

Society for Knowledge Economics

Enabling Innovation: Leadership, Culture and  
Management at the Workplace Level

A report commissioned by the Victorian Government Department of  
Innovation, Industry and Regional Development as part of the Department's  
contribution to the National Innovation System Review, 2008

Final: July 30, 2008



## Table of Content

<b>ABOUT THE SOCIETY FOR KNOWLEDGE ECONOMICS</b> .....	<b>3</b>
<b>OUR INTEREST IN INNOVATION</b> .....	<b>3</b>
<b>ACKNOWLEDGEMENTS</b> .....	<b>4</b>
<b>PROJECT TEAM</b> .....	<b>6</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>7</b>
<b>1. INTRODUCTION AND BACKGROUND</b> .....	<b>11</b>
1.1. INNOVATION AND IT'S MULTIPLE FORMS .....	11
1.2. DEFINING THE BOUNDARIES OF LEADERSHIP, CULTURE AND MANAGEMENT .....	13
1.3. PREVIOUS INQUIRY INTO LEADERSHIP, CULTURE AND MANAGEMENT – THE KARPIN REPORT 1995 .....	15
1.4. AIM AND STRUCTURE OF THIS REPORT .....	22
<b>2. LEADERSHIP, CULTURE AND MANAGEMENT AS DRIVERS AND/OR IMPEDIMENTS TO INNOVATION</b> .....	<b>23</b>
2.1. WHY IS MANAGING INNOVATION AT THE ENTERPRISE LEVEL IMPORTANT – WHAT EFFECTS DOES IT PRODUCE? .....	24
2.2. HOW DOES AUSTRALIA FARE IN 2008? – WHAT DO WE KNOW TODAY AND WHAT DON'T WE UNDERSTAND WELL? .....	28
2.3. ILLUSTRATIONS OF THE RELATIONSHIPS BETWEEN LEADERSHIP, CULTURE AND MANAGEMENT AND INNOVATION – 5 MINI-CASE STUDIES .....	38
<i>Mini-Case One: Developing a Mindset of Growth at Microsoft, Australia</i> .....	40
<i>Mini-Case Two: Structuring for Innovation at PricewaterhouseCoopers</i> .....	43
<i>Mini-Case Three: Strategic Planning as an 'ideas box' at AcQuire Technologies</i> .....	45
<i>Mini-Case Four: Locating the Hidden Value in People and Culture at AMP</i> .....	47
<i>Mini-Case Five: Participative Leadership at Australian Broadcasting Corporation</i> .....	50
2.4. SUMMARY OF OBSERVATIONS.....	56
<b>3. A REVIEW OF AUSTRALIAN AND INTERNATIONAL PROGRAMMES INCLUDING GAPS AND OPPORTUNITIES</b> .....	<b>57</b>
3.1. AUSTRALIAN GOVERNMENT PROGRAMMES AND EFFORTS .....	57
3.2. INTERNATIONAL PROGRAMMES AND EFFORTS .....	75
3.3. GAPS AND OPPORTUNITIES IN AUSTRALIA.....	97
<b>4. RECOMMENDATIONS AND TERMS OF REFERENCE</b> .....	<b>99</b>
4.1. PROPOSED TERMS OF REFERENCES .....	99
4.2. HIGH LEVEL IMPLEMENTATION GROUP ON INNOVATION MANAGEMENT, LEADERSHIP AND CULTURE AT THE WORKPLACE LEVEL.....	101
4.3. RESEARCH METHODOLOGIES TO CONSIDER IN THE DESIGN OF A NATIONAL INQUIRY .....	102
<b>5. CONCLUSION</b> .....	<b>108</b>



Society for Knowledge Economics

## About the Society for Knowledge Economics

The Society for Knowledge Economics (SKE) is a not-for-profit organisation founded in June 2005. Founding and other members include organisations such as Microsoft, Westpac Banking Corporation, CPA Australia, PricewaterhouseCoopers, the New South Wales Department of Lands, the Department of Finance and Deregulation, the University of New South Wales, Macquarie Graduate School of Management, The University of Sydney, and others.

The SKE believes that Australia needs a collaborative, cross-sectoral organisation, supported by industry leaders, academics, policy makers and others, who work together to make Australia one of the world's leading knowledge economies and greatest places to work.

A leading knowledge economy is one that aims to better understand, develop and leverage the most potent force in creating economic and social value today – its people and their collective knowledge and ability to innovate and produce new and improved products, services and business processes.

To this end, the SKE conducts industry-based research projects and prepares policy submissions, research papers, thought leadership pieces and editorials to influence policy directions and management and leadership practices in the Australian economy. Visit [www.ske.org.au](http://www.ske.org.au) for more information.

## Our Interest in Innovation and Workplace Productivity

The SKE and our members have a vested interest in ensuring that government policy supports the development of Australia as a more prosperous and innovative society and economy.

We believe that innovation will be critical, as a national and organisational priority and every day activity, to sustain economic prosperity and social wellbeing in Australia. We also believe that it is the shared responsibility of government, business, researchers, education providers and others to develop Australia's national innovation system.

Specifically, there is a need to position innovation as a national priority supported by a whole-of-government approach.

This report follows previous reports by the SKE on Australia's national innovation system, including:

- Society for Knowledge Economics (2008), *Australia's National Innovation System*, submission to the National Innovation Review Panel, April, 2008
- Society for Knowledge Economics (2007), *Leadership and Culture – the Missing Pillar of the National Innovation Agenda*, Response to the Victorian Government's proposed National Innovation Agenda, November, 2007
- Business Council of Australia, in collaboration with the Society for Knowledge Economics (2006), *New Pathways to Prosperity – A National Innovation Framework for Australia*, November 2006



## Acknowledgements

This submission has been commissioned and sponsored by David Hanna, Deputy Secretary, International Coordination, the Department of Innovation, Industry and Regional Development, the Victorian government. The report forms part of the Department's contribution to the National Innovation Systems Review. The SKE is very grateful for this opportunity to work with the Victorian government, and thankful to David and also Diane Sydenham, Director, Strategic Policy, Strategy and Coordination at the Department, for their support for this project and for making it possible.

In developing this submission, the SKE has attached a high priority to obtaining the views of a wide cross-section of the community with an interest in Australia's innovation future. We have consulted with key stakeholders across private and public sector organisations, unions and government, industry associations, and the research and academic community.

In alphabetical order, we would like to thank the following people for their time, advice and feedback on the report and specifically the proposed Terms of Reference:

- Jennifer Alexander, Chief Executive Officer, Australian Institute of Management
- Matthew Ayres, Head of Growth & Research, Group Strategy, AMP Limited
- Ian Birks, Chief Executive Officer, Australian Information Industry Association
- Sharan Burrow, President, Australian Council of Trade Unions
- Paul Byrne, Director, Board of Directors, Innovation & Business Skills Australia
- Professor Alec Cameron, Dean, Australian School of Business, University of New South Wales
- Patrick Coleman, Director, Policy, Business Council of Australia
- Merran Dawson, Partner, Innovation, PricewaterhouseCoopers
- Nick Edgerton, Research Analyst, Sustainability Fund, AMP Capital
- Tracey Fellows, Managing Director, Microsoft, Australia
- Dr Rowan Gilmore, Chief Executive Officer, Australian Institute for Commercialisation
- Professor Roy Green, Dean, Macquarie Graduate School of Management, Macquarie University
- Tony Harrington, Global Managing Partner, Strategy and Network Transformation, PricewaterhouseCoopers
- Professor David Karpin, former Chair of the Karpin Task Force
- Alex Malley, President, CPA Australia; Chief Executive Officer, Urological Society
- Lynette Nixon, Director, Services Innovation, PricewaterhouseCoopers
- Andrew Podger, Adjunct Professor Australian National University, National President of the Institute of Public Administration, Australia



Society for Knowledge Economics





- Heather Ridout, CEO, Australian Industry Group
- Professor Danny Samson, Melbourne University
- Mark Scott, Managing Director, Australia Broadcasting Corporation
- Tim Sheehy, Chief Executive Officer, Chartered Secretaries Australia
- Steve Vamos, Vice President, Microsoft; President, Society for Knowledge Economics
- Rod Vawdrey, Chief Executive Officer, Fujitsu Australia
- John Vines, Chairman, Innovation and Business Skills Australia
- Warwick Watkins, Director General, New South Wales Department of Lands; Surveyor General, New South Wales; Director, Society for Knowledge Economics
- Bill Withers, Managing Director, AcQuire Technology Solutions, WA

We would like to specifically thank Merran Dawson, Nick Edgerton, Tracey Fellows, Lynette Nixon, Mark Scott and Bill Withers for participating in the five mini-case studies and contributing their stories on managing innovation.



## Project Team

The authoring of this report has been led by Christina Boedker and Professor Jan Mouritsen. Renu Agarwal has provided research assistance. Mark Runnalls has facilitated the many consultations with stakeholders.

 <p><b>Christina Boedker</b> CEO (Acting) Society for Knowledge Economics - ABS, UNSW</p>	<p>Christina is the Acting CEO of the Society for Knowledge Economics. She has twelve years of industry experience as department head in operations and marketing and led consulting and research projects with US, Australian and European organisations. Christina was awarded the Emerald Literati Network Award for Excellence for her research on intellectual capital. She also holds the Carlson Companies' Award, Saunders Harris' Prize, the Mindshift Consulting Group Prize, the UK Advertising Standards Authority Award, MGSM's Competitive Intelligence Award, and MGSM's HR Management Award. She completed her PhD in the area of strategy, management controls and innovation. She has published in a variety of management journals, presented at conferences, acted on advisory editorial boards, and also been Lecturer in Charge of three post-graduate subjects at UNSW.</p>
 <p><b>Professor Jan Mouritsen</b> Department of Operations Management, Copenhagen Business School, Denmark</p>	<p>Jan was the lead researcher on the Danish Intellectual Capital project. Over 100 Danish organisations produced Intellectual Capital statements, the largest IC project ever. The project was sponsored by the Danish Minister of Science, Innovation and Technology. It resulted in the Danish Guideline on Intellectual Capital Statements. Jan's research is oriented towards understanding the role of management technologies and management control in various organisational and social contexts. Jan is currently an editorial board member of 12 academic journals in various areas of management and business research including accounting, operations management, IT and knowledge management, and has published in a large variety of accounting and business management journals. Jan is currently visiting UNSW and Sydney University for one year with his wife and two children.</p>
 <p><b>Dr. Renu Agarwal</b> Adjunct Faculty Macquarie Graduate School of Management</p>	<p>Renu has 27 years of extensive industry and academic experience. She has held several strategic and operational management positions at the State Rail Authority of NSW, Telstra Corporation and its joint venture global company REACH. Renu is currently an Adjunct Faculty Member at MGSM, AIM, UTS, Macquarie University, and a Research Affiliate at the Institute for Sustainable Leadership. In her doctoral research, Renu explored the effects of collaboration on elevated service offerings – a new notion for innovation in services through dynamic capability building. With her special interests in operations management, value networks and innovation, she also provides consultancy services, delivers customised theme lectures with application to industry, and has several research publications to her credit. Renu has won the “Best Student Paper Competition – Highly Commended” award at the POMS Service Operations Conference.</p>
 <p><b>Mark Runnalls</b> Entrepreneur - Researcher, Society for Knowledge Economics</p>	<p>Mark Runnalls is a researcher at the Society for Knowledge Economics. He has over twelve years' experience as a management consultant with Ernst &amp; Young where, in addition to working for Australian and international clients in the area of technology and risk management, he also was responsible for the development of several key product and services for the firm. Mark's study and application of innovation into practice began at Imperial College, London where he completed his MBA. Prior to that Mark worked in the UK Civil Service and the transportation industry. He holds both the Prince2 and Managing Successful Programs qualifications.</p>



## Executive Summary

The engine of innovation in Australia is our people at work. The workplace (be it large or small, public or private) is where the needs of an organisation's customers and key stakeholders are identified, analysed and transformed into new or improved products, services and business processes.

The degree to which people are enabled, encouraged and motivated to innovate at work determines, by and large, a nation's capacity to innovate.

In Australia, only around 34% of businesses are 'active innovators'<sup>1</sup>. Research in this report indicates that lifting the participation rates of Australia businesses above the 34% level and closer to the 55-60%, as seen in parts of Europe, will require renewed attention by industry and government to leadership and management at the workplace level.

### Aim and Focus of this Report:

The overarching aim of this report is to examine the demand and need for a Karpin report II in Australia and strategic action to strengthen leadership and management at the workplace level. This has been done through consultations with key stakeholders and a series of research analyses, as presented in this report.

The Karpin report of 1995 was the largest inquiry ever in Australia into the leadership and management skills that make for productive, innovative and successful workplaces, and how Australia prepares its managers for work. Whilst the original Karpin report focused on management more broadly, this report focuses on innovation management and leadership in the workplace.

Many of the elements of Australia's National Innovation System (i.e. Research and Development, Tax Policy, Cooperative Research Centres, Commercialisation, Venture Capital, Export Grants, etc) are currently under review in the National Innovation Review. This submission focuses specifically on the attributes essential to creating an innovative workplace. For the purpose of this report, we limit our focus to:

- **Leadership:** Visionary leaders, who involve people at all levels of work in defining workplace priorities and purpose, and who make innovation a desired and commonly accepted organisational activity.

---

<sup>1</sup> Australian Bureau of Statistics, 8163.0 (2005), Patterns of Innovation in Australian Businesses



- **Culture:** The shared organisational values and beliefs (including the invisible ‘codes of conduct’ and ‘ways of doing’) that enable ideas to be born and transformed into new products, services and processes.
- **Management:** The management systems, tools and techniques (including technology) that support and give life to innovation.

Ultimately these attributes of Australia’s innovation system define workplace productivity and national economic performance. That is why they need much greater focus and strategic development if we are to make Australia a leading innovative nation.

### Report Findings:

The report finds that:

- There is **strong support amongst key stakeholders for ensuring that leadership and management at the workplace level becomes a strategic, national priority.** Stakeholders consulted commented that a Karpin II and strategic action is well overdue and that leadership and management in Australian organisations, large or small, public or private, are critical to enterprise productivity, innovation in the workplace, and the continued growth and sustainability of our national economy.
- **Existing national innovation surveys** in Australia, by and large, fail to consider how innovation is managed at the enterprise level. We know too little about the enablers and barriers to innovation in the workplace; the strengths and weaknesses of Australian organisations; and the optimal configurations of leadership, culture and management techniques to lifting innovation rates and performance.
- Most **government workplace and innovation development initiatives and programmes** in Australia are directed at technological or scientific innovation while only a few policy initiatives are directed at strengthening innovation management inside organisations, including leadership and culture.
- There is **no national, cross-departmental, workplace development strategy** in place in Australia that focuses on innovation capabilities at the workplace level. This compares poorly with overseas nations, specifically Ireland and Finland, who have made workplace development and innovation a policy priority supported by strong funding and ‘joined-up thinking’ in key government departments.



### **Recommendations:**

The reports suggests that Australia can and should do more to help businesses develop the leadership skills, workplace cultures and management techniques necessary to lift innovation rates. This is a challenge for all Australian organisations - small and large, public and private.

The report makes the following recommendations to this end:

1. As a first step, we need better insights into and understanding of workplace performance and practices, including more facts and statistics. Specifically, there is a need to open up the 'black box' of management and investigate *what it means to manage innovation at the enterprise level*, including the leadership styles, workplace cultures and management techniques most successful in producing innovation outcomes. We need to start a national debate which articulates leadership and management as a strategic national priority. To this end, the report recommends **starting a national dialogue with key stakeholders who work together to review Australia's innovation management capabilities and performance in the workplace**. Such an initiative can help provide insights into the enablers and barriers to innovation in the workplace; the strengths and weaknesses of Australian organisations; and any gaps between current practices and those most conducive to lifting innovation performance in the workplace.
2. Second, and in support of the above, an **Implementation Group or Task Force on Leadership, Culture and Management at the Enterprise Level** is recommended to oversee the national dialogue and importantly the formulation of national strategies and policy. This will bring together key stakeholders across public and private sector organisations, government, education and research institutions, unions, professional associations and others charged with making Australia competitive though innovation. A collaborative approach is key to successful strategy development and workplace transformation, and to strengthening enterprise productivity.

There are **benefits** associated with commencing a national dialogue and strategic action;

- First, it can inform national policies to strengthen innovation management and workplace development more broadly. It can help ensure that leadership, culture and innovation management at the enterprise level are incorporated into the National Innovation Agenda and articulated as strategic priorities and areas for investment and policy development going forward.



Society for Knowledge Economics

- Second, it can feed into education curriculum across all levels of education (including professional bodies) to ensure that Australia's education system is focused on delivering the capability needs of managers and workers in coming decades.
- Third, it can help create a shared vision for the future for Australian organisations and society and help align the thinking and activities of the many, often fragmented and disparate, actors charged with making Australia an innovative nation (be it unions, policy makers, associations, public or private organisations, universities and research).

Those who have collaborated on this submission believe renewed attention to leadership, culture and innovation management at the workplace level will play a critical role in strengthening enterprise productivity and the competitiveness of Australian businesses in global markets in the years to come.



