

NBN in the Enterprise

An investigation into the insurance broking
and printing industries

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Executive summary

This is the report to Innovation & Business Skills Australia (IBSA) on findings from research into the impact of the National Broadband Network (NBN) on enterprises in two industries: the printing industry and the insurance broking industry.

Through a combination of foresighting methodology by industry members and a study of specific enterprises, it has been possible to provide a reliable insight into current levels of information and communication technology (ICT) maturity in the two industries. This report will use the results from foresighting activities and case studies to outline levels of ICT readiness (eReadiness) and ICT skills (eSkills) of individual businesses, and then provide a complete comparative analysis to provide significant insight into priority workforce development strategies that may immediately improve NBN adoption.

This report and the underpinning research on enterprises in two very diverse industries confirms that the success of Australia's investment in the NBN will be heavily reliant on raising access to high-speed broadband, as well as convincing businesses with shrinking margins and increased risk associated with operating in a volatile global economic environment that mechanisms exist to support the development of specific skills required to use the infrastructure. This includes user skills as well as the skills for managers and owners to forge business plans that will establish how each business can best invest in ICT and seize commercial opportunities.

1.1 Findings in summary

The process of research and consultation in this project resulted in the following activities:

- Three foresighting workshops were conducted. They were separately convened by Printing Industries Association of Australia, National Insurance Brokers of Australia and Austbrokers.
- Fifteen enterprise case studies involving surveys (eReadiness Audit and eSkills Training Needs Audit) were completed by seven participants from printing and eight from insurance broking.

Consultations with business owners and senior industry leaders explored the expected future impact of the NBN. In essence the NBN was believed to bring the promise of:

- 1. Closer proximity to the customer** on demand, anywhere, anytime. This also encompasses where businesses used the internet to move down the value chain from manufacturing or marketing to provide sales and service.
- 2. 'High touch' services** where customers can transact in real time and seek, secure and track products or services.
- 3. Process efficiencies and cost savings** through automation, integration, streamlining and real-time processing.
- 4. Opening new markets, local and global, through improving** the connection between the business and their customers and vice versa.
- 5. Improved internal communication and training capabilities.**
- 6. Flexibility in terms of worker location** and decisions on office facilities (telecommuting and decentralisation).
- 7. Faster and more efficient data processing and sharing.**
- 8. Reduced capital expenditure and more rapid transformation** through use of cloud-based and virtual infrastructure (e.g. software or platform as a service).

The expected positive impacts were balanced with some consideration of potential threats from:

- 1. Labour supply and cost:** Difficulty attracting or upskilling existing staff with the appropriate ICT skills.
- 2. Infrastructure cost:** Difficulty securing the capital or knowing what budget would be required to transition to the technology and infrastructure required to leverage the NBN connection.

3. Competition from large incumbents in other industries:

Fear of larger, better funded competitors or new entrants moving into the market and using online offerings to 'cherry pick' high volume, low return products or services that often represent the backbone for smaller, regional businesses. This is occurring with banks moving into online insurance and ICT companies moving into content storage and web-to-print services.

4. Competition from overseas: Fear over new entrants from countries with low labour cost, limited compliance requirements, and/or protected markets using the new broadband channels to reach regional or niche markets previously not accessible due to poor connectivity.

5. Uncertainty of NBN integration with mobile broadband:

Many progressive businesses – especially those deploying ICT to enhance services to rural and regional customers – rely very heavily upon mobile cellular network connections. Research has indicated two potential problems. The first related to the NBN distracting attention away from efforts to improve poor mobile coverage. Secondly, businesses generally lack information about how services delivered over the NBN would be integrated with mobile broadband services (from a 'bundled' subscription, cost or a technical perspective).

6. Red tape and regulations: To enable the efficiencies possible under the NBN regulations affecting occupational health and safety (e.g. at home workers), employment conditions (hours of work), digital transactions and even compliance standards (e.g. use of a digital signature) need to be addressed to prevent costs being passed on to businesses.

The topic of offshoring – a potential impact of the NBN – was seen to reside somewhere between a positive impact and a threat. Two participants in the research – one an early adopter of high-speed broadband, and another participant securing the NBN in the near future – have planned to outsource or off-shore high-cost, high-skill roles as well as skills that are in short supply due to increased competition from overseas – especially in printing. At least one company, identified as superior in the ICT maturity matrix, will utilise improved broadband connectivity to move parts of their value chain to low-cost, English speaking countries such as India or Philippines. This was seen by other employers as an opportunity lost to Australia and local workers.

