays an important role in the pace of change, so we consider the immediacy of the technologies which each industry is most exposed to (mobile, social media, cloud and machine-to-machine) to be another indicator.

Inhibitors can slow the pace of change in a business, slowing the effects of digital disruption. As such, we include two indicators:

- **Internal inhibitors**, such as existing legacy systems and
- **External inhibitors**, such as government regulations.

Building the Lucky Country™ is a trademark that belongs exclusively to Deloitte Touche Tohmatsu in Australia.

This publication contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the "Deloitte Network") is, by means of this publication, rendering professional advice or services.

Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte's approximately 195,000 professionals are committed to becoming the standard of excellence.

About Deloitte Australia

In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia's leading professional services firms, Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 6,000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit Deloitte's web site at www.deloitte.com.au.

Liability limited by a scheme approved under Professional Standards Legislation.

Member of Deloitte Touche Tohmatsu Limited

© 2012 Deloitte Touche Tohmatsu.

AM_HYD_02/17_054101