# Enabling Innovation: Leadership, Culture and Management at the Enterprise Level

## 1. Introduction and Background

This section introduces the concept of innovation and what it means to innovate (see Section 1.1.). This is followed by a brief introduction to what we mean by leadership styles, workplace cultures, and management techniques and how these affect innovation in the workplace (see Section 1.2.). A brief review of the Government's Karpin report of 1995, the most detailed inquiry into Australian management and leadership skills, is then provided (Section 1.3). In conclusion, the aims and structure of the report are outlined (see Section 1.4).

### 1.1. Innovation and It's Multiple Forms

Organisational innovation is an ambition to develop new and/or improved business processes, services and products with a view to create economic wealth and social well-being for individuals, firms and societies.

Traditionally, the concept 'innovation' has been most closely associated with the invention of new products - the idea of 'technological invention'. Yet, new products and technological inventions, whilst important, are rarely (if ever) enough for innovation to take place because any technical idea has to be implemented or translated into an organisation and a market. For innovation to be more than an idea or a prototype, the context favouring the innovation has to be developed. This is an organisational issue that involves leadership, culture and management. Indeed, management and leadership in all organisations are particularly important because they are the facilitating factors that allow individual creativity and entrepreneurial activity to develop into new products and services and thus into a national economic and social resource.

Van der Panne et al (2003) document the importance of management, collaboration and culture to product and service innovation in their review of the innovation literature. They find that:

...Agreement exists about the positive impact on innovative success of factors such as firm culture, experience with innovation, the multidisciplinary



character of the R&D team and explicit recognition of the collective character of the innovation process ...<sup>2</sup>

The Australian Bureau of Statistics (2005) shows that innovation at the workplace level can be about three things, including the delivery of new or significantly improved: 1) goods and services; 2) operational processes; and / or 3) organisational processes<sup>3</sup>.

The Bureau also discusses the relative significance of process and organisational innovation versus product innovation. Importantly, they find that the proportion of Australian businesses that undertook innovation by providing new goods and/or services in 2004 to 2005 (19 percentage points) was lower than the proportions of businesses that undertook operational processes innovation (22 percentage points) or organisational processes innovation (25 percentage points) in the same period.

This shows that innovation in most Australian organisations concerns process and organisational transformations, not merely product or technology inventions<sup>4</sup>. Such innovations may be harder to see with the human eye than, for example, product innovation, yet they are nonetheless a critical part of innovation and a contributor to economic and organisational progress.

Dogdson and Innes (2005, p. 4) illustrate why process innovation is important to organisations. They (2005, p. 4) survey small and medium-sized Australian manufacturing firms and find, among others, “*evidence of manufacturers engaging in some innovative business practices, especially towards achieving production efficiencies*”<sup>5</sup>. Many additional effects (such as customer satisfaction, revenue growth, more satisfied staff, etc) are derived from process and organisational innovation, as evidenced later in this report.

---

<sup>2</sup> Van der Panne, G., van Beers, C. and Kleinknecht, A. 2003 Success and failure of innovation: A literature review, *International Journal of Innovation Management* 7(3): 309-338.

<sup>3</sup> The ABS survey identifies three main categories of innovation in Australian industry:

1. The introduction of any new or significantly improved goods or services. Examples are a change in materials such as a breathable textile material and the introduction of a telephone or internet bill payment system.
2. The introduction of new operational processes (the methods of producing or delivering goods or services). Examples are the digitalisation of printing processes and the introduction of an automated ticketing system.
3. The implementation of new organisational/managerial process (meaning strategies, structures or routines that aim to improve business performance). Examples are changed corporate directions and significant workplace reorganisation.

<sup>4</sup> Michael Enright, Professor, University of Hong Kong, makes a similar point. He argues that it was leadership and management skills that made Bill Gates and Michael Dell successful entrepreneurs. Gates' innovation was in 'packing up' and assembling a software package and making this a standard for operating systems throughout the world. Similarly, Dell's innovation was in businesses modeling - in rethinking and better modeling the distribution chain in retailing, not in R&D.

<sup>5</sup> Specifically, their research aims to “develop a more finely-grained view of the nature of innovation in these firms beyond the aggregate of research and development expenditure and the introduction of new products” (p. 5). Notably, the study (p. 5) also found that Australian manufacturing firms “generally fail to appreciate and employ innovation as a decisive competitive strategy” and encourages firms to develop innovation activities across the board and manage these in a coherent, strategic manner (as discussed later).



Innovation at the work place level is thus multi-dimensional. It concerns new products and services, as well as new operational and organisational processes. Operational and organisational processes can be end-outcomes in themselves, yet can also act as supporting elements for product and service innovations.

As a key point, the above observations all emphasise that innovation at the workplace level extends beyond technological innovation and research and development (R&D) activity. Innovation is not, as such, restricted to senior executives, or scientists in 'white coats' performing complex experiments in laboratories. Innovation is also a process, which emerges from sometimes mundane, day to day, management activities and is done by many people in many locations (see the Business Council of Australia, 2006). This makes innovation a broad organisational issue, which requires mobilisation of a constellation of resources, activities and people rather than a particular distinct emphasis on technology only. Specifically, innovation requires consideration of the development of appropriate leadership styles, workplace cultures, and management techniques, all of which enable (or impede, if constructed wrongly) innovation at the workplace level, as discussed in the following.

## 1.2. Defining the Boundaries of Leadership, Culture and Management

Leadership, culture and management intersect in various ways to create innovation capability and infrastructure at the workplace level. This sub-section briefly introduces the three concepts of leadership, culture and management and how they affect innovation.

Innovation places great demands on organisations. It requires them to be able to generate new ideas, handle them appropriately, decide not only whether they are new but also whether they are good ideas or not, and turn the good ones into products or services. This in turn requires appropriate 'infrastructure' to cultivate and transform relevant ideas, and not just any idea. The role of leadership, culture and management is, on the one hand, to enable and encourage innovation to take place and transform ideas into assets, yet, on the other, also to weed out mistake before they become expensive.

**The leadership dimension** usually concerns senior people's role in developing the organisational processes where innovation is made an ordinary, recognised and accepted activity (although leadership need not be restricted to senior executives only). In fact, a key responsibility of leaders is to enable as many people as possible to lead positive change at all levels in the workplace. The leadership dimension includes the symbolic gesturing of leaders and the role models, artefacts and symbols they create, articulate and 'hold up' as desired behaviours to others in the organisation and elsewhere. Leadership is a resource if it helps



people see the direction and purpose of innovation; it is a resource only when it makes innovation a generally accepted agenda in the organisation<sup>6</sup>.

Even if a new idea sees the light of day, it still has to gain wide acceptance and become spread to the many in the organisation that have to change for it to become real. Leadership is thus not only about creating an organisation conducive to innovation; it is also to champion innovation and single out those ideas that to be implemented require cooperation from many within the organisation and often also beyond from suppliers and possibly customers. Leadership involves mediating the different assets that have to work in concert to make the innovation real.

Innovation is often a strategic option for increasing organisational competitiveness, and it is in this context, Llorens-Montez et al. (2005) through their empirical study, demonstrate the importance of leaders supporting innovation through teamwork cohesion, organisational learning, and technical and administrative innovation<sup>7</sup>. A leader's role is to develop a suitable management style and to inculcate a workplace environment that enables, allows and encourages innovation to take place.

**The cultural dimension** concerns the preparedness of people to engage in innovation. This is often manifested in an organisation's covert and overt 'ways of doing' and relates to its formal and informal rule structures<sup>8</sup>. The cultural aspects are most closely linked to the covert, or informal ones. They are social and reside in the history of the organisation as 'taken-for-granted', invisible, rules about expected behaviours<sup>9</sup> and assumptions about how and if people can be trusted or permitted to engage in innovative activities, and also how necessary, or perhaps also un-necessary, innovation is. In particular, culture addresses the question of covert barriers to people's engagement and innovation potential, their abilities to influence innovation in their work-situations, and the value-based incentives that encourage them to participate in developing the organisation<sup>10</sup>. Barney (1986) argued that organisational culture

---

<sup>6</sup> See Deschamps, J-P. (2005) Different leadership skills for different innovation strategies, *Strategy & Leadership* 5: 31-38. See also Joiner and Josephs (2006), who argues there are five levels of leadership mastery for anticipating and initiating change.

<sup>7</sup> This is consistent with the findings of the Boston Consulting Group's report for Innovation and Business Skills Australia titled "The Manager of the 21<sup>st</sup> century – 2020 Vision" (January, 2006), which argues that emerging leaders have advanced communication and team-building skills. Leadership skills have changed from administration to leadership.

<sup>8</sup> Culture has also been examined at the national level, notably by Hofstede (1980, 1994) and Cameron and Quinn (1999).

<sup>9</sup> See for example Schein (1992), who defines organisational culture as the "learned, shared, tacit assumptions on which people base their daily behavior. Culture is 'how we do things around here' (Schneider, 2000). It is a construct which concerns the collective behaviors of people, founded in their common beliefs and values with the outward manifestation of culture demonstrated in the form of language and all aspects of behaviour. It is to be noted that all cultures are dynamic and so, evolve continuously.

<sup>10</sup> See, for example, Jassawalla, A.R. and Sashittal, H.C. (2002), for examples of cultures that support product-innovation processes, *Academy of Management Executive* 16(3): 42-54. Yet, deciding which cultural archetype is a better fit is not easy. Extant literature shows there are several cultural environments that organisations have fostered



can be a source of sustained competitive advantage. For example, those who have a cooperative culture supporting innovation may find that it is this culture that gives them a competitive advantage<sup>11</sup>. There are many ways to create a culture supportive of innovation, ranging from pure training and education, and incentives, through to social norms and other 'invisible' artefacts, including symbols and symbolic behaviours. The former are usually the easier to manage, yet the latter are often the more powerful ones.

**The management dimension** concerns the design of mechanisms and processes that make it possible to incentivise, monitor and control the development of innovation activities.

Innovation is generally in need of expansion, but unfortunately many novel ideas are bad ideas. Therefore, mechanisms have to be developed so that it is possible to encourage 'good' innovation and stop 'bad' innovation. Organisations may have to expand, yet, at times also restrict the number of ideas generated and implemented. Management techniques such as project management systems, intellectual capital reporting, human resource management, strategic planning and budgeting, performance remuneration, staff incentives etc. all illustrate that it is possible to devise processes for enterprise innovation management. Many management techniques are not 'new' but they may have to be used and applied differently. Rather than using management techniques coercively to limit innovation they may be used to enable innovation; rather than being used diagnostically to stress productivity only, they may be used interactively to stress learning also<sup>12</sup>.

### 1.3. Previous Inquiry into Leadership, Culture and Management – The Karpin Report 1995

The development of innovative cultures, leadership and management skills at the enterprise level has partly been suggested as important in the Karpin report of 1995 undertaken on behalf of the Australian Government. This report was the most extensive inquiry ever into how Australia prepares its managers for work. It analysed the demand and supply of innovative

---

– cultures based on power, task, role, and person (see Charles Handy); or based on clan, hierarchy and adhocracy. A recent study on organisational cultures conducted by Monash University, Knowles et al. (2005) investigate three cultures – role, task/person and power culture and found that Australian organisations would prefer a task culture. Gender preferences were also found with women showing greater preference for person/task cultures. Further when ratings on current and ideal cultures were compared, respondents rated their organisations having greater power or role cultures than desired, as opposed to less task or person cultures than desired.

<sup>11</sup> As a practical example, Google, have embraced the concept of "open innovation" through fostering a culture of collaborative, friendliness, openness, encouragement and commitment. They even have a "Chief Culture Officer", one that shoulders responsibility to promote and foster their service, empowers employees, invite customers and partnering organisations to co-produce innovative solutions and applications for emerging technologies and services, such as the Google Mapping software.

<sup>12</sup> See Simons, R. (1991). Strategic orientation and top management attention to control systems, *Strategic Management Journal*, 12(1), 49-62; see also Davila, T., Epstein, M.J. and Shelton, R. (2006) *Making innovation work. How to manage it, measure it and profit from it* Upper Saddle River, NJ: Wharton School Publishing



capabilities in Australian industry and the public sector<sup>13</sup>. It analysed the demand for skills and competencies to manage in a changing world, and also the supply of education and training to develop managers. This sub-section provides a brief overview of the Karpin report and what we can learn from it.

Twenty-seven reports were produced from the three year study, involving hundreds of consultations with stakeholders and also an international study tour.

In the following, we provide a brief summary of the findings of the Karpin report as background to the subsequent sections, including how it focused on innovation.

#### *Demand Side Findings (Enterprises and SMEs)*

The Karpin report found that many *large Australian enterprises* had made significant improvements to their customer orientation and commitment to quality. Yet, significant gaps still existed in the areas of entrepreneurship, global orientation, soft skills, strategic skills and management development. Australian managers in large enterprises needed to be more proactive in creating opportunities and more outwardly focused in their thinking. They also needed to improve their teamwork skills, including co-operating with a more diverse workforce and being more prepared to take responsibility for team outcomes. Managers also had an overly short-term focus and lacked a strategic focus

For *small to medium enterprises*, the report found that bridging the gap to world best practice would be an even more challenging exercise than for large enterprises. On the positive side, the nature of small businesses tended to make their managers more entrepreneurial and customer oriented than those of their larger counterparts, and also to engender functional and soft or people skills. However, in other areas there were significant gaps to be bridged and major constraints of size. Small to medium enterprise managers were not as likely to be tertiary qualified and did not undertake management development to any significant extent. Most were not globally oriented. The small scale of these enterprises also made a commitment to quality and the development of longer-term strategic skills difficult.

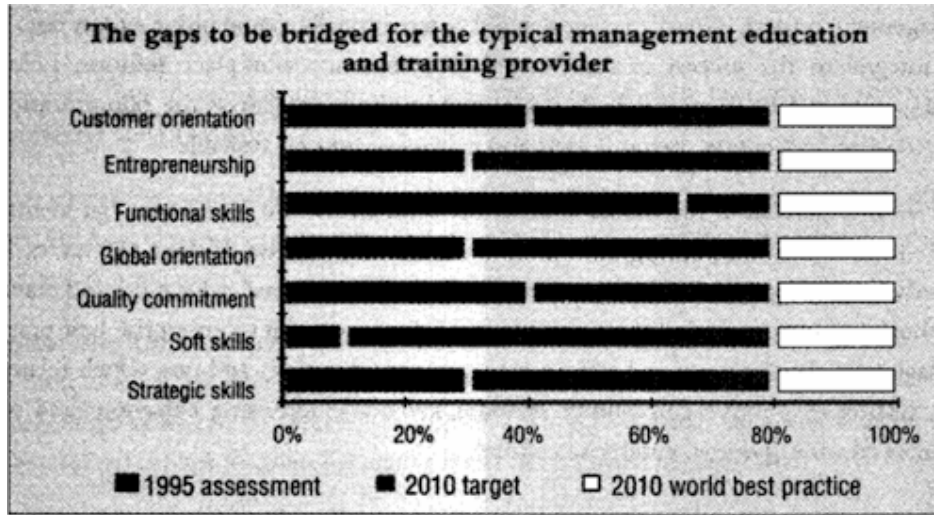
#### *Supply Side Findings (Education and Training Providers)*

The Karpin report developed many well-grounded recommendations about the required changes needed to be made in Australian educational and training systems. Analysing the *supply side* of skill and competencies, the Karpin report pointed out a series of areas in which the Australian educational system appeared to be below benchmark.

---

<sup>13</sup> See Karpin (1995), "Enterprising Nation, Renewing Australia's Managers To Meet The Challenges Of The Asia-Pacific Century Industry Task Force On Leadership And Management Skills", Commonwealth of Australia 1995.

Gaps to be bridged for management training and education providers related to the development of analytical and strategic skills, responsiveness to customers, entrepreneurship and also the soft or people skills necessary to succeed in modern business (see Figure).



#### Australia's Poor Performance on Entrepreneurship and Innovation

As one of many areas, the 1995 Karpin report highlighted the importance of innovation and entrepreneurship to national economic performance. It pointed out the positive and potentially vital role that entrepreneurship, within small, medium and large enterprises, plays in creating jobs and improving living standards. It, for example, mentioned:

*“Entrepreneurship provides all types of organisations - government, private and non-profit - with the ability and opportunity to adapt and survive in conditions of rapid economic and environmental change”.*

The report specifically commented on the poor performance of Australian organisations and education providers in regards to developing entrepreneurship and innovation skills and culture. The report stated:

*“In the business area, while there are significant pockets of entrepreneurial excellence in Australia, the Task Force does not believe that the Australian community at large supports an enterprise culture”.*

Research to support this included, among others, the findings from The Institute for Research into International Competitiveness (1995) survey, which reported that Australia's customers in



the Asian region (Japan, Singapore, Taiwan, Malaysia and Indonesia) rated Australian managers a long way behind the other five nations on six key measures of entrepreneurial skill (see Table below).