The final point underpins a general finding from the research. While a few businesses have positioned to deliberately leverage the NBN, the vast majority expressed reservations as to how soon the NBN would be adopted by customers and the uncertainty increased the risk of early-mover investment. More than two thirds of businesses involved in this project suggested they had no idea as to when or what type of NBN connection (fibre, fixed wireless and satellite) may become accessible to their business. This translated into only five of the 15 businesses involved in the case studies suggesting they had developed strategies or business goals to leverage the NBN or any form of high-speed broadband.

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1.2 Perceived NBN derived futures, the drivers and the enablers

This section summarises industry research and consultative feedback that was gathered through an industry foresighting process. The foundation feedback was derived through three separate industry foresighting focus groups.

1.2.1 Drivers in summary

The following table lists the major drivers shaping the impact of the NBN on enterprises in both industries.

Table 1: Major drivers shaping the impact of the NBN on enterprises in the printing and insurance broking industries

Future	Drivers
1. Competing and surviving industry structural change	Both industries face changes in the competition landscape. In insurance broking there is evidence of significant mergers, acquisition and growing amalgamation of entities into fewer and much larger companies. Fundamentally, six insurance companies write in excess of \$35 billion premiums, or some 85% of all premiums. ¹ In printing the traditional industry is in long-term decline while digital services grow, either as part of an existing business' offerings or as a basis for new business ventures.
2. Meeting changed consumer preferences	The move to digital products, services and distribution is critically impacting the printing industry. It also marks the industry trend to move down the value chain from manufacturing closer to the customer. For insurance brokers it is a current reality. Over 10% of personal insurance and over 18% of some products (e.g. car insurance) are now being sold via online rather than face-to-face or through call centres. Consumer preferences are shifting and B2C ecommerce and digital distribution continues to grow. ²
3. Searching for process efficiencies and cost saving	As economic growth slows and private housing construction and expenditure tightens it is expected that all finance and insurance companies, including insurance brokers, will look for greater efficiencies and ways to reduce costs. This may include reducing workforce numbers. For printing enterprises, increased competition and lower margins necessitate further cost savings. For both industries it will certainly include an expanded reliance on automation, digital technologies, online transactions (applications and approvals) and services (outsourced, application services, cloud-based services, Software as a Service or Platform as a Service, etc.).
4. Investing in new technology and skills on slim margins	Most businesses surveyed are facing tighter margins, increased competition and operational uncertainty inherent in a turbulent global economy. In such circumstances investing in new technologies and ICT skills is both risky and difficult, especially for small businesses.
5. Building a new channel to reach customers/clients	Broadband, and the growing connectivity of the Australian and global consumer, helps businesses build new electronic distribution channels. This can apply to everything from insurance, advice, direct marketing, magazines, advertising, and other publishing. As channels diversify so that new ways are developed to reach customers and to offer new or modified services and products.
6. Attracting and retaining skilled workers	Employers in both industries felt the continued ability to transform will be contingent on attracting and retaining skilled workers, especially in ICT roles. As with other industries, the Australian labour market is being profoundly affected by regions and certain industries (e.g. mining) enjoying growth that result in certain sectors of the economy offering more attractive careers and salaries. For printing this is critical. Not only is the industry faced with an aging workforce, it is struggling to attract new entrants or existing skilled employees from other industries. In addition, young people, and in particular females, are not seeing high technology skills tied to a traditional trade as an attractive first choice career option. ³

¹ KPMG, 2011, page 5.

² KPMG, 2011, page 7.

³ IBSA, 2012, *eScan, Printing & Graphic Arts Industry*, page 23.

1.2.2 Printing industry

The following is an extrapolation of the printing industry feedback gathered throughout the research process as to what they believe represented the digital future, macro-level drivers affecting this future, and the enablers stimulating greater enterprise-level adoption of the NBN.