<b>Entrepreneurial expertise of managers*</b>						
<b>Entrepreneurial expertise</b>	<b>Australia</b>	<b>Germany</b>	<b>Japan</b>	<b>Taiwan</b>	<b>UK</b>	<b>USA</b>
Entrepreneurial skills	4.8	3.7	2.3	3.4	4.1	2.6
Taking advantage of new business	4.9	3.8	2.0	3.3	4.3	2.7
Willingness to take financial risks	4.6	3.8	2.7	3.6	3.9	2.5
Willingness to take initiatives in making friends with business people from another country	4.2	4.0	2.9	3.8	3.8	2.3
Creativity in generating new business ventures	4.9	3.7	2.0	3.6	4.2	2.5
Ability to explore business opportunities	4.8	3.8	2.1	3.4	4.2	2.5

\* The mean responses are on a six point scale (1) best to (6) worst.  
Institute for Research into International Competitiveness 1995.

From evidence, such as the above, the Karpin Task Force concluded that Australians needed a better developed entrepreneurial spirit and innovation culture. Furthermore, the Task Force highlighted that the generally ambivalent to negative attitude toward business enterprise in Australia was culturally-based.

It also concluded that the lack of enterprise and entrepreneurial studies at school, in vocational education and training, and in higher education formed part of the reason why there was not a strong entrepreneurial business culture in Australia. Education was seen to be the main arena whereby enterprise and entrepreneurship could be encouraged across society and enterprises.

To this end, the Task Force recommended two initiatives: 1) the introduction of enterprise and entrepreneurship units into school, vocational and tertiary education (see Recommendation One below); and 2) a program of community education aimed at raising the profile of enterprising and entrepreneurial behaviour in the community particularly in the small business area, as well as the broader development of an enterprise culture (see Recommendation Two below)<sup>14</sup>.

<sup>14</sup> This initiative suggested using the medium of television to reach the broadest audience in a manner that is accessible to the younger generation. It was designed to overcome some of the negativity towards small business



## RECOMMENDATION ONE

### **Recommendation One**

#### **Development of an Enterprising Culture – within formal education and training (Band I)**

**It is recommended that the formal education system be used to:**

- **Expose students at primary, secondary, vocational and tertiary levels of education to the value of enterprising and entrepreneurial behaviour; and**
- **Provide units in entrepreneurship and small business formation and management in vocational and professional courses.**

*(continued)*

### **Implementation Strategy**

**Implementation details would include:**

- **Curriculum designers, business educators and teacher training specialists to work with industry representatives to develop the material: content of the program to reflect best practice in enterprise;**
- **Support from both Commonwealth and state systems responsible for education and training: also TAFE and universities;**
- **Review of primary, secondary, vocational and higher educational curricula to identify new units of study to be developed and existing units that could be adapted;**
- **Staff development of teachers at all levels of the education system; and**
- **Monitoring of outcomes to maintain program currency.**

---

apparent in the current environment and to promote small business as a viable career option for more individuals in the future.



## RECOMMENDATION TWO

**Recommendation Two**  
**Development of an Enterprising Culture – through community education (Band I)**

It is recommended that there be a major community education program designed to promote the value of enterprise and entrepreneurial behaviour.

**Implementation Strategy**

Implementation details would include:

- Separate strategies targeted at:
  - Regional development pilot projects;
  - Strategic events; and

*(continued)*

- Mainstream media programs on TV and radio with supporting telephone contacts, fact sheets, and relevant materials for distribution to viewers and listeners.
- Development of networks, both of people and organisations, willing to advise on and contribute to this change process;
- Partnership arrangements with industry, professional associations, state and local governments to assist in the operation and funding of the program;
- Development by consortium of industry representatives, small to medium enterprise developers, and media specialists; and
- Research into effective community education techniques used in other parts of the world, or in Australia.

A long list of broader recommendations was also prepared in response to the key challenges identified in the Karpin report<sup>15</sup>. Yet, many of these were never acted on or implemented.

<sup>15</sup> Specifically, in response to the indicators of management and enterprise performance established in the supply and demand side analyses, the Karpin Task Force formulated a model of management renewal. This model identified the key levers for improving management skills. Specifically, five main challenges were identified by the Karpin Task Force as barriers to workplace productivity and innovation, as follows:

- Challenge one: developing a positive enterprise culture through education
- Challenge two: upgrading the capability of the vocational education and training system
- Challenge three: capitalising on the talents of diversity
- Challenge four: achieving best practice management development
- Challenge five: reforming management education



Some general observations can be made about the Karpin report and its recommendations on innovation and entrepreneurship:

- The Karpin report is undoubtedly the most comprehensive inquiry ever into the way Australia prepares its managers for work, presenting policy recommendations and national strategies to address gaps in leadership and management skills at the workplace level.
- Yet, many of its recommendations were not implemented and for the past 13 years there has been no comprehensive follow up or inquiry into the leadership and management skills of Australian businesses. Today, we have limited insights, at the national level, into how Australia prepares its managers for work (Section Two discusses this issue in detail).
- A strength of the Karpin report is that it analysed both *demand* and *supply* side factors and sought to strengthen workplace performance by addressing education shortfalls.
- Yet, a weakness of the Karpin report could also be that its main emphasis was on training and education. Whilst it did consider a variety of mechanisms for addressing shortfalls and weaknesses in leadership and management (the aforementioned public awareness raising / TV campaign, partnerships, and research being some examples), many of the top line recommendations in the Karpin report were directed at training and education. Contemporary practices overseas today indicate that a wider variety of intervention mechanisms are required to strengthen leadership and management at the workplace level. These are reviewed in Section Three.

Needless to say the Karpin report was an important and insightful assessment of its time. It sets a noteworthy example to learn from and keep in mind as a possible 'working model' for proposing a national inquiry into innovation management in 2008. Indeed, some thirteen years later, with a recent change in government, 2008 may be an appropriate time to revisit the Karpin report and investigate its feasibility and relevance in a changed economy.

Any inquiry conducted today will undoubtedly need to be adapted and designed to suit environmental and policy changes along with changes in stakeholder needs and interests that have occurred over the past many years (including, for example, the changing nature of enterprise competitiveness and the increasingly connected and globalised economy that we live in). That is, a Karpin II in 2008 would look significantly different to the original Karpin



report. Whilst it would address related and similar issues, it would also need to consider the many macro and micro-level social and economic changes that have evolved since 1995.

Opportunities exist, for example, to look at both the demand and supply sides as done in the original Karpin report, yet to broaden insights into alternative strategies and delivery mechanisms (extending beyond education and training). This could involve placing greater emphasis on collaboration between industry and government, both in designing and implementing / operating reform strategies and industry programs. These issues are re-visited in Section Four where we propose a draft set of 'Terms of Reference' for a national inquiry into innovation management at the workplace level.

#### **1.4. Aim and Structure of this Report**

The main objective of the report is to assess if there is a need for, and any perceived benefits associated with, commencing a national inquiry into Australia's leadership, culture and management skill at the enterprise level.

Specifically, this report suggests that such an inquiry should focus on the leadership styles, culture attributes and management tools that prevail in Australian private and public sector organisations, and how these aid or impede innovation activity at the workplace level. As such, a national inquiry into today's Australia should focus specifically on innovation management at the workplace level.

In summary, this report focuses on three issues, as follows:

##### **Section #2: How does Australia fare and what data is currently available about innovation management at the enterprise level?**

What do we currently know about Australian leadership, culture and management including their effects on innovation at the workplace level? How well do Australian organisations currently manage innovation processes? Do they have the skills, mindsets, attitudes, competencies, cultures, infrastructures, and modes of organising to support, enable and encourage innovation activity in the workplace?

We do not seek to answer all these questions in this report, but rather to do a brief scan of existing literatures and data sources to understand what research data is currently available and get a sense of what this tells us about the relationship between innovation and leadership, culture and management at the workplace level and whether this is important.



**Section #3: What government programs and international initiatives and efforts currently exist?**

What government support mechanisms and programs currently exist in Australia to help organisations strengthen innovation performance at the workplace level? Furthermore, what might we learn from overseas initiatives, including positive and negative experiences and effects?

**Section #4: How might the terms of reference look for a national inquiry into innovation management in Australian enterprises in 2008?**

What inquiries and research investigations might help us gain a better understanding of Australian leadership, culture and management and how well public and private sector enterprises currently manage innovation in the workplace? What could the 'terms of reference' for a national inquiry into innovation management at the enterprise level look like and how might such an inquiry help strengthen innovation performance in Australia?

**2. Leadership, Culture and Management as Drivers and/or Impediments to Innovation**

In this section of the report, we do a brief scan of existing literatures and information sources to understand what data currently exist and what this tells us about Australian leadership, culture and management and their link to innovation performance at the workplace level. This section of the report is structured as follows:

Section 2.1 discusses why managing innovation at the workplace level is important, including the effects (social, economic, etc) it can produce.

Section 2.2 provides an overview of a selection of existing studies on innovation management at the enterprise level in Australia.

Section 2.3 provides practical examples from five Australian businesses in the form of mini-case studies, illustrating the relationship between culture, leadership and management, and innovation and how these dimensions are critical to maximising innovation activity at the enterprise level, highlighting barriers and enablers.

Section 2.4 summarises gaps and identifies areas where we need more information and insights into innovation management at the enterprise level.



## 2.1. Why is Managing Innovation at the Enterprise Level Important – What Effects Does it Produce?

There is widespread recognition that innovation can produce economic and social effects and benefits. Existing studies, for example, show that innovation is positively associated with various beneficial outcomes, as follows.

Innovation is associated with superior financial performance of businesses. The reviews by Damanpour (1991), Vincent et al (2004), and Panne et al (2005) of more than 20 years of research say that innovation is highly correlated with financial performance, including, for example, return on assets and growth.<sup>16</sup> This happens particularly when product and process innovations complement each other.<sup>17</sup> The authors also note that when innovation activities fail, the performance of such firms tends to decrease substantially. The studies furthermore highlight that organisational factors (people management, systems and processes, culture, leadership etc) effectively mediate the relationship between innovation and performance. This suggests that the performance of innovation depends on organisational processes.

Similarly, in their analysis of the literature on the relationship between innovation activities and the market value of the business, Ballardini et al (2005)<sup>18</sup> found 'convergent and robust evidence' of a significant positive correlation. However, they also caution against a too deterministic view of this relation because estimating the future revenue flows from innovation has a high degree of uncertainty given the higher risk of innovation. They also suggest that effects of R&D based innovation on market value can be offset by the presence of other intangible resources such as patents and advertising. Their main conclusion is that capital markets do value investments in 'soft' resources in the innovation area.

Research has also found a correlation between innovation and national economic performance, such as GDP growth and employment. Tether et al.'s (2005) UK based study suggests that key drivers of national economic performance are innovation, skills, investment,

---

<sup>16</sup> Damanpour F. (1991), Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators. *Academy of Management Journal* 34 (September): 555-590; Vincent, L., Bharadway, S.G. and Challagalla, G.N. (2004), Does innovation mediate firm performance? A meta analysis of determinants and consequences of organizational innovation (Georgia Tech, US); Zornoza; Van der Panne, G., van Beers, C. And Kleinknecht, A. (2003) Success and failure of innovation: A literature review, *International Journal of Innovation Management* 7(3): 309-338.

<sup>17</sup> See also Cetus, E. and Ciccarelli, M., (2005), Profit Differentials and Innovation, *Economics of Innovation and New Technology* 14(1/2): 43-61, Damanpour, F. and Gopalakrishnan, S., (2001), The Dynamics of Adoption of Product and Process Innovation in Organizations, *Journal of Management Studies* 38(1): 45-65; Ittner, C.D. and Larcker, D.F., (1977), Product Development Cycle Time and Organizational Performance, *Journal of Marketing Research* 34(1): 13-23; Marsili, O. and Salter, A. (2005), 'Inequality' of Innovation: Skewed Distribution and Returns in Dutch Manufacturing, *Economics and Innovation and New Technology* 14(1/2): 83-101; Palmer, R. and Brooks, R., (2002), Incremental Innovation. A Case Study Analysis, *Journal of Database Management* 10(1): 71-83, Tatikonda, M.V. and Montoya-Weiss, M.M., (2001), Integrating Operations and Marketing Perspectives of Product Innovation. The Influence of Organizational Process Factors and Capabilities on Development Performance, *Management Science*, 47(1): 151-172.

<sup>18</sup> Ballardini, F., Malipiero, A., Oriani, R., Sobrero, M. and Zammit, A., (2005), Do Stock Markets Value Innovation? A Meta-analysis. Available at SSRN: <http://ssrn.com/abstract=717562>



enterprise and competition.<sup>19</sup> Given the mix of factors that determine national economic performance, it is not easy to specifically single out the innovation and skill component. Nevertheless the report suggests a positive relation between product-innovation and employment. Yet, it also suggests an uncertain relationship to process innovation where productivity gains may reduce employment levels.<sup>20</sup> It also points out, however, that with an increase in innovation, new skill sets are required in the workforce. Innovation is disruptive, and training and education are important to successful innovation. In particular, since disruptive changes happen, the report points out the role of leadership in the process of innovation: “The report identifies management and leadership skills as being of particular importance for all types of innovation. Without leadership, or ‘strategic intent’, firms do not innovate in any fundamental ways” (p. 6).

Whilst much research has focused on the effects of innovation more broadly and pointed out the importance of organisational factors and processes, it has been less concerned with investigating the precise links between leadership, culture and management and innovation, Tether et al’s (2005) study being one of the few to address these variables.

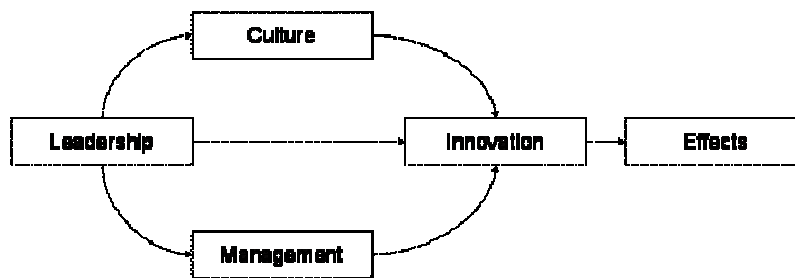
The Figure overleaf addresses these relationships. It illustrates how leadership, culture and management affect innovation activity in the workplace, which in turn translates into social, economic and environmental effects.

---

<sup>19</sup> Tether, B., Mina, A., Consoli, D. and Gagliardi, D., (2005), *A Literature Review on Skills and Innovation. How Does Successful Innovation Impact on the Demand for Skills and How Do Skills Drive Innovation*. A CRIC Report for the Department of Trade and Industry (ESRC Centre for Research on Innovation and Competition, University of Manchester).

<sup>20</sup> However, a German analysis suggests positive effects of both types of innovation on employment (see Lachenmaier, S. and Rottmann, H., (2007) *Effects of Innovation on employment: A Dynamic Panel Analysis* CESIFO WORKING PAPER NO. 2015 CATEGORY 9: INDUSTRIAL ORGANISATION)

**Figure: Relations between Leadership, Culture, Management and Innovation**



The Figure illustrates that innovation arises out of organisational processes where leadership, the ability to point out relevant ambitions and purposes, influences innovation directly, but also indirectly. Leadership influences innovation indirectly via its impact on organisational culture and on management practises. The model points out that innovation is associated with central organisational activities, which in turn leads to various types of desirable outcomes of financial, social and environmental character.

In a series of publications, Professor Jean-Philippe Dechamps has outlined the contours of **innovation leadership**<sup>21</sup>. The claim is that innovation requires a specific form of leadership. Innovation leaders are those executives *who stimulate, steer, sustain and promote the innovation agenda in their firm*. Different innovation strategies may require different styles of leadership since styles of innovation leadership may differ between ‘fuzzy front-end’ and ‘speedy back-end’ of the process. The front-end of innovation focuses on exploring opportunities, generating and selecting great ideas relating to customer problems and turning them into attractive solutions. It requires a great deal of organisational creativity. The back-end of innovation, by contrast, must convert these concepts into winning new products or services and bring them to market as quickly and cost effectively as possible. It requires organisational discipline. Both ends involve complex cross-functional processes, but these processes are very different in nature and require very different styles of leadership.

Jassawalla and Sashittal (2002)<sup>22</sup> suggest that an **innovation-oriented culture** has the following guiding values, beliefs, and assumptions of participants: A. Taking initiative and exhibiting creativity and risk-taking are important and expected. B. All participants are capable

<sup>21</sup> Deschamps, J-P, (2008), Innovation leaders : how senior executives stimulate, steer and sustain innovation San Francisco : Jossey-Bass; Deschamps, J-P. (2005) Different leadership skills for different innovation strategies, *Strategy & Leadership* 5: 31-38

<sup>22</sup> Jassawalla, A.R. and Sashittal, H.C. (2002), Cultures that support product-innovation processes, *Academy of Management Executive* 16(3): 42-54 ; <sup>22</sup> See also DITR (2006), “Collaboration and other factors influencing innovation novelty in Australian businesses”



of being trusted in a co-creative endeavour and are important, equal stakeholders. C. All participants (including leading customers, key suppliers, and members of other functional groups) are insiders and should be involved early in the product-development process. D. Organisational change is energising and refreshing. Change should be embraced rather than resisted.