Table 2 – A foresight into the printing industry NBN enabled futures

Future	Drivers	Enablers
Improve proximity to the customer	Economic volatility	Funding to enable transformation (skills, HR and infrastructure investment assistance)
Offer 'high touch' online services	Anti-paper sentiment (digital and environmental push)	Improve managerial and business skills (build a business case)
Improve customer benefits	Emerging and alternative technologies (Web2Print)	Printing Industry Plan for the Digital Age (Update Print21 and cover infrastructure and a coordinated approach to NBN adoption and price negotiations)
Improve internal communication and training	Costs: Lower revenue and margins but increasing Capex and Opex	Industry buy-in and engagement
Foster decentralisation	Changing consumer behaviour	Sizing the competition landscape (NBN opportunities for export and threats from imports)
Enable process efficiencies	Diversification of channel and products/services	Sizing the competition landscape (NBN opportunities for export and threats from imports)
Innovate and improve (e.g. cloud)	Surplus/idle capacity	
Attract staff and improve HR management		

NB: The three columns are not aligned with each other in any specific manner. Nor are the listings in any agreed priority order.

While the industry remains technologically oriented, with many operators investing in new technology on a regular basis, the motivations for investing in new technology vary. The deployment of technology gives some operators certain benefits such as improved productivity and reduced environmental footprint. The downside is that the new technology often adds to existing industry capacity as few operators retire old technology to offset the instalment of the new technology. Certain segments of the industry, notably printing, are currently facing acute idle capacity issues.⁴ This further reduces capacity to adopt and change to meet digital production requirements.

⁴ PIAA, 2011, *Submission to Manufacturing Industries Action Plan*, page 5.



1.2.3 Insurance broking industry

The following is an extrapolation of the feedback from participants involved in the parallel National Insurance Brokers Association (NIBA) and Austbrokers research processes as to what they believe represented the digital future, macro-level drivers affecting this future, and the enablers stimulating greater enterprise-level adoption of the NBN.

Table 3 – A foresight into the broking industry NBN enabled futures

Future	Drivers	Enablers
Enable customers to access improved services	Need to reduce costs	Full and improved client interaction and engagement
Improve brokers' service to customers	Changing competition landscape and threat from online players	Planning investment in technology adoption
Allow real-time responsiveness to clients	Regulatory pressures to comply and report	Build the business case
Extend brand reach and marketing channels	Community and consumer expectations and attitudes	Broker companies need to improve virtual training for skills and improve attitudes
More automated and streamlined processes	Natural disasters and the need to be responsive	Remove red tape to enable digital transactions and decentralised employment
Accelerate data processing and sharing	Data security, sharing and digital audit trail is essential	Community education (digital literacy)
New markets and growth opportunities	Need more sustainable business models	Leadership
	More business is mobile: NBN has to integrate	Improve team efficiencies and collaboration

NB: The three columns are not aligned with each other in any specific manner. Nor are the listings in any agreed priority order.

1.3 Case studies

Fifteen case studies were completed with industry participants. Fourteen had attended the focus group. Participants by industry included:

Printing industry:

- Ms Debbie Burgess, The Bright Print Group of Companies
- Mr Scott Telfer, Southern Colour (NSW)
- Mr Kerim El Gabaili, Managing Director, Prografica
- Ms Rebecca Linton, Buckner Print Group
- Mr Peter Lane, Managing Director, Lane Print Group
- Mr Hagop Tchamkertenian, National Manager, Policy and Government Affairs.

Insurance broking industry:

- Mr Peter Roberts, NIBA Board Member, Managing Director, Assurity
- Mr David Wyner, NIBA Vice President, Managing Principal, InterRISK Australia
- Mr Eric Harris, Director, Client Service Support, AON Risk Services Melbourne
- Mr Jonathan Stack, Principal & Managing Director, Action Insurance Brokers
- Ms Linda Evans, NIBA Professional Development Executive
- Mr David Duffield, NIBA President & Marsh Pty Ltd Sydney
- Ms Gina De Bonis, Manager of SME Division & Chairperson of Company IT Committee
- Mr Tim Considine, Managing Director, Austbrokers Countrywide
- Mr Rowan Baker, IT Manager, Austbrokers Adroit.