These principles concern the milieu of cooperation, initiative and risk. The concern is collective doing and experimentation more than individualised activity. This requires that individuals know about the purpose of collaboration and therefore a central part of this is communication of the ambitions and values that sustain collaboration in the search for innovation. According to Jassawalla and Sashittal, collaboration is the most powerful basis for process and product development. It develops objectives about technology, products, customers, and markets, and choices about deploying talents, energies, time, and other resources. Also it develops the setting in the form of the apparatus for decision making and organising workflow, the participants, and systems and processes for resource allocation, managing information and assessment. Yet, collaboration may also have a 'dark side' to it as it can stop staff from challenging the status quo, thus inhibiting new thinking and innovation.

It has increasingly been observed that innovative firms are not barren of **management techniques, methods, tools and procedures**. For example, Davila (2000) reported that innovative firms are high users of management techniques<sup>23</sup>. Accounting systems and use of various types of non-financial information is used to gauge the development of innovation. The more attention to various types of formal controls the more it is possible not only to control innovation activities, but also to foster those that have most promise. Likewise Simon (1997, 1990) made the counterintuitive finding that innovative firms facing strong product innovation requirements are much more information intensive than traditional firms with low innovation. Such management information is used not primarily to put boundaries around the creative powers of people, but to facilitate common purpose and a concerned dialogue about the direction of change and the challenges facing the firm. Information is used in a learning mode more than a diagnostic mode in innovative firms.

Other management systems such as Human Resource Management are also central to development of innovation. Lorenz and Valeyre (2005) showed that in Europe, in innovative firms, new form of pay-schemes including collective bonus payment systems and profit

---

<sup>23</sup> Davila, T. (2000), An empirical study on the drivers of management control systems' design in new product development, *Accounting, Organizations and Society*, 25(4/5): 383-409; see also Simons, R. (1991). Strategic orientation and top management attention to control systems. *Strategic Management Journal*, 12(1), 49-62; Davila, T., Epstein, M.J. and Shelton, R.(2006), *Making innovation work. How to manage it, measure it and profit from it* Uppler Saddle River, NJ: Wharton School Publishing.



sharing programs become widespread.<sup>24</sup> Such incentive systems help foster collaboration and unity of purpose. Likewise, in innovative firms, investments in training are significant. Innovative firms and innovative work organisation are thus associated with complex forms of human resource management programs where attention to the collective effects of work on innovation are taken into account. There are associations between work organisation, innovation and human resource practices.

Based on the above findings there is reason to believe that leadership, culture and management will be able to account for innovation activities. Indeed, each of the three elements is related to innovation activities and by being mobilised in suitable ways, they can help to foster innovation. The model thus helps to predict that leadership, culture and management are central forces in developing innovation.

## 2.2. How Does Australia Fare in 2008? – What Do We Know Today and What Don't We Understand Well?

This sub-section provides a brief review of existing literature on innovation management at the enterprise level in Australia. We seek to identify how Australia fares and what we know about innovation capability and performance in the workplace in Australia, specifically culture, leadership and management.

Much research talks about innovation in Australia. Some of this shows that innovation activity is slowly rising in Australia. For example:

- The ABS (2005)<sup>25</sup> study reports that “The proportion of businesses that undertook one or more of the three types of innovation (new goods or services, new operational process and new organisational processes) increased from around 30% of businesses in the 2002 to 2003 calendar year period to around 34% of businesses in the 2004 to 2005 calendar year period”.

---

<sup>24</sup> Lorenz, E. and Valeyre, A. (2005), Organisational Innovation, Human Resource Management and Labour Market Structure: A Comparison of the EU-15 *Journal of Industrial Relations* 47: 424-442.

<sup>25</sup> 8163.0 - Patterns of Innovation in Australian Businesses, (2005), “The scope of the 2005 survey was all businesses in Australia with employment recorded on the ABS Business Register of five or more employees, except those classified to the following institutional sectors or industry divisions:

- SISCA\* 3000 General Government
- SISCA 6000 Rest of the World
- ANZSIC\*\* Division A Agriculture, Forestry and Fishing
- ANZSIC Division M Government Administration and Defence
- ANZSIC Division N Education
- ANZSIC Division O Health and Community Services
- ANZSIC Division Q Personal and Other Services.
- Standard Institutional Sector Classification of Australia (SISCA)
- Australia and New Zealand Standard Industrial Classification (ANZSIC)” (p. 39).



- The IBM and Melbourne Institute Innovation index reports that “The rate of innovative activity in Australia has increased by 25.8 per cent during the period 1990 to 2005 with particularly strong growth experienced since 1996. The overall increase in the rate of innovative activity since 1990 is 1.6 per cent per annum”.

Whilst these studies provide valuable insights into *national level* trends and development, not many studies with national coverage focus on what it means to manage innovation at the enterprise level and the leadership skills, culture attributes and management techniques that can aid or impede innovation inside organisations.

For example, the Australian Bureau of Statistics (2005) provides one of the most comprehensive surveys on innovation in Australia to date. Yet, the study does not investigate how organisations manage innovation in practice and the leadership skills, culture attributes and management tools they deploy and require to do so. It provides great statistical data about many categories (including innovation proportions at the State and Territory level, proportion of turnover generated from new goods or services innovation, industry with the highest proportional increase in innovation, business size, foreign ownership, etc) but fails to unpack the black box of ‘management’ and what it means to manage businesses and people for innovation purposes at the enterprise level.

The IBM – Melbourne Institute survey, which is also nation wide, makes some headway, albeit limited, in addressing this gap in what we know about innovation performance nationally (as discussed later).

Additional industry based research studies have also made some headway in exploring how workplace practices, including leadership, culture and management techniques, aid or impede innovation inside organisations. The following Table provides a summary of some of the most notable surveys, and also larger field studies, done on innovation at the enterprise level in Australia to date. These are listed in alphabetical order. The Table identifies the research method used, the sample size, and the extent to which the research looks at innovation at the workplace level (including the leadership, culture and management dimensions of innovation).



**Table: Summary of a Selection of Studies on Innovation in Australia<sup>26</sup>**

Study	Research Method	Sample Size	Dimensions Considered (Leadership, Culture, Management)
<b>Australian Bureau of Statistics (2005)</b> , <i>Patterns of Innovation in Australian Businesses</i>	Survey	Est. at 141,300 organisations	None
<b>Australian Business Foundation (Dodgson and Innes, 2006)</b> , <i>Australian Innovation in Manufacturing: Results from an International Survey</i>	Survey (Manufacturing)	41 organisations	Focuses on many aspects of Management, with no mention of Leadership and Culture
<b>Business Council of Australia (2006)</b> , <i>New Concepts in Innovation</i>	Field Study	17 private sector organisations and 1 public sector organisation	All
<b>Fujitsu Innovation Survey (2006, 2007)</b>	Survey	2006: 178 organisations (14% in government, education and health) 2007: 271 organisations (24% in government, education and health) <sup>27</sup>	All
<b>IBM – Melbourne Institute (2007)</b> , <i>Innovation Index of Australian Industry</i>	Survey	Draws on ABS data using industry classification codes	Limited focus on Management, with no mention of Leadership and Culture
<b>World Economic Forum (2007-08)</b> , <i>Global Competitiveness Report</i>	Survey	31 Nations	Focuses on general attributes of Management, with some mention of Culture and no mention of Leadership

In the following, we put forth three observations about what these studies (shown in the Table above) tell us about innovation at the enterprise level.

<sup>26</sup> There are many additional studies to those listed here. We have merely chosen some of the main studies that are most commonly referenced in relation to managing innovation at the workplace level. There are many additional studies which concern workplace practices including, for example, the Australian Institute of Management's (2003) study titled "*Management Development Practices in Australia*" and also the aforementioned BCG study commissioned by IBSA.

There are also a range of additional government studies, which look at innovation, although not often at the workplace level or more broadly at skills in the workplace (see DITR on "*Aspects of skill shortages and innovation in businesses*" (2007), DITR "*Collaboration and other factors influencing innovation novelty in Australian businesses*" (April 2006); by Backing Australia's Ability "*The Australian Government's Innovation Report 2006-2007*" (2007); by the Productivity Commission Research "*Public Support for Science and Innovation*" (March 2007); by DCITA "*ICT and Australian productivity (Nov 2005)*", "*ICT and Productivity*" (2007) and the "*General Purpose Technologies and the Information Economy*" (July 2006). Most recently, (April 2008), the Prime Minister's Science, Engineering and Innovation Council Working Group released "*Science and Technology-Led Innovation in Services for Australian Industries*" which acknowledges the service sector as a key driver of innovation. Notably, this report provides interesting mini-case studies of innovations in the services sector.

<sup>27</sup> This included 136 Australia and 42 New Zealand companies in 2006, and 181 Australia and 90 New Zealand companies for 2007.



[Observation 1: Australian business can do better at managing innovation at the workplace level.](#)

Common to most of the studies listed in the Table above is the observation that Australian business can do better at managing innovation at the workplace level.

A survey of Australian manufacturing by Professor Dodgson and Professor Innes (2005), on behalf of the **Australian Business Foundation**, found that Australian manufacturing firms generally fail to appreciate and employ innovation as a decisive competitive strategy.

Unlike their European counterparts, there is little evidence that Australian manufacturers see innovation as a tool to transform the way they do business or to respond proactively to the problems and/or opportunities presented by an increasingly globalised, knowledge-intensive marketplace. Their main shortcomings lie in not managing the challenges of innovation in product development and in business models. (p. 5).

Furthermore, there is

little evidence of investment in advanced technologies for product design, techniques for organising new product development, effective linkages with innovation-demanding customers, and the packaging of services around product offerings. The Australian firms in the sample have short-term planning horizons and are not adopting the formal continuous improvement processes that drive sustained step-change improvements as a coherent innovation strategy for long term competitive advantage (p. 5)<sup>28</sup>.

Dodgson and Innes (2005) conclude that strategies in successful manufacturing firms involve not only improving existing ways of doing things in a few areas, but also developing new innovation activities across the board. The only way to compete is to stay ahead of the game and this means doing whatever it takes – developing new products, using advanced technologies, bundling products and services, using better processes for market intelligence and assessing customer responses – in a coherent, strategic manner. Australian manufacturing firms (at least those sampled) do not do that.

---

<sup>28</sup> It should also be noted that manufacturing companies also make successful efforts at managing innovation. They, for example, respond to their customers' demands quickly and effectively, encourage teamwork and employee consultation. Employees are involved in the restructuring and redesign of jobs, both of which are actions conducive to innovation (p. 5).



**The 2006 Business Council of Australia's** report *New Concepts in Innovation* similarly focuses on workplace practices, which foster innovation. Based on 18 case studies, the report shows emerging innovative practices in Australian organisations and makes the important point that innovation can best be presented as activities that can be found in any aspect of an organisation's activities. Some innovations are small, almost so small that they are not noticed, while others transform systems of interaction. The report also points out that:

1. Innovation requires connectivity within and beyond all parts of an enterprise - it is not confined to research work;
2. The imperative to deliver customer value drives the need for, and nature of, innovation; and
3. That innovation, in some circumstances, has more to do with managing human capital than with technology and invention.

One of the report's main recommendations is to make innovation a pervasive activity to be found in all areas of the firm, and at all organisational levels.

**The Fujitsu innovation surveys** (2006, 2007) focus specifically on the organisational capabilities required to be innovative. They measure 20 organisational attributes<sup>29</sup> which lead to innovation at the workplace level and rank a smaller sample of Australian and New Zealand companies on those attributes. As a result, they are able to identify innovation 'leaders' and 'laggards'.

A main finding of the Fujitsu survey (2006, p. 5) is that Australian businesses are underperforming on innovation:

with a mean score of 64/100 on innovation performance amongst respondents to the survey, there is plenty of room for improvement if Australian and New Zealand organisations are to succeed in the increasingly competitive world economy.<sup>30</sup>

---

<sup>29</sup> The 20 attributes are grouped under three key areas. These are:

1. **Leadership:** including the organisational framework in which innovation can be owned, managed and resourced; executive management; personnel empowerment; effective communication; clear strategy and methodology; team charter.
2. **Processes:** including knowledge management; innovation recognitions and rewards; collaboration; knowing customers and markets; implementation; reporting effectiveness; general processes.
3. **Inputs:** including environment; time; appropriate IT systems to support innovation; budget; resources; idea promotion.

<sup>30</sup> It also noted that "Australia and New Zealand achieved a low score in terms of innovation performance. The mean score for the *Fujitsu Innovation Index 2006* was just 64 out of 100, a fairly unremarkable result for a developed country" (p. 11).



The report (2006, p. 4) also points out that:

While there are a small number of local organisations who are excelling at innovation, in terms of their performance and attitude towards it, there is no consistent determination among Australian and New Zealand organisations to really take on the innovation challenge.

Similarly, the 2007 survey (p. 4) reports that:

Overall, the region's 2007 innovation performance remains at approximately the same level as in 2006. The *Fujitsu Innovation Index* for 2007 is 63 out of 100 (compared with 64 out of 100 in 2006). Essentially, this means that we're still only getting a pass on innovation performance.

**The IBM – Melbourne Institute innovation survey** also reports that Australia can do better at managing innovation at the workplace level. This survey measures innovation performance in six categories (R&D intensity, Patent intensity, Trade mark intensity, Design intensity, Organisational/managerial innovation and Productivity). ABS data is used and all the main industry groups except certain government sectors are surveyed<sup>31</sup>. The 'Organisational and Managerial Innovation' category is measured by responses to questions relating to such things such as:

- the extent of business resources devoted to organisational change (for example, restructuring and changes in work practices);
- managerial change (for example, new management techniques and enterprise bargaining);
- and the marketing of new products or processes.

A main finding of this report (p. 5) is that 'the organisational and managerial category of innovation has decreased by 2.2% from 2004 to 2005'.<sup>32</sup>

Data compiled by the Society for Knowledge Economics, from the **World Economic Forum' Global Competitiveness Report (2007-08)**<sup>33</sup>, also indicates that Australia lags behind in

<sup>31</sup> "In terms of coverage, we include innovative activity in all one-digit Australian New Zealand Standard Industrial Classification (ANZSIC) industries (see Appendix 2 for details). However, we exclude nonmarket sector industries—such as government and defence, education, not-for-profit health services, as well as agriculture, forestry and fishing. Included therefore are mining, manufacturing, construction, utilities, wholesale trade, retail trade, accommodation, cafes and restaurants, transport and storage, communication services, finance and insurance, property and business services, the for-profit part of health and community services, cultural and recreational services, and personal and other services" (p. 4).

<sup>32</sup> The survey only measured organisational and managerial innovation in 2004 and 2005.



terms of business management and innovation capabilities at the workplace level, as shown in the Table below<sup>34</sup>. For example, on the 'capacity for innovation' category, Australia ranks number 30 whilst Germany comes in at number 1, with the Scandinavian countries following closely. Furthermore, on the 'sophistication of company operations and strategy', Australia ranks number 24 (the USA is number 1).

**Table: How Do We Fare? Barriers to Innovation in Australia**

4. Culture, Leadership and Management		
Capacity for innovation	Australia ranks 30 out of 131 nations	☹️
% of AU companies that innovate	34%. Australia ranks 15 as compared to the EU27	☹️
Sophistication of business strategy and operations	Australia ranks 24 out of 131 nations	😐
Production process sophistication	Australia ranks 23 out of 131 nations	😐
Willingness to delegate authority	Australia ranks 14 out of 131 nations	😐
National Human Capital Survey	Indicators not available for Australia	N/A

Observation 2: Culture and Leadership

Of all of the aforementioned studies, the only studies, which make explicit statements about culture and leadership are the Fujitsu index and the BCA study. The ABS, ABF and IBM-Melbourne institute studies do not incorporate these variables in their research designs. The World Economic Forum report makes some references to culture, specifically in the business sophistication category, but does not directly measure this; it makes no reference to leadership.

**The Fujitsu index 2006 reports** found that the following factors are required to achieve successful innovation outcomes:

- leadership committed to innovation

<sup>33</sup> This benchmarks a nation's performance across 12 pillars including: institutions; infrastructure; macro-economy; health and primary education; higher education and training; goods market efficiency; labour market efficiency; financial market sophistication; technological readiness; market size; business sophistication; and innovation.

<sup>34</sup> This is taken from the Society for Knowledge Economics' submission to the National Innovation Review, where we attempted to assess Australia's performance across six pillars of innovation. The fourth pillar was Culture Leadership and Management. The Table in the report, of which Table Two above is an extract, benchmarked Australia's performance on 23 indicators relative to other international nations. It drew on data from, among others, the World Bank, the OECD, and the World Economic Forum. It scored countries as follows: 😊 = top 10% of performers 😐 = 10%-20% ☹️ = below 20%. It showed that Australia did not rank in the top 10 percentile in any of the five sub-categories in the Culture, Leadership and Management pillar (these are the indicators shown in Table Two above). It did not rank in the top 10% of any of the measures in the Culture, Leadership and Management category.



- a good understanding of customers, the market, competitors and other innovations
- a clear strategy and culture for innovation
- the necessary skills and dedicated resources for innovation to occur.

Furthermore, the 2007 report (p. 5) finds that:

This year, almost a quarter (22%) of organisations believes that the key driver of innovation performance is an innovation 'culture'.

More than half (54%) of our Index respondents said the chief method they would use to encourage staff to embrace an innovative culture is to establish open communication to boost and facilitate staff feedback.

Yet, the report (p. 5) also points out that,

Establishing an innovation culture is so much more than just open communication and a 'suggestion box' in the canteen. Our research shows that the largest innovation performance gap between Leaders/Progressives and Laggards is companies' ability and willingness not just to ask for ideas but to capture them and identify those with the greatest likelihood of success. This innovation quality control is best performed when a formal innovation governance framework is established to enable a structured process for picking winners.

Importantly, the study (2006) also found that major barriers hindering successful innovation included a lack of:

- resources,
- an innovative culture, and
- leadership.

Along similar lines, **the BCA report** (p. 22) reports that "workplace culture and leadership has a major influence on innovation capacity". The report (p. 33) states that "The companies in the study saw culture as a major factor in their ability to achieve innovation outcomes". It (p. 12) goes on to say:

Business innovation in some circumstances has more to do with the human capital of its employees and how these skills and capabilities are applied and managed than it does with technology and invention. The findings highlight the vital



importance of a skilled workforce, effective workplace relations systems and management capabilities, and strong corporate leadership in delivering a culture of innovation and enabling innovation success.

The BCA report (p. 15) also suggests that the solution to improving innovation in the workplace lies in education and training:

It is vital that Australia's education and training system provides, in a systematic and comprehensive way, the requisite skills that businesses demand for innovation success. In particular, it is vital that the skills to enable effective organisational leadership and management are well developed in Australia.

It also found that existing training and education programmes do not always live up to business requirements and needs (see p. 49).

Whilst the Fujitsu index attempts to make an assessment of the state of affairs and how workplace culture and leadership (or a lack thereof) can be barriers to innovation at Australian organisations, the BCA report merely observes and communicates the significance of culture and leadership to innovation in the workplace. Common to both is the need for more insights into how workplace culture affects innovation, what cultural archetypes are most conducive to innovation performance and how this can be achieved, including the management techniques, leadership styles and symbolic gesturing required to do so.

### [Observation 3: Public Sector Organisations](#)

Also notable is our observation that only a few of the aforementioned surveys provide insight into how public sector organisations manage innovation at the workplace level. The ABS and IBM-Melbourne Institute studies exclude a range of public sector organisations.

The main insight into innovation at the workplace level in the public sector is provided by the Fujitsu report (2006, p. 11), which finds that:

The least innovative organisations included those in the production, retail and distribution, government, health and education sectors.

The 2007 report (p. 16) states the following:



The most innovative industries are IT and business services (including real estate, IT, legal, accounting, engineering and security) and communication and essential services, and the least innovative industry is government, education and health, with average innovation performance scores of 65 and 61 respectively. **The lowest scoring industries were government, education and health production, and distribution. At a macroeconomic level this is of great concern, since our dominant industries are the least innovative**<sup>35</sup> (bold added to original text).

The 2007 Fujitsu report (p. 17) also notes that the government, education and health segment more than any other segment identified 'insufficient budget' and 'lack of leadership support' as significantly high barriers to innovation.

This shows that opportunities exist to broaden our insights into how public sector organisations manage innovation at the workplace level. Such insights may help identify barriers and enablers of innovation, as well as strengths and weaknesses of current practices, which in turn can serve as inputs to the design of new strategies and workplace practices for lifting innovation in public services. Given that public sector services underpin much of national infrastructure, this is a particularly interesting sector to investigate further.

#### Summary of Observations:

Based on the above review, we can make the following summary of observations about what contemporary research studies tell us about innovation at the workplace level in Australia:

- National surveys (ABS and IBM – Melbourne Institute) pay limited attention to what it means to manage for innovation purposes at the workplace level. This makes it difficult to gain insights into the strengths and weaknesses of Australian organisations, and the barriers and enablers to innovation at the workplace level.
- Industry research has made some effort at addressing the shortcomings of the ABS and IBM - Melbourne Institute studies, with the Fujitsu Innovation Index being a notable example. Yet, in general, industry research seems not to have the reach or capacity to span across a larger sample size *at the national level*, or to conduct a more thorough inquiry (*vis-à-vis* the Karpin report).
- Common to those studies that do focus on innovation management is the observation that Australia can do better at managing innovation at the workplace level. Indeed,

---

<sup>35</sup> This score, which is not much lower than the average reported earlier (of 63), may indicate that the methodology used for this study could benefit from further testing and fine-tuning.



several of these studies point out that Australian organisations perform poorly on innovation management.

- The only studies that explicitly research culture and leadership and how these dimensions enable innovation in the workplace are the Fujitsu and BCA studies. The Fujitsu study shows that these two attributes are among the main barriers hindering successful innovation at the workplace level.
- Innovation in public sector organisations is a noteworthy area to study and gain more insights into. Indeed, the indications from current studies show that specifically government, health and education provide ample opportunities for improvements to innovation management in public services.

### **2.3. Illustrations of the Relationships between Leadership, Culture and Management and Innovation – Five Mini-case Studies**

This sub-section provides illustrations of how innovation ‘looks’ and unfolds in practice. We draw on practical illustrations from Australian organisations who have demonstrated willingness and ability to innovate through leadership, the development of innovative cultures and appropriate use of management techniques (see the Table below). Specifically, these illustrate the business effects of leadership, culture and management for innovation, such as more satisfied customers, revenue growth, more services per client, more accurate company valuations, happier staff and better workplaces. The Table summarises the five companies who participated in the case studies. This includes two multi-national corporations (one in technology and one in accounting services), one fund management company, one small-medium sized enterprise from Western Australia specialising in technology for the mining industry, and one public sector organisation in the media industry. Four of the mini-cases provide organisational wide examples of innovation, whilst one case provides a niche example of innovation within a large organisation. The latter is AMP Capital Investors, where we focus on innovation within a sub-section of the organisation, namely the Sustainable Alpha Team.

It should be noted that these are organisations who actively manage innovation. They are ‘success stories’ and not, as such, indicative of the 66% of organisations who are not ‘active innovators’ (ABS, 2005)<sup>36</sup>.

---

<sup>36</sup> Attempts were made to locate organisations who do not actively manage innovation or who are not successful at managing innovation. Yet, this proved difficult, probably due to a reluctance to attract publicity to failure or inactivity.



**Table: Innovation Case Studies**  
**The Relationship between Leadership, Culture and Management and Innovation**

Company	Leadership, Culture and Management Techniques	Effects
<b>Microsoft</b>	Changing culture and values - making people curious  <b>“Learners versus Knowers”</b>	<ul style="list-style-type: none"> <li>• Business remodelling, resulting in better coverage of customer accounts</li> <li>• More satisfied and better serviced customers</li> <li>• Double digit revenue growth</li> <li>• Exceeded 2007 revenue growth targets</li> <li>• Improved market competitiveness</li> </ul>
<b>PricewaterhouseCoopers</b>	Structuring for innovation – breaking down silos and enabling collaboration  <b>“Watermelons”</b>	<ul style="list-style-type: none"> <li>• Staff motivated to put themselves in the shoes of their clients</li> <li>• Happier customers</li> <li>• More services per client</li> <li>• Larger revenue opportunities</li> <li>• More opportunities to grow the business.</li> </ul>
<b>Acquire Technologies</b>	Designing business processes that enable innovation and ideas to travel  <b>Strategic Planning – an ‘Ideas Box’</b>	<ul style="list-style-type: none"> <li>• Transformation in business model to Solutions Provider</li> <li>• Happier, better serviced customers</li> <li>• New service/product offering (QBOX)</li> <li>• Competitive advantage in industry</li> </ul>
<b>AMP Capital Investors (Sustainable Alpha Team)</b>	People and Culture – unlocking the Hidden Value of businesses (50 data points on human capital)  <b>“Treasure Maps”</b>	<ul style="list-style-type: none"> <li>• More accurate company valuation</li> <li>• Better information to inform buy/sell decisions</li> <li>• Adjustment of risk premiums/discount rates</li> <li>• Better insights into a company’s future earnings potential</li> <li>• Point of differentiation in industry</li> </ul>
<b>Australian Broadcasting Corporation</b>	Decentralising responsibility and enabling the participation of many  <b>“Participative Leadership”</b>	<ul style="list-style-type: none"> <li>▪ Proud employees with a sense of appreciation and satisfaction in their work</li> <li>▪ Increase in reach and penetration into new social networks/ re-definition of audiences</li> <li>▪ High public satisfaction rates</li> <li>▪ Increase in traffic and downloads</li> <li>▪ Strengthened market position and leadership</li> </ul>

## Mini-Case One

### Developing a Mindset of Growth at Microsoft, Australia

#### ‘Culture Change and Learning to be Curious’

Developing a mindset of growth at Microsoft Australia has required a range of innovative initiatives including a new approach to the market and new business models. Tracey Fellows, Managing Director, Microsoft Australia tells the story of how a ‘mindset of growth’ has been instilled within the business. She explains that *“growing the business started with seeing the potential and then developing a strong commitment among staff. If you want to grow you have to change people’s mindset”*.

Critical to this journey has been changing the culture of the business. Tracey explains that *“developing a culture of making the impossible possible and permeating new values and behaviours through 800 staff in Australia has been a long, yet very worthwhile journey. Today, we see tangible business results from this change”*. In 2007, the local business achieved double digit growth and superseded their growth targets for the year.

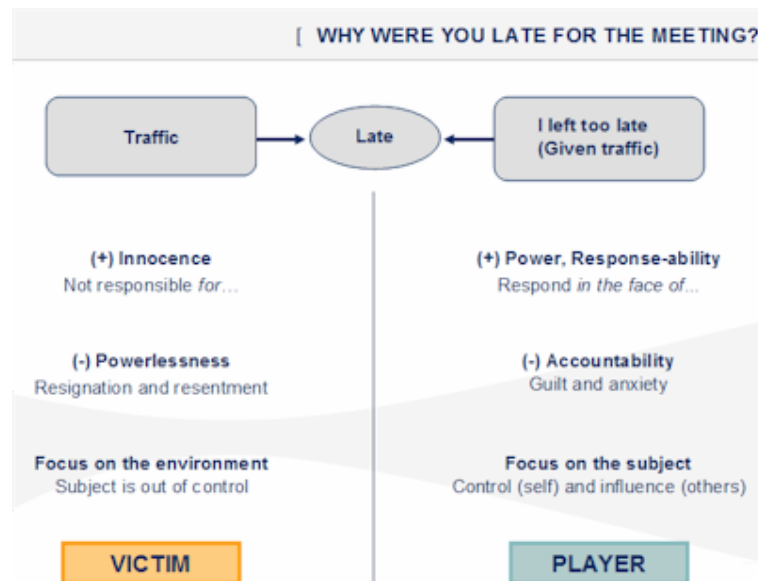
The transformation started back in 2005 when a group of consultants was hired to advise on how to change the culture. They did interviews and gathered both qualitative and quantitative data. *“The idea was to understand how people felt about the culture of Microsoft, and what they thought it was representative of. Some surprising things came up and that took us on the path of changing the culture. A shift in culture requires a change in behaviour – human dimension and processes and systems, rewards and recognition etc. It also means talking about values and which behaviours that we as a company value”*, Tracey says.

Two metaphors were introduced to change the culture of the business. These were labelled the ‘Player – Victim’, and the ‘Learner – Knower’ models. The models represented the ‘existing mental model’ of staff in 2005 (Victims and Knowers) and also the ‘desired mental models’ (Players and Learners) required to produce a mindset of growth.

#### Players and Victims – which are you?

*“The concepts of Player and Victim is around taking accountability for your own actions and feeling a strong personal sense of integrity, and bringing that sense of integrity and your values with you into work”*, Tracey

explains. *“It’s about getting staff to think about whether they behave as a victim or player in any given situation; a victim blames somebody else, doesn’t take personal accountability. In contrast, a player takes personal accountability, feels a need to meet their commitments and a strong sense of honour - they know their word is their bond and they honour that”*.



Source: Axialent 2005, all rights reserved



At Microsoft, the Player model has made people more committed, more responsible for their work and eliminated a lot of wasted energy and friction internally. *“Before, people were arguing about who’s more right or who’s more wrong. Instead, now we use all that energy for 800 people to work together to achieve better outcomes for our customers and that is what has made our business improve exponentially. And so while these human behaviours, which I wouldn’t have thought of as being clearly linked to business outcomes two years ago, I now think are the best way to achieve business outcomes. Equally it is the way we want people to stay working for Microsoft - and again that’s what will help drive our business outcomes”,* Tracey says.

*“Ultimately good people are empowered by their commitment and responsibility, in fact good people are more than just empowered, they’re jazzed by that! They get excited about it, they turn a dilemma into a challenge and figuring out how will they overcome the challenge is stimulating”.*

**Learners and Knowers – developing a culture of curiosity and empathy**

More recently, the second mental model called ‘Learner – Knower’ has been increasingly used at the Microsoft subsidiary.

*“This is really about curiosity and being open towards other people’s perspectives” (see Figure). “We need Learners who are prepared to listen to each other, to our customers, partners and the community. We need to be curious and humble, to recognise what we don’t know in order to be innovative and to grow our business”,* Tracey explains.

KNOWER	LEARNER
Fear based	Confidence Based
Desire to be right and look good	Desire to be effective and learn
“Other”-esteem	“Self”-esteem
Blame oriented . Seeks innocence	Response-ability. Seeks power
Arrogant and judgmental	Humble and curious
Self as product	Self as ongoing process

Source: Axialent 2005, all rights reserved

The subsidiary has created special project teams for Business Excellence. The teams address specific business problems and go out to find better ways of servicing the customer and ‘to learn’. The ideas come from the grass roots and are driven by people from the ‘bottom up’. *“The teams report to the leadership team on what they’ve achieved, and in many cases that is around how to improve customer satisfaction specifically”,* Tracey says.

**LEARNERS:** *Learning requires trying something new, feeling awkward and clumsy, looking less than good and failing repeatedly before one attains even a minimum level of competence. The lack of self-consciousness and guardedness is what makes young children “learning machines”.*

Source: Axialent 2005, all rights reserved

Some of the new ideas have been around deployment of the Microsoft technology including what makes it hard for customers to use or implement the technology and how to make that easier. Teams have also focused on a certain market segment, for example mid market customers where the company had less engagement because their business model didn’t scale. *“So we brought in not just telesales, but relationship managers, and we created one-to-one training approaches; we have also*

*created a call centre in Manila to follow up on marketing leads for certain customers, because you can’t reach them cost effectively in Australia. We have remodelled that so we can still reach them and give them some level of customer touch and qualification”,* Tracey explains.



Other parts of Microsoft do some of the same things that are done at the Australian subsidiary. Yet, much of what has been done in Australia is different and new. Sometimes these local 'innovations' come to travel to other places in the global network through the Microsoft infrastructure. It's quite normal that ideas and innovations from the local subsidiary get 'picked up' by the corporate centre and re-assembled and re-transmitted to the other 51 subsidiaries around the world.

### **About Microsoft**

Microsoft is one of the world's largest technology companies. It has operations in 96 countries, 51 subsidiaries, five regional centres, around 60,000 employees, 30,000 contractors and 650,000 partners worldwide. The Australian subsidiary employs around 700 people and has a partner network of approximately 14,000. Microsoft has three core business divisions:

- Platform Products and Services Division: Includes the Client Group, the Server & Tools Group, and the Online Services Group
- Business Division: Includes the Information Worker Group, the Microsoft Business Solutions Group, and the Unified Communications Group
- Entertainment and Devices Division: Includes the Home & Entertainment Group and the Mobile & Embedded Devices Group

## Mini-Case Two

### Structuring for Innovation at PricewaterhouseCoopers

#### Using 'Watermelons' to Break Down Silos

Silo based work structures is one of the 'invisible' barriers that can stop innovation in business. At PricewaterhouseCoopers, Australia's largest accounting firm, Peter in tax did not use to talk much with Annette in risk management when coming up with new service offerings. Peter developed his thinking using his specialised knowledge within his 'silo', and so did Annette. Yet, clients' needs are not confined in one 'silo' only. Clients want answers to broad based problems and market issues, all of which span many areas of their businesses.

The last 12 months, this has led PwC to change the way they respond to market issues and subsequently develop new services.

A core part of the change process has been to create structural agility to ensure that people in different 'silos' collaborate to take advantage of market opportunities. Merran Dawson, PwC's Partner Innovation, tells the story of how Client Lead Partners who previously spent little time talking together are now starting to 'reach outside their own teams' and spend more time listening to the ideas of others and linking these with the needs of their clients.

A key initiative to break down silos has been the 'Watermelon Forums', started by Merran and Lynette, PwC's Director of Service Innovation.

Watermelon Forums are 'conversation based'. They bring together different people from across the business. The idea is that different people produce better outcomes when they work together and share knowledge.

The Forums help the Client Leader Partners gain new insights into business issues, and their implication for clients. They also help ensure 'consultants wear the clients' shoes' and understand their needs.