1.3.1 Case study feedback

A number of conclusions can be derived from verbal feedback and the free text questions in the case study survey work. The major conclusions across all case studies include:

- a) There remains a general lack of awareness as to when the NBN may connect a business or the type of connection: fibre, fixed wireless, satellite.
- b) While the possibility of opportunities is keenly anticipated, few indicated proactively planning to deliberately leverage the NBN in a manner that could stimulate business growth or competitiveness.
- c) Nevertheless, four companies indicated they have planned to change their business model based on the availability of the NBN; two companies in detail and two in general terms.

d) The 'jury' seems to be overwhelmingly out as to the extent of adoption by the public and the time (lag) between connection and when customers'/clients' access to high-speed broadband will lead to radical changes in consumer patterns.

e) Despite the above comment, none are in any doubt as to the change in consumer patterns now and the importance of transforming production, communication, sales and service to address the growth of online services and emerging channels to market.

f) Many companies, in the printing industry in particular, seemed to be indicating low margins and existing price pressure will mean any transformation of a business to leverage the NBN can only occur after the market potential was proven (late adopters).

g) Many companies, especially in the NIBA membership, noted regulatory and restrictive practices for employing staff off site (e.g. OHS for workers at home and in the field) as greater barriers to adoption than the technology itself.

h) For regional and outer metropolitan businesses the lack of satisfaction with the cellular mobile network coverage was as much a concern as the lack of high-speed broadband.

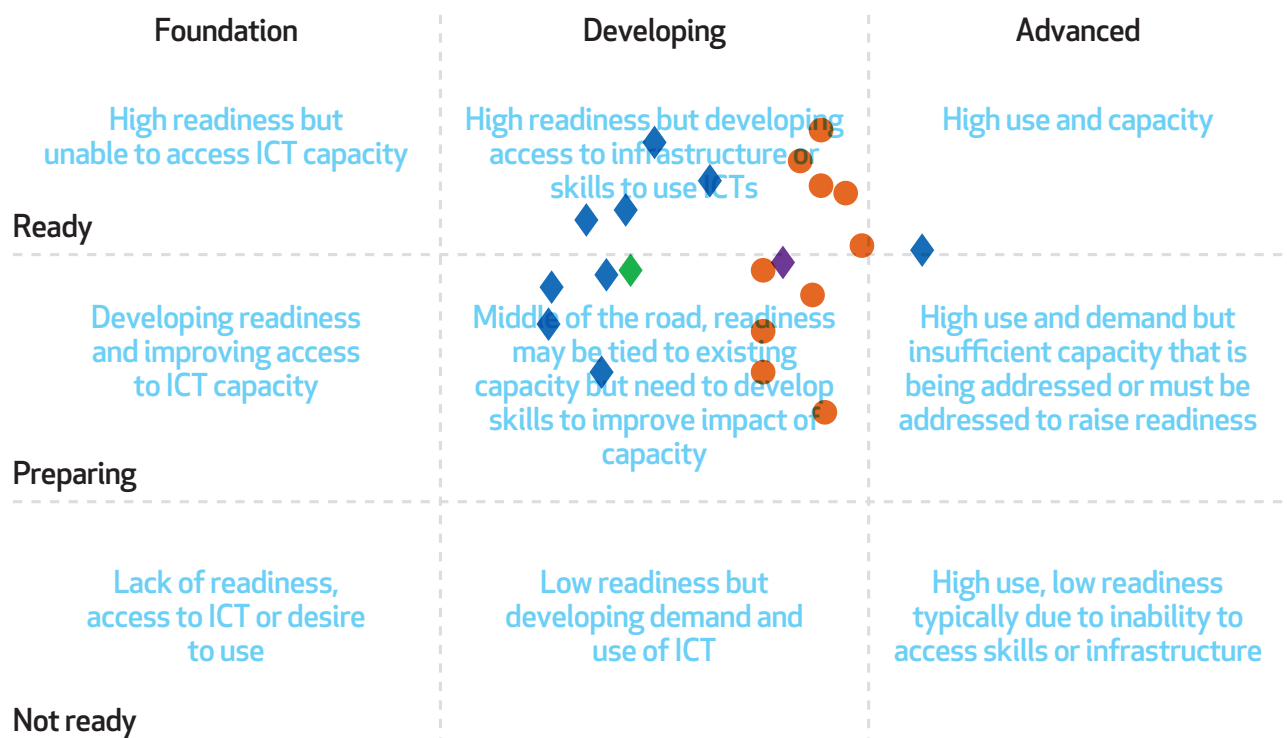
i) Even early adopters in printing or broking with existing access to high-speed connections at or above the 100 mbps possible under the NBN still considered access to ICT skills as a critical factor in how fast they could exploit the NBN/high-speed broadband.

1.3.2 Overall readiness of the printing and insurance broking industries

This section summarises the findings from the eReadiness Audit completed in the case study process. Each case study required enterprise participants to generate a scorecard ranking their ICT readiness across 14 categories in both access and adoption.