Lynette points out the importance of putting the client in the centre, "...when you're trying to break down some of the systemic barriers, putting the client at the centre of our thinking is a way of breaking down those barriers."



Merran explains how the Watermelon Forums work "we pick a market issue and we tantalise the participants we think would offer insight, bring different perspectives and stories - we say here's a topic that you really need to have a point of view on, so come to this Forum and let's talk about it. And when we bring together all these different views, then we create something that's really quite powerful."

Yet creating structural agility and getting the Client Lead Partners to collaborate has not been an easy process. In a firm where time is short and 'billable hours' the main performance measure, spending time to collaborate on issues which may have a longer time horizon requires significant investment and commitment from the Partners. Incentives have had to be created.



Merran says that positive experiences and spreading success stories through informal networks and 'word of mouth' have been critical to getting people to participate in the Forums. Careful selection of the 'right people' to lead the way in the early days also required attention.

Now, 6 months down the line, the Watermelons are starting to produce business results. Peter and Annette are beginning to see the value of collaboration and explore how they might work together to develop new service offerings. This has benefited the business and led to:

- Happier customers
- More services per client
- Staff motivated to put themselves in the shoes of their clients
- Larger revenue opportunities
- More opportunities to grow the business.

Merran points out that incentivising staff behaviours that support innovation is critical. *"Today, there are a lot of stories in the business around the multiple benefits you get when you work with somebody else – you can collaborate without innovation, but you cannot innovate without collaborating"*, Lynette says.

The innovation team's next challenge is how to incentivise staff at PwC to change their attitude towards failure. *"Failing is an integral part of innovation"*, Merran says. Yet, how to appreciate and value failure and mistakes in a firm where people make a living on trading 'expert advice' is a real challenge. *"Marrying values of expertise and professionalism with an aptitude for failure is perhaps a bit of an oxymoron"*, Merran says, but looks forward to taking on yet another challenge as innovation becomes embedded into the firm's DNA.

### **About PricewaterhouseCoopers**

PricewaterhouseCoopers is the number one professional services firm in Australia. The firm provides industry-focused assurance, tax and advisory services for public and private clients in: Corporate Accountability; Risk Management; Structuring and Mergers and Acquisitions; and Performance and Process Improvement. PwC employs over 5,000 people in nine cities around Australia. The firm provide services to 90 of the ASX top 100 listed companies and 704 companies of the IBIS top 1,000 - including many federal and state government agencies.

### Mini-Case Three

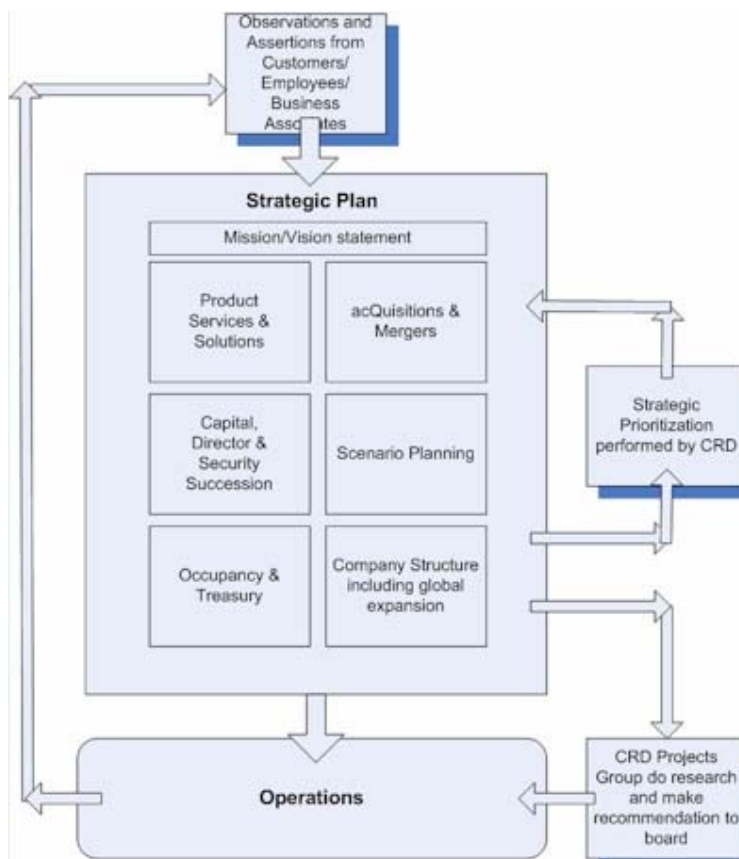
## Strategic Planning as an 'Ideas Box' at AcQuire Technologies

### How Business Processes Can Enable Innovation

Rigid business processes can be barriers to innovation. Only too often do innovative ideas not see the light of day due to processes that stifle information flows and prevent knowledge sharing and innovation.

This is not the case at AcQuire Technologies, a fast growing medium-sized technology solutions provider in Western Australia. *“One of the core values at AcQuire is that everyone participates in solving business problems and identifying better ways of doing things. ‘Egalitarianism’ and ‘brutal honesty’ are some of our key values”*, says Bill Withers, AcQuire’s Founder and Managing Director/CEO.

One of the business processes that is critical to making AcQuire an innovative organisation is their approach to strategic planning. *“At AcQuire, the strategic plan constantly changes - it is a living document, which evolves all the time”*, says Bill. *“As a business, we need to constantly be in tune with the environment, which is rapidly changing. And the strategic plan needs to be responsive to these changes and change accordingly”*.



At AcQuire, ideas emerge from Operations and many other places (see Figure). Staff listen to customers, come up with ideas and many of these are posted for commentary and incorporated into the strategic plan.

One of the main criteria for working at AcQuire is that people take initiative and participate in finding solutions to problems. The strategic plan reflects this. It is like an 'ideas box' where everyone can participate and make suggestions.

Bill tells the story of how the company’s approach to strategic planning has resulted in innovation. The idea of the QBOX, the company’s latest innovation, originated during Bill’s travels to AcQuire’s business divisions.



*Definition from diagram: CRD = Commercial Research & Development. CRD is a group that works with the board. For instance, the QBOX idea was researched by the CRD group and then transitioned to Operations by establishing a new department in the company.*

A bright young Technologist from the Brisbane office identified problems with how customers were struggling with the technology, and put forth the idea of a facilities management business model. This coincided with similar discussions at the Canadian division and their customer base. In addition, the company strategic plan had two assertions (SWOT weaknesses) that would be solved if these contributions could be aligned. The result was the launch of the QBOX.

*“The QBOX is not just a new product”, says Bill. “It’s actually a whole new business model. We are now a solutions provider, not a technology or product company but rather a collaborative partner, who solves client’s business problems“, Bill says. Critical to innovation at AcQuire is that everyone is given the opportunity to participate – and to make a difference.*

### **About AcQuire**

AcQuire is a medium sized enterprise, founded in 1996, when AcQuire Technology Solutions Pty Ltd (formerly Metech Pty Ltd) initiated the AcQuire project to solve the problem of geoscientific observation and measurement management.

The objective of AcQuire is to deliver a solution for the capture, management and delivery of geoscientific observations and measurements in a range of industries and commodities. The AcQuire goal is not only to solve the complexity associated with the storage of geoscientific observations and measurements but also facilitate solutions for site specific work flows. In essence the technology supports the decentralisation of the workflow management to each customer, site or location.

The organisation has grown rapidly and now operates from five locations around the world including Australia (Perth and Brisbane), Chile, Canada and the United Kingdom.

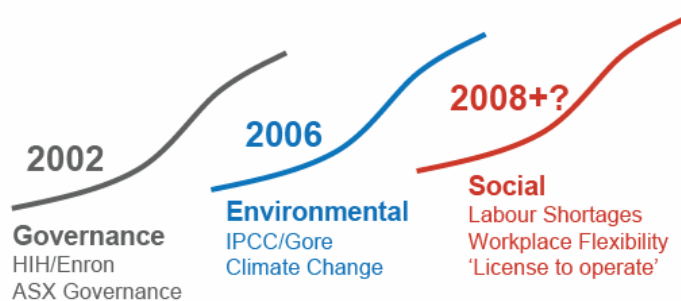
## Mini-Case Four

### Locating the Hidden Value in People and Culture at AMP

#### How Human Capital Measures Improve Company Valuation

The Sustainable Alpha Team within AMP Capital Investors regards people, culture and innovation as critical to company valuation. In fact, this team believes the next 'big wave' to follow the current 'Green Wave' is 'Social and Human Capital' (see Figure). "A company's approach to managing people significantly affects its future earnings potential and whether it is a market leader", says Nick Edgerton, Research Analysts at AMP.

#### What is the next Tipping Point?



Analysts in the Sustainable Alpha Team talk about 'treasure maps' to locate hidden value drivers in a business. Often these are found in a company's human capital and culture. Traditionally, fund managers and analysts have focused more of their time and energy on cost efficiency measures and how good a company is at maximising \$-returns per asset. Yet, a survey by the Sustainable Alpha Team shows that this is not what companies focus on. Company CEOs say that People and Culture are the most important value drivers and spend most of their time on managing people. Investment Analysts rank cost management number 1 whilst CEOs rank 'People and Culture' number 1 (see Figures).

#### Where is the Treasure Hidden ?

According to investment professionals, superior management allocate time/resources to:

1. Cost management/efficiency
2. Competitive strategy
3. Marketing and sales
4. Acquisitions and divestment
5. **People and culture**
6. Research and development
7. IT and systems

#### Where is the Treasure Hidden?

According to listed company executives, superior management allocate time/resources to

1. **People and culture**
2. Competitive strategy
3. Marketing and sales
4. **Cost management/efficiency**
5. Acquisitions and divestment
6. Research and development
7. IT and systems

... who is right?

AMP's Sustainable Alpha Team is one of the few pioneering fund managers in Australia to look not just at the traditional financial measure but also at information about 'how good the company is at managing its people'. Indeed, it's the only fund at AMP that implements this approach.

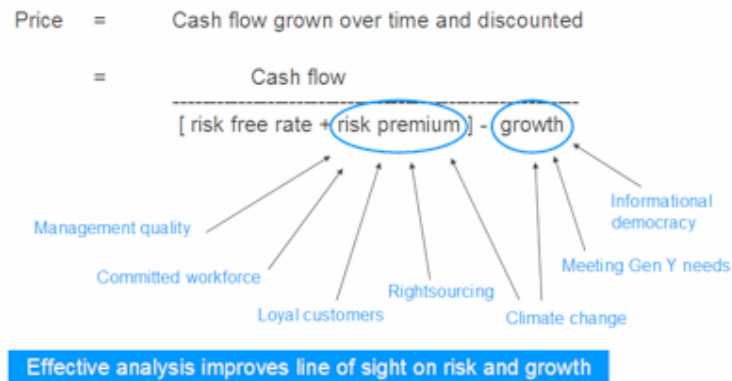


Nick says that “traditionally little attention is given to the human capital and innovation will only be looked at in terms of R&D capital expenditure”. In contrast, at AMP, “we think innovation and managing people are a key part of a company’s intangible value, which if you actually measure it on the AXS200 is around three quarters of all company value”.

The Sustainable Alpha Team captures around 50 data points on human capital management and uses such information to adjust risk premiums/discount rates (or beta) and also to get an ‘overall feel’ for how well managed the organisation is and its future earnings potential (see Figure).

### New era company evaluation

Adding value through analysing more dimensions



Examples of human capital measures include: investments in people, turn over rates, safety, culture, maternity leave etc. These are ‘supporting evidence’ to the traditional financial value drivers, says Nick. They might seem mundane, yet, at AMP, they can tip the ‘ice-berg’ and be a main reason for divesting or investing in a company (see Figure).

### Adding value through researching more dimensions



“People are what drives innovation”, says Nick and tells the story of two IT firms, one of which focused on how many billable hours an IT programmer could accumulate, the other which focused on how to best attract and retain the most innovative IT managers. People management practices, in a scarce labour market, have to be flexible and aligned to the



company's value proposition. If you want to attract the most innovative people and retain them, you have got to have a culture where people feel valued and enabled and where structures are flexible to help people realise their full potential. *"It's all about people"*, says Nick.

Source of figures: Michael Anderson, Director, Sustainable Alpha Team, AMP Capital Investors (March 2008), "Blind-spots in Company Valuation: Uncovering alpha through understanding Social Capital".

### **About AMP and the Sustainable Share Fund**

AMP is a leading wealth management company with more than 3.4 million customers and 3,900 employees in Australia and New Zealand. AMP is Australia's largest retail and corporate superannuation provider, and one of the region's most significant investment managers with more than A\$129 billion in assets under management with more than 830,000 shareholders.

The AMP Capital Sustainable Share Fund uses an innovative approach to seek out the hidden value in companies and invest in those more likely to succeed now and into the future. The fund uses the 'Sustainable Alpha' investment process, which integrates environmental, social and governance analysis with financial analysis to look beyond traditional indicators of corporate success. They research companies' intangible assets, such as quality of customer and employee relationships and commitment to environmental sustainability, and combine these findings with traditional financial analysis. AMP Capital was one of the first fund managers to apply this integrated approach. The Sustainable Alpha process includes:

- Quantitative review of stocks on a range of financial measures of value and momentum.
- Deeper levels of research into areas such as industry structure, managerial capability and long term trends.
- Ranking of company performance on measures of sustainability, environmental and social responsibility and corporate governance by in-house research specialists.
- Portfolio construction to comprise a diverse yet focused portfolio that aims for above market returns.



## Mini-Case Five

### **Participative Leadership at Australian Broadcasting Corporation**

#### **Decentralising Responsibility and Enabling the Participation of Many**

A leadership style that encourages the participation of many people throughout an organisation is critical to enabling innovation at the workplace level. Mark Scott, the Managing Director of the Australian Broadcasting Corporation (ABC) tells the story of how the decentralisation of responsibility for the design of media content has led to innovation and strengthened the ABC's position in the competitive media market.

*"Some people refer to the ABC as 'Aunty'", Mark explains, and that "can have positive and negative connotations - positive in being a loved part of the family, but also perhaps a little old fashioned, a little out of touch. Last year when we celebrated our 75<sup>th</sup> birthday, I was conscious of the risk of us being too sentimental and attached to a grand historic past. So we've now taken the view that we have to be as innovative as we can be to position the ABC as an organisation with a vital and compelling future".*

Six months into his tenure as Managing Director, Mark decided to restructure the organisation, a move which became critical to making the ABC a more innovative organisation. Specifically, he delegated responsibility for the design of digital media content to those closest to the audiences. Previously, in the old model, digital media content was designed by a central group. Mark explains: *"We used to have a division called New Media & Digital Services. With the new model, we changed that and put responsibility for developing digital content back into the content divisions. And with that we have created a great desire by the content makers to find as many different ways as they can for their content to be seen by as many people. In fact, some of our very best stories have come from the most unlikely places".*

One example is the transformation in Radio National, which is the ABC's intellectual channel covering a range of subjects, such as science, religion, arts and culture, design, poetry, books. Mark explains that *"a decade ago Radio National was threatened by the new media space. Radio National then went into podcasting and is now one of the most successful creators of podcasting programs in the world, with in excess of 20 million programs downloaded each year. In fact, all up, the ABC delivered 36 million programs for podcast or vodcast last year. And that was really driven from Radio National. It started small - the innovation was a virtue, everyone wanted to be part of it, and it cost us very little. No one ever thought for a moment we could do it. And no one sat in the office and said there's a massive audience for podcast and vodcast out there. Instead, it happened at a small scale -, let's try to experiment. As a result, we have now liberated our audiences from the constraints of the schedule which makes them value the content much more".*

Critical to innovation at the ABC is Mark's philosophy to delegate responsibility to the people who *"are passionate about the content and passionate about connecting with audiences. The key has been to put the design of digital media content and delivery in the hands of the people who own it, and then also to ensure they have the tools they need",* Mark says. Innovation is a bit like a hobby to them.

The central group (New Media and Digital Services) carried great responsibility for the innovation across the Corporation. They would develop new digital content and be reluctant to let it go. And in other divisions in the organisation, there was evidence of reluctance to cooperate around the innovation if it was not owned in the division. The best solution was to make everyone responsible for the development of multi-platform content, not restrict it to one division. For example, *"whenever we announce anything new, the media reaction is almost one of surprise. New content is not expected as it is in the private sector. At the ABC, its*



*usually delivered on budget, but on time is a challenge for us". But on the positive side, the ABC "can innovate without the hurdle of an 'immediate' business return."*

Mark also points out the benefits of innovation and how it has created for a better workplace, *"people working here have a real pride that they work for the ABC, and that in part comes from the fact that they feel they are delivering something unique and distinctive in the Australian marketplace"*. People have a great sense of appreciation and satisfaction in their work. *"We have created a climate that's conducive to creativity - giving people room, and not micromanaging them"*.

Being innovative in media content and delivery mechanisms has also resulted in more traffic and an increase in the number of downloads, besides an increase in reach and penetration into new audiences and social networks. The net effects is a strengthening of the ABC's market position with public surveys showing that more than 90 per cent of the Australian public believes the ABC provides valuable or very valuable services to the community.