As depicted below, the comparative scorecards indicate that both industries are at different stages of maturity. Both have positively deployed ICT and have well established access and the foundation skills required to harness the internet and broadband enabled technologies. As an industry, insurance broking is more mature than the printing industry as far as ICT adoption is concerned (horizontal axis, left to right progress). Scorecards and survey results suggest this is due to the fact that ICT has become an essential element in existing products and services. Nevertheless, ICT access (vertical axis, bottom to top) is impacting comparative ranking of enterprises in both industries. For the printing enterprises, access seems to have a significant impact as their operations typically deal with large files where the absence of high-speed, quality connections will significantly impact business options and offerings.

Figure 1 – eReadiness comparative printing and insurance broking industry audit results



- ◆ Printing industry scorecards received in this round of research
- Insurance industry scorecards received in this round of research
- ◆ Green diamond is printing industry average for scorecards received in this round of research
- ◆ Purple diamond is broking industry average for scorecards received in this round of research

More so than the broking industry, data from the printing industry suggests enterprises displayed the highest range of ICT maturity rankings. While access to broadband was affecting adoption of new technology, the presence of digital business models and initiatives was also a critical factor. Apparently some businesses had deliberately adopted strategies to move away from a 'print' only focussed business to enter into digital printing, web2print and multichannel marketing. This result is consistent with a concurrent survey of the industry that showed while 73% of industry may be deriving income from non-printing related services, around the same number of respondents indicated that they still derive over 50% of revenue from 'traditional' printing activities.⁵

Research suggests that printing enterprises seem to be incrementally adopting new digitally-enabled business activities but with a strong tendency to augment or integrate with existing activities. However, a few enterprises have deliberately restructured to 'break from the past' and accelerate adoption. Responses suggest this is deliberate and an effort to leverage broadband access in order to seize emerging opportunities.

By contrast, the insurance broking industry seems to be more homogeneous in efforts to move existing products and services online. Current access to infrastructure seems to be the major differentiator.

⁵ PIAA, June 2012, *New business opportunities survey*.

It is of note that scorecards from both industries non-inner metropolitan and smaller enterprises (<20 employees) with low access scores and thence reduced ICT maturity, reported the lack of broadband as a major inhibitor to growth; whether that be for NBN options (cable, fixed wireless or satellite), or for mobile broadband over cellular networks.

The mean score for printing industry eReadiness Scorecards suggests enterprises are fundamentally developing or moving towards a more established ICT capability. As the general classification description suggests this would mean enterprises in these industries may well be using:

ICT solutions to increasingly underpin business processes while extending functional efficiency and building business and customer relationships. Increased convergence of technologies and content production or distribution is occurring. Data is being captured, shared and deployed to improve existing operations and the overall responsiveness of processes and services. ICT is underpinning the activities of people and processes across the organisation.

Despite varying levels of ICT adoption and access spanning levels from established to superior, both industry averages are rated in the ICT maturity level as an advanced state in the 'middle of the road' classification. Typically this is described as follows:

While available technologies and networks are satisfactory given established needs, they may require development to meet future capacity. This may be coupled with the likely absence of some specialist ICT skills (eSkills) or confidence that may restrict wider use.

1.3.3 eSkills

The eSkills Training Needs Audit identified the following as the top five eSkills needs by the percentage of organisations' rating that they 'agree' or 'strongly agree' they need these skill sets to adopt the NBN and deploy digital technologies. The five eSkills in most need were all in the top five ranking for both the printing and insurance broking industries.

1. We need to know how to build a more sustainable business using digital technologies

This skill set will deal with the audit and implementation of Green ICT and sustainability strategies by a large business or complex ICT operations in a region or business cluster. At AQF Level: 6-7 (expert practitioner, senior manager/leader).

2. We need skills to set up and manage out-sourced ICT services (e.g. cloud, Platform/Software as a Service (SaaS) or similar)

This skill set covers the competencies required by companies in Australia that, rather than own IT capability, seek to buy in services from suppliers of virtual (cloud, SaaS, data centres) or outsourced providers. At AQF Level: 7 (industry expert, senior leader).

3. We need to know how to build a business case justifying any investment in an ebusiness capability

This skill set covers the competencies required to build an online presence (website) with a commercially viable set of online products/services. At AQF Level: 6-7 (expert practitioner, senior manager/leader).