### **About the ABC**

The ABC is Australia's national public broadcaster, established in 1932. With a budget of AUD\$823 million annually, the corporation provides television, radio, online and mobile services throughout metropolitan and regional Australia, as well as overseas through the Australia Network and Radio Australia. Through its commercial arm, ABC Commercial, the corporation runs a chain of retail outlets, selling books, audio and video recordings, and other merchandise related to its programs.

Founded in 1929 as the Australian Broadcasting Company, it was subsequently nationalised and made a state-owned corporation on July 1, 1932, becoming the Australian Broadcasting Commission. Following this, the Australian Broadcasting Corporation Act 1983 changed the name of the organisation to the Australian Broadcasting Corporation effective July 1, 1983. The corporation produces programmes and information services, broadcasting nationally on television, radio, and the Internet.

The ABC has four national radio networks—ABC Radio National, ABC Classic FM, *triple j* and ABC NewsRadio, as well as 60 Local Radio stations around Australia, and three internet music-based services, *dig*, *dig jazz* and *dig country*. ABC Television operates two channels. The main channel is a national service with State and Territory news breakouts. The ABC Online website contains 3.873 million pages of content across 12 subject gateways, including content designed for broadband delivery.



The above case studies illustrate how leadership, culture and management can enable and also inhibit innovation at the workplace level. Common to the cases is the observation that innovation is complex, ambiguous and hard to manage. Innovation rarely has only one distinct driver; rather it is driven by combinations of leadership, culture, and management.<sup>37</sup>

Innovation flourishes when cooperation, strong leadership, a sense of care and pride in one's work, and the participation of many co-exist. Some lessons about these interacting causes behind innovation can be learnt from these illustrations:

1. **Leadership** enables innovation to take place in the workplace:
  - a. Specifically, having a leader with a **vision** and foresight to make innovation a strategic priority is important. For example, at the ABC, it was a vision to make the public sector organisation a leader in its industry. Similarly, at AcQuire it was the CEO/MD's vision to be an innovative organisation that proved critical to developing an innovative organisation. This in turn was key to successfully growing the business; this point was also noted at Microsoft, where visionary leadership was key to achieving double digit growth.
  - b. The **symbolic gesturing** of leaders and respected peers is also important to enable innovation. For example, at PwC, respected leaders were chosen to be the pioneers of the Watermelon Forums and to 'hold' these up and spread the idea throughout the organisation as a worthwhile and valuable way to spend scarce time. Similarly, at the ABC, the showcasing of the organisation's innovations by the CEO was important to make innovation an accepted and desired behaviour.
2. The cases also show how **culture** enables the development of innovation in a series of ways. In all the five organisations, culture was a central lever allowing innovation to emerge, and for AMP, understanding the culture of an organisation was required to better value it. Specifically,
  - a. Instilling a sense of **curiosity** – a passion to **learn** and develop greater empathy for the perspectives and mental frames of others were some of the key attributes required for successful innovation. At Microsoft, a shift in values and behaviours from Knowers to Learners was critical to enable change and innovation and thus to grow the business. Conscious efforts were made to transform employee attitudes and behaviours to become more curious, better

---

<sup>37</sup> See also Schien (1984, 1992), who shows that leadership and management are inter-related.



listeners and thus better innovators. Similarly, at PwC, motivating people to collaborate and recognise the value of dedicating precious time to listening to and learning from others was critical to innovation.

- b. The cases also show that innovation can be risky and that for innovation to thrive there must be a **tolerance of mistakes, experimentation and risk**, mis-judgment and perhaps even sometimes failure. Since innovation is about new things, it is risky and possible that things will go wrong. Specifically, creating a climate that is tolerant of mistakes seems to be a challenge. This was less so the case at the ABC than in the four private sector organisations where the scrutiny of the market often demanded returns on innovation faster. At the ABC, experimentation was accepted and people were encouraged 'to play' knowing that success was not always achievable. At the ABC, there was also a longer time horizon for demonstrating outcomes and impacts given the organisation's three year funding cycle. At, for example PwC, instilling a tolerance for mistakes was more challenging due to a culture of professionalism and possibly also due to shorter time horizons and different governance requirements and ownership structures.
  - c. The cases also show a **sense of pride** and excitement about innovating and finding new ways to do the job better. At Microsoft, staff became 'jazzed' by being empowered to innovate and got excited about being given responsibility for making a difference. Turning a dilemma into a challenge and figuring out how to overcome it stimulated staff to 'do their best'. Similarly at the ABC, people thrived on being **trusted**, having room to 'play' and not to be micro-managed. Success entailed creating a climate conducive to creativity and making innovation a 'hobby' that many could experiment with and partake in. Vice versa, through innovation, people developed a greater sense of appreciation and satisfaction in their work, which in turn strengthened business performance and public opinions.
3. The careful selection and design of a wide array of **management tools and techniques** is likewise important to enabling innovation activity. Management tools and techniques, such as people management practices, budgeting systems, strategic planning processes, incentives etc. support and intersect with culture and leadership in a variety of ways to encourage and enable innovation. Often management tools are critical to translating abstract ideas or visions into practice and making innovation actionable to people. The important point here is that innovation requires dedicated efforts at developing new, or re-configuring existing, management techniques to



assist and enable ideas to be transformed into new products, services and processes. For example,

- a. Encouraging and enabling the **participation of many through a decentralisation of responsibility** was a key management technique used at most of the case study organisations. For example, at the ABC, visionary leadership was supported by management techniques, such as the decentralisation of responsibility for innovation and development of media content to reside with many. This was a critical change from the earlier model where the responsibility for media content design was centralised, thus acting as a barrier to innovation. Similarly, at Microsoft, ideas came from the grass-roots and it was the delegation of responsibility to Business Excellence Teams and individuals across many levels of the organisations that resulted in new business modelling, a new call centre, more Account Managers etc. Similarly, at AcQuire, the strategic planning process was designed to enable the participation of many and ensured that ideas could surface and the voices of many could travel easily through the organisation. It was the expectations that all staff should partake in problem solving, take initiative and become innovators.
- b. Importantly, **listening to customers** was also critical to innovation at all of the organisations visited. Management techniques had to be created to enable and ensure that the voices of customers were heard, funnelled and considered in many parts of the organisation. At PwC, Watermelon Forums helped ensure that 'consultants wear the clients' shoes and better understand their needs. At Microsoft, Business Excellence Teams went out to find better ways of servicing the customer, resulting in business transformations and innovations.
- c. All the organisations also needed to be **connected with others** and **collaborate** across their environments to innovate. Innovation required a whole organisation that cooperates to develop a process, service and/or a product. Any new idea has to be transformed into a tangible service, product or process, which survives in a market place or in an organisation, and this requires much more than financial investment. Central to this is the capability of people to collaborate on the many aspects of the transformation process. At AcQuire, people from across different functional silos and geographical locations across the organisation collaborated on the development of the QBOX and it was the contributions by many from ideas generation to research and development and into commercialisation that ensured the innovation came to see the light of day.



The CRD Team could not do this alone, but instead relied on the support and input by many (customers, staff in Brisbane, Canada and elsewhere, suppliers etc). Furthermore, diversity brings new perspectives and it is often at the intersects of functional areas of organisations that innovation start to happen. For example, at PwC, management techniques, such as the Watermelon Forums, had to be invented to bring together the Client Lead Partners to collaborate on new service offerings. This, in turn, helped break down silos and brought together people, who previously talked very little with each other, resulting in innovation.

- d. An interesting surprise in this study was the use of **metaphors**, which seemed to be a commonly used management technique at several of the organisations. At Microsoft, they talked about Knowers and Learners. These metaphors helped articulate desired and undesired behaviours and make them better understood - they gave staff a frame of reference, which helped them to know what is right and what is not. At PwC, the use of Watermelons to communicate the significance of people coming together was likewise helpful for innovation to take place. At AMP, Treasure Maps were used to locate the 'hidden value' and to ensure innovative valuation techniques were taken up and used in practice. Metaphors seemed to reduce ambiguity and uncertainty and helped make abstract ideas visible and new behaviours and activities more acceptable. Perhaps metaphors are needed to make innovation manageable and imaginable?

The above case studies provide a few valuable demonstrations of some of the enablers and barriers to innovation at the workplace level, including the strengths and weaknesses of a small number of Australian organisations in their approach to managing innovation at the enterprise level. Yet, more insights are needed into the management techniques, leadership skills and workplace cultures that support and enable innovation in organisations. We need more insights into the barriers and enablers to innovation across public and private sector organisations, and the strength and weaknesses of Australian organisations in relation to innovation management. Which combinations and configurations of workplace cultures, management and leadership style are most and least conducive to fostering innovation in Australia? What are the gaps between current innovation management practices and those most helpful to fostering innovation at the workplace level?



## 2.4. Summary of Observations

This section of the report has provided insights into what it means to manage innovation at the enterprise level, highlighting the importance and effects of culture, leadership and management on business and innovation performance.

It has reviewed existing studies and identified gaps in our knowledge of innovation management in the workplace. Specifically, it has found that national surveys (ABS and IBM – Melbourne Institute) pay limited attention to what it means to manage innovation at the workplace level. Research by businesses and others (Fujitsu, ABF, and BCA) has gone some way to addressing this, and to varying degrees, found that Australian firms perform poorly on managing innovation at the workplace level. Importantly, neither of the existing studies span across a larger sample size *at the national level*, or conduct a more thorough inquiry (*vis-à-vis* the Karpin report). The net result is that today we do not have a comprehensive understanding of the strengths and weaknesses of Australian organisations, and the barriers and enablers to innovation inside public and private sector organisations. Specifically, attributes such as culture and leadership are not well understood. Neither is innovation management in public sector organisations.

The five mini-case studies have provided some, albeit limited, practical illustrations of the relationship between culture, leadership and innovation management, including the effects that innovation can have on customer satisfaction, financial performance, staff happiness etc. It has shown that these dimensions are critical to maximising innovation activity, yet also highlighted that more insights are needed into the management techniques, leadership skills and cultural attributes required to lift innovation participation rates above the current 34% level, closer to the 55%-60% levels seen in parts of Europe.

Section Four provides recommendations for how this can be done. However, before doing so, we review current government programmes and efforts that aim to strengthen innovation management capabilities and performance at the workplace level (see Section Three below).



### 3. A Review of Australian and International Programmes including Gaps and Opportunities

This section reviews existing Australian government programs and initiatives aimed at developing innovation management skills and capabilities at the workplace level (Section 3.1.). It also provides a review of government programs and initiatives internationally (Section 3.2). In conclusion, the gaps and opportunities in the context of the current Australian programs are identified and discussed (Section 3.3).

#### 3.1. Australian Government Programmes and Efforts

In Australia, the development of skills and management capabilities at the workplace level resides within three government department, which represents: 1) education and employment; 2) information communication and technology, and 3) innovation, research and science. In the following, we provide brief examples of some of the key programmes relating to workplace and skills development within each of the three departments.

##### **Department of Education, Employment and Workplace Relations (DEEWR)**

The first and largest of the three departments is the Department of Education, Employment and Workplace Relations (DEEWR)<sup>38</sup>. This department focuses on increasing employment participation, addressing skills needs in industry and ensuring productive workplaces through education and training. Three initiatives, which are closely related, are reviewed in the following. Some key initiatives are summarised in the following Table.

DEEWR - Examples of Programs
1. <b>The Industry Skills Councils (ISC)</b> deliver vocational education and training to eleven industry sectors, including, for example, the Manufacturing Skills Council, the Transport and Logistics Skills Industry Council, the Agri-food Skills Industry Council, and importantly, the Innovation and Business Skills Australia, which aims to develop innovation capability building in the workplace.
2. <b>Skills Australia</b> is part of the Government's Skilling Australia for the Future policy. Skills Australia is a new statutory body established to provide advice on current and future demand for skills and investment of public funds in training.
3. <b>Skilling the Existing Workforce Project</b> <sup>39</sup> is a tripartite (industry-government-individual) arrangement, which targets knowledge and skills requirements in advanced workplaces known as 'knowledge work'. It is led by the Australian Industry Group.

<sup>38</sup> DEEWR was created on 3 December 2007, bringing together elements of the former Departments of Education, Science and Training, Employment and Workplace Relations and the Youth and Early Childhood functions from the Department of Family, Housing, Community Services and Indigenous Affairs.

<sup>39</sup> [http://www.dest.gov.au/sectors/training\\_skills/programmes\\_funding/programme\\_categories/key\\_skills\\_priorities/skilling\\_existing\\_workforce.htm](http://www.dest.gov.au/sectors/training_skills/programmes_funding/programme_categories/key_skills_priorities/skilling_existing_workforce.htm)



The first program of relevance is the Industry Skills Councils (ISCs). The ISCs form part of Australia's National Training System<sup>40</sup>, which is a set of arrangements between the federal, state and territory governments that aim to deliver vocational education and training (VET) through Registered Training Organisations (RTO)<sup>41</sup>. The VET sector provides training for Australians of all ages and backgrounds, for small and large businesses, across all industries and in many communities. The eleven Industry Skills Councils (ISCs)<sup>42</sup>, which form part of the VET, are privately registered companies run by industry-based boards of directors. They are funded<sup>43</sup> substantially by DEEWR. The aim of the ISCs is to bridge the skills needs of Australian industry and develop and maintain training packages in line with research and market intelligence. They are responsible for coming up with nationally applicable training packages to be delivered to industry on a demand basis.

*Innovation and Business Skills Australia (IBSA)* is one of eleven Industry Skills Councils in the VET system. IBSA's slogan is 'Better Business through Innovation'. IBSA develops competency standards and qualifications for workforce skills development and training across six industry sectors: Business Services; Cultural and Related Industries; Education; Financial Services; Information and Communication Technologies; and Printing and Graphic Arts.

IBSA has four core roles:

1. Industry leadership and influence policy and practice through research and market intelligence.
2. Product development and dissemination, specifically the development of nationally recognised competency standards, qualifications and learning resources.
3. Services and solutions, specifically to build the capability and professionalism of vocational education and training practitioners and assist Registered Training Organisations with workforce and resource planning.
4. Stakeholder and client engagement, including state and federal government, industry and associations, partners with Registered Training Organisations, state industry

---

<sup>40</sup> [http://www.dest.gov.au/sectors/training\\_skills/policy\\_issues\\_reviews/key\\_issues/national\\_training\\_system/](http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/national_training_system/)

<sup>41</sup> [http://www.dest.gov.au/sectors/training\\_skills/policy\\_issues\\_reviews/key\\_issues/nts/quick/tpg.htm](http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/nts/quick/tpg.htm)

<sup>42</sup> The eleven ISCs are: Agri-Food Industry Skills Council, Construction and Property Services Industry Skills Council, Community Services and Health Industry Skills Council, EE-Oz Training Standards, Government Skills Australia, Innovation & Business Skills Australia, Manufacturing Skills Australia, Resources and Infrastructure Industry Skills Council, Service Industries Skills Council, Forest Works Learning and Skill development Council, and Transport and Logistics Skills Industry Council.

<sup>43</sup> The Australian Government (DEEWR) provides funding to the ISCs to: provide industry intelligence and advice to Skills Australia, government and enterprises on workforce development and skills needs; actively support the development, implementation and continuous improvement of high quality training and workforce development products and services, including training packages; provide independent skills and training advice to enterprises, including matching identified training needs with appropriate training solutions; and work with enterprises, employment service providers, training providers and government to allocate training places.



training advisory bodies, and other organisations to assist them in meeting client, members and students' needs.

Following a national search conference in 2007, IBSA developed a “*Blueprint for Action on Innovation*”. The Blueprint states that:

“Through sharing knowledge and leading by example we will work to boost the innovative capacity of the Australian workforce, including the capabilities of organisations, leaders, educators and individual workers. Our vision is for progress on three interrelated goals:

- Inspiring a culture of innovation
- Developing leaders
- Building workforce capacity.”

It also states that issues of interest to IBSA include:

- “the measurement of innovation
- the impact of the whole education sector on workforce skills/capability
- technology infrastructure and policy – bandwidth, regulation, IP
- the development of a management culture in organisations
- research into capabilities for innovation and its commercialisation.”

The Blueprint also outlines areas<sup>44</sup> for further inquiry and provides recommendations for strategic action in each, as well as IBSA possible role and contributions. These include”

1. Culture: Re-shaping organisational culture and leadership
2. Connections: Building connectivity and collaboration
3. Capability: Moving beyond skills

As one initiative, the Blueprint for Action on Innovation will develop an *Innovation Capability Framework* to help organisations harness the potential for innovation competency and to

---

<sup>44</sup> They are:

**CONTEXT:** IBSA can contribute to shaping national systems that enable and support innovation: through participating in national dialogue, influencing policy, partnering with government agencies, peak bodies, industry associations and training providers, giving voice to industry needs and identifying industry requirements and trends.

**CULTURE:** IBSA can help to create a national culture that establishes and sustains innovation: through dialogue with industry, acting as a role model, sharing knowledge with training providers and employers, documenting and disseminating case studies and examples of success.

**CONNECTIONS:** IBSA can model new ways of working to nurture/enable innovation: by building and extending connections with a wide range of other organisations/networks/individuals both nationally and internationally to build and share knowledge, responding to changing industry and workforce requirements, capturing and capitalising on new thinking/ideas, working as an intermediary to link key players.

**CAPABILITY:** IBSA can support the development of the skills needed for a flexible, innovative and adaptable workforce: by broadening the focus from skills development to capability building and considering the requirements for innovative capability and leadership in the development of training products.



foster and develop innovative capability amongst staff and other stakeholders. It is a diagnostics tool to help organisations assess gaps in their staff's innovation skills and develop training strategies to close such gaps. The *Innovation Capability Framework* is currently under development (and tender). In summary, the tool will:

- help organisations to consider staff capability for innovation;
- give a snapshot of organisational health from a 'staff capability for innovation' perspective; and
- provide advice on options for building staff capability for innovation.

Another initiative by IBSA is the *Innovation and Creativity Platform Project*. The objective of the project has been to scope and validate industry requirements for high level qualification and skills sets. Specifically, the project has investigated qualifications and competencies that equip people to manage an innovative workforce and working environment as well as to be able to implement innovation in the workplace. It has reviewed new innovation and creativity academic literature (including international) since 2005; and relevant existing qualifications, units, skill sets and knowledge requirements in order to ensure that appropriately trained people will be able to manage, build and maintain collaborative and innovative working environments. The project has recently formulated recommendations for new qualifications, units and skill sets and is currently progressing these. These include, among others, a Vocational Graduate Diploma in Innovation Management and an Advanced Diploma of Knowledge Management.

Observations:

- The above review indicates that the main responsibility for developing innovation capability at the workplace level resides with IBSA. IBSA pursues this in a variety of ways including through its training packages, industry research, the forthcoming Innovation Capability Framework and the Innovation and Creativity Platform Project. Notably, IBSA highlights the importance of leadership and culture, besides management skills, and outlines a wider range of noteworthy initiatives to this end, some suggested and some already up and running.
- The ten ISCs, besides IBSA, do not seem to direct much attention at the development of innovation management skills. There is, for example, no or little mentioning of 'innovation' in their training packages.



- Generic management skills are however covered as part of many of the ISC Training Packages<sup>45</sup>. The packages, for example, focus on working smarter, or developing skills in product development, thus indirectly stimulating innovation activities in the workplace. Examples include the Manufacturing Skill Council's Competitive Manufacturing Training Package, which is a cross-sector training package for manufacturing industries, as well as the Agri-food Skills Industry Council's Jobs for Life program<sup>46</sup> and the Work-Like Integrated Learning approach<sup>47</sup>.

The second relevant initiative within DEEWR is Skills Australia. This is linked to the ISCs, discussed above. It is a newly formed initiative, which has resulted from the Government's *Skilling Australia for the Future* policy<sup>48</sup>. Skills Australia is a statutory body established to provide advice on current and future demand for skills and investment of public funds in training. A key priority for the body is to provide intelligence and signal to government and industry important changes of direction required in VET services and the labour market generally to maintain workforce participation, address skills shortages and to grow productivity. It will also assist in allocating priorities by industry, jurisdiction and level of training required and ensure training is more responsive to the needs of enterprises and individuals through the Productivity Places Program<sup>49</sup>.

The 2007/08 budget announced that the government has allocated \$1.9 billion over five years to Skills Australia<sup>50</sup>. The \$1.9 billion will deliver increased funding for the ISCs of \$83.2 million over five years, who will play a stronger role to ensure industry is placed at the centre of the training system. Up to 630,000 new training places will be created through the program.

Furthermore, Skills Australia has been allocated an additional \$19.6 million over five years to advise the Government on skills gaps and needs. This will be led in part by the ISCs, who will provide information to Skills Australia through the development of regular *Environment Scans*, in particular qualitative intelligence garnered by ISCs during their interactions with respective industry sectors<sup>51</sup>. Intelligence gathering will include<sup>52</sup>:

- "analysing current and emerging skills needs across industry sectors

---

<sup>45</sup> <http://www.tpatwork.com/>

<sup>46</sup> [http://www.agrifoodskills.net.au/display\\_announce.php?id=2](http://www.agrifoodskills.net.au/display_announce.php?id=2)

<sup>47</sup> [http://www.agrifoodskills.net.au/display\\_page.php?id=119](http://www.agrifoodskills.net.au/display_page.php?id=119)

<sup>48</sup> [http://www.dest.gov.au/sectors/training\\_skills/policy\\_issues\\_reviews/key\\_issues/skillsaustralia/](http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/skillsaustralia/)

<sup>49</sup> <http://www.productivityplaces.deewr.gov.au/home.htm>

<sup>50</sup> <http://mediacentre.deewr.gov.au/mediacentre/Gillard/Releases/SkillingAustraliafortheFuture.htm>

<sup>51</sup> IBSA released one environmental scan in March 2008. [http://www.ibsa.org.au/downloads/EScan\\_II\\_-\\_17Mar2008.pdf](http://www.ibsa.org.au/downloads/EScan_II_-_17Mar2008.pdf)

<sup>52</sup> [http://www.dest.gov.au/sectors/training\\_skills/policy\\_issues\\_reviews/key\\_issues/skillsaustralia/](http://www.dest.gov.au/sectors/training_skills/policy_issues_reviews/key_issues/skillsaustralia/)



- assessing evidence from commissioned research and industry stakeholders to inform Australia's skills and workforce development needs
- distributing information from research and consultations with stakeholders widely to enable entrepreneurs, businesses and workers to have the necessary information to inform their training and employment decisions
- providing Government with recommendations on current and future skills needs to help inform Government decisions to encourage skills formation and drive ongoing reforms to the education and training sector, including on priorities for the investment of public funds
- establishing and maintaining relationships with relevant state bodies to inform advice on current and future demands for skills and facilitate alignment of priorities for responses to skills needs."

Observations:

- Thus far, there has been no specific statement by Skills Australia of an increase in intelligence gathering on innovation management and skills development in the workplace.
- It would seem likely that IBSA's environmental scans will form the main part of the intelligence gathering on innovation in the workplace going forward<sup>53</sup>.

The third relevant initiative within DEEWR is the Skilling the Existing Workforce Project<sup>54</sup>. This is a tripartite (industry-government-individual) approach to skilling existing workers, particularly in industries experiencing skills shortages. The Project will develop, trial and evaluate training models that blend informal, non-formal and formal adult learning strategies, with the view to informing good practice workforce skills development approaches. Specifically, the program targets knowledge and skills requirements in advanced workplaces known as 'knowledge work'.

The Australian Industry Group is leading the Project's three stages:

---

<sup>53</sup> There may also be a role for TAFE in building the innovation skills of Australians. Recently, the TAFE Directors Australia said the R&D and innovation have largely been quarantined to higher education, research institutions and agencies and the capacity to tap into TAFE innovation is under-utilised. TAFE Directors call for a greater role in developing innovative solutions, which can improve efficiency and accelerate technological transfer. See <http://www.tda.edu.au/>

<sup>54</sup> [http://www.dest.gov.au/sectors/training\\_skills/programmes\\_funding/programme\\_categories/key\\_skills\\_priorities/skilling\\_existing\\_workforce.htm](http://www.dest.gov.au/sectors/training_skills/programmes_funding/programme_categories/key_skills_priorities/skilling_existing_workforce.htm)



1. “The development of a *Background Research Report*<sup>55</sup> and public consultation papers to inform national stakeholder consultations.
2. Trial approaches: a minimum of five different workforce skills development approaches will be trialled in different enterprises across the country<sup>56</sup>.
3. Evaluation of trial approaches and report on Project outcomes.”

AiG’s *Background Research Report* highlights a shift in skills, where employers now require higher and more complex skills. This is referred to as ‘skills deepening’. It also points out the importance of innovation, both inside and outside the firm (p. 25). The report quotes the NSW Board of Vocational Education and Training (BVET)<sup>57</sup>, who in their current strategic plan states that:

“It is recognised that workplaces now require more emphasis on innovation and seek adaptable, responsible, ethical workers with higher level interpersonal skills such as group and social problem solving and conflict resolution. These “new” generic competencies will need to be integrated into the future delivery of vocational education and training programs where appropriate, to complement the technical skills required by employers.”

The report goes on to point out that another dimension to knowledge and skill requirements in advanced workplaces is the role of ‘knowledge work’; that is, occupations which are underpinned by the management, application, generation and dissemination of new knowledge and of innovation.

IBSA’s Blueprint (p. 9) makes a similar point. It points out that:

“The workforce needs new, or newly emphasised, skills and capabilities to support an innovative economy. Innovation is not a skill or capability of its own, it is the application in a specific context of a combination of skills/capabilities and knowledge. Capabilities that are required for innovation are:

- collaboration, teamwork, mentoring and playing to lose
- building networks, knowledge sharing
- questioning, problem solving, critical thinking, thinking outside the square
- listening and communication

<sup>55</sup> See [http://www.dest.gov.au/NR/rdonlyres/74DEDE58-8B96-4138-BFEE-B615CE1571CD/16079/Research\\_Report.pdf](http://www.dest.gov.au/NR/rdonlyres/74DEDE58-8B96-4138-BFEE-B615CE1571CD/16079/Research_Report.pdf)

<sup>56</sup> Specifically, five different workforce skill development approaches will be trialled in different enterprises across the country to assist in the development of a range of models considered to be effective in skilling the existing workforce.

<sup>57</sup> NSW Board of Vocational Education and Training Strategic Plan for Vocational Education and Training 2005 – 2008. <http://www.bvet.nsw.gov.au/pdf/stratdoc0508.pdf>



- thinking across disciplines, lateral thinking, making connections, improvising
- leadership (at all levels), confidence/resilience, willingness to take risks.”

Similarly, a survey by AiG, *Skilling for Australia* (2008), finds that

“The skill sets required for innovation and industry competitiveness incorporate: skills enabling all individuals to be adaptive and problem-solve (‘soft’ skills); technical skills; and management skills. The study found that problem-solving is rated as the most important ‘soft’ skill (31.7%), followed by communication (25.8%); adapting to change (23.5%); and teamwork (18.9%).”

The AiG *Background Research Report* points out that approaches to learning need to change due to changes in types of workers’ knowledge from explicit to tacit and capabilities such as those mentioned by IBSA above. For example, applied and project based learning techniques provide good alternatives to traditional training courses and class room based learning. The report, however, also points out that currently Australian education and training do not consider these important. Neither do current policies affecting skills development recognise the significance of tacit knowledge. The report (p. 4) makes the following comments to this end:

“The OECD has defined the kinds of skill and knowledge required in the modern economy as ‘Know-what, Know-how, Know-why and Know-who’. Skills and knowledge are comprised of both codified knowledge — that is knowledge represented in standards, curriculum and written procedures and texts — and tacit knowledge, that is knowledge gained through experience, through working with others and through the application of codified knowledge particularly in the workplace. Codified knowledge is more commonly associated with formal and structured learning and tacit knowledge with informal and non-formal learning ‘Know how’ and ‘know who’ is mainly represented through tacit knowledge. Learning by doing and applied learning lies at the heart of models such as apprenticeship and project and problem based learning. Informal learning becomes more important as people age and is a common and powerful means by which tacit knowledge is acquired, applied and disseminated. However, informal and non formal learning and the importance of tacit knowledge is not fully recognised in current policies affecting skills development.”



The changing nature of skills is also reflected in the European Commission's work on *Innovation and Skills Requirements in the European Service Economy*<sup>58</sup>. This work focuses in particular on Knowledge-Intensive Service Activities (KISAs) and Knowledge Intensive Business Skills (KIBS). It identifies six types of skill requirements — Basic Skills, Complex Problem Solving Skills, Resource Management Skills, Social Skills, Systems Skills, and Technical Skills.

The AiG report goes on to talk about overseas approaches to learning. It refers to the OECD, which in its work on the Knowledge Economy, distinguished between *formal learning* (structured and accredited), *non-formal learning* (structured but not accredited) and *informal learning* (non-structured and non-accredited) and emphasises that non-formal and informal learning are particularly important for adults<sup>59</sup>.

Furthermore, the Australian Bureau of Statistics (ABS)<sup>60</sup> has developed a model, which further illustrates this point (see Figure below). It shows what may be 'in' and 'out of scope' in measuring learning in Australia.

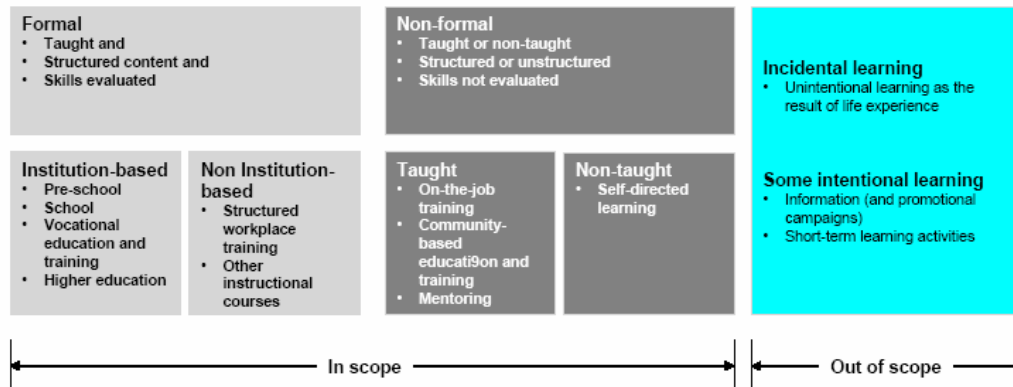
---

<sup>58</sup> This has resulted from an initiative in early 2008 by the European Centre for the Development of Vocational Training (CEDEFOP), a European Agency, which started a regional specific initiative to promote the development of vocational education and training (VET) across European countries. It published the "Future Skill Needs in Europe: Medium Term Synthesis Report. This report provides extensive documentation of occupational skill needs in Europe, working from national accounts statistics and Labour Force Survey data depicting the structure of occupations across industrial sectors in the EU. The forecasts, for 2015, cover Europe as a whole (EU-25 plus Norway and Switzerland) and all individual Member States). This study is part of ETEPS (European Techno-Economic Policy Support Network) under the STEEPV framework (Social, Technological, Economic, Environmental, Political and Values factors), in support of the EU policies on human resources, innovation and foresight. See [http://www.trainingvillage.gr/etv/Projects\\_Networks/Skillsnet/Work/pubwork.asp](http://www.trainingvillage.gr/etv/Projects_Networks/Skillsnet/Work/pubwork.asp)

<sup>59</sup> See also See Richardson 2004 *Employers Contribution to Training* NCVER for an overview of the contribution of informal employer sponsored training. He points out that: "Vocational education and training (VET) encompasses employment-related training provided through the technical and further education (TAFE) sector and private training providers. But vocational education is broader than this. It includes the development of job-related skills and attributes which increase a person's productivity in the workplace. Economists refer to this as human capital. These skills can be learned through the formal education system (schools and higher education); through the vocational education system (TAFE and private providers); and through formal and informal learning on the job". <http://www.ncver.edu.au/research/proj/nr1005.pdf>

<sup>60</sup> See ABS 2003 *Measuring Learning in Australia – a framework for educational statistics* [http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/223D40E6FAF99324CA256CBC0078E114/\\$File/42130\\_2003.pdf](http://www.ausstats.abs.gov.au/ausstats/free.nsf/0/223D40E6FAF99324CA256CBC0078E114/$File/42130_2003.pdf)

**Figure: ABS Framework for Measuring Learning in Australia**



The ABS report goes on to point out that unstructured learning is often more important in successful workforce participation and progression than formal training and qualifications. This finding is in line with the findings of the AiG *World Class Skills* report, which points that that consideration of workforce reskilling cannot be limited to the formal education and training system or what is often termed institution based learning.

As Richardson (p. 34) states:

“The main implication drawn is that what is happening informally in the workplace is very important for determining the future quantity, quality and character of the skills of the workplace. There is a large public interest in what happens in the domain of on-the job learning.”

The AiG report goes on to highlight the importance of workplaces as learning sites. Drawing on a report by the Australian Centre for Organisational, Vocational and Adult Learning (OVAL) for the High Level Review of National Training Packages<sup>61</sup>, it illustrates how informal learning differs from formal learning:

*“This form of learning is different from that involved in formal award courses in that it:*

- *does not rely on the intervention of institutionally based teachers or organisationally based workplace trainers*
- *is not structured around pre-determined vocational outcomes*
- *is not determined by qualifications frameworks and endorsed Training Packages*
- *is not guided by pre-specified content*
- *is not organised around the enabling disciplines.*

<sup>61</sup> Oval Research Chappell, Hawke, Rhodes and Solomon (undated) Major Research Program for Older Workers Stage One the Conceptual Framework.



*Instead the main characteristics of this learning are that it:*

- *is context bound, driven by specific and immediate work requirements*
- *emphasises learning over teaching or training as a defining characteristic*
- *depends on the responsibility for learning being spread between a number of people within the workplace*
- *is consistent with new learning concepts such as learning networks, learning organisations (Senge 1994), and communities of