4. We need to know how to build a more effective online transaction engine (buy and sell ecommerce capability)

This skill set covers the competencies required by managers (especially owner operators) who have built a web-based presence but do not know how to promote sales and revenue opportunities. At AQF Level: 7 (industry expert, senior leader).

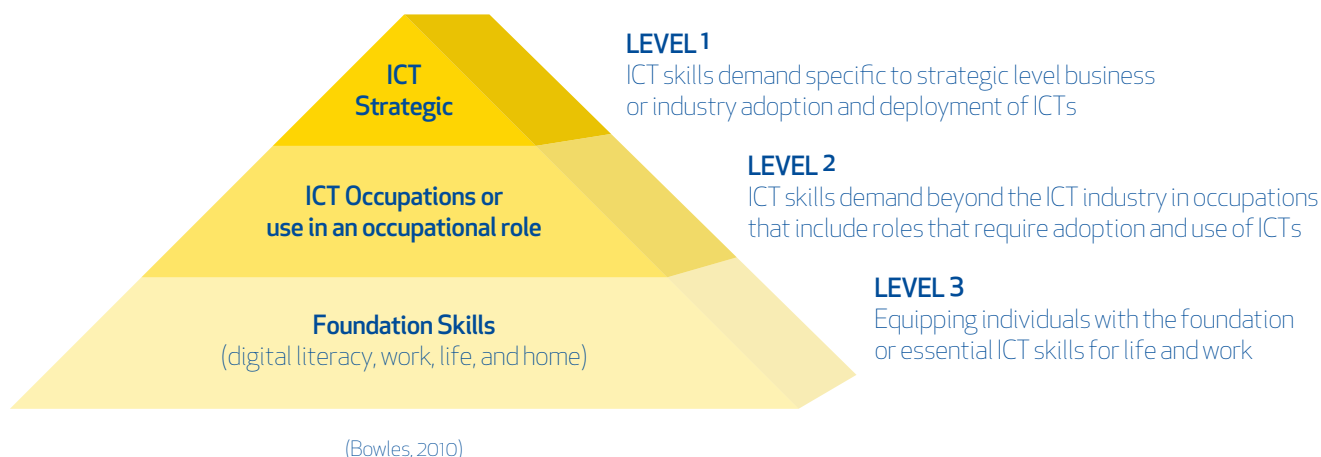
5. We need skills to be confident we have robust systems security and data protection in place

This skill set addresses the increased need for system security and information protection raised by non-ICT companies with extremely valuable data and often regulatory imperatives to protect their customers' details and data. At AQF Level: 5-6 (expert practitioner/middle manager).

It is important to note the level of complexity of the eSkills listed above (see the relevant AQF level required for each skill). As acknowledged in earlier reports to IBSA⁶, digital literacy levels and the digital divide between regions and industries are not just related to the foundation skills required to use information technology and the internet. Improving digital literacy also requires people in existing roles to extend their competence through the adoption and use of technology, as well as the development of higher-level eSkills that enable businesses to competently adopt and deploy technology.

⁶ Bowles & Wilson (16 December 2009) *Stage 1 Review of the ICA05 Training Package*; and Bowles & Wilson (September 2010) *Impact of the Digital Economy and the National Broadband Network on Skills*.

Figure 2 – Types of eSkills



The skill needs rated highest in the eSkills survey for both industries were all strategic, Level 3, as represented above. The lowest rated needs all occurred in the 'Foundation', Level 1 eSkills.

Research in this project has shown that enterprises with access to excellent high-speed connections (>100 mbps) and established eBusiness processes and services still considered skills as a major inhibitor.

It is worth noting that enterprises with poor access and lower levels of adoption and deployment of ICTs generally rated their own competence and eSkills requirements more generously than businesses with higher ICT maturity. Data suggests that more advanced businesses were statistically more likely to take a 'harsher' view of their current levels of ICT skills (eSkills) than enterprises with lower levels of maturity.

Perception is a critical factor. Enterprises that were progressing to higher levels knew they did not have all the skills required. It seems that enterprises ranked as having lower levels of technological maturity perceived they had higher levels of competence. A gap may well exist between this perception and the importance some skill sets hold when a business implements advanced digital products and services.

Given the clear distinction as to the eSkills levels required, it may well be important to ensure future ICT development research separate out skills from any eReadiness Audit and leave this to be isolated in the eSkills survey; as with the process in this project.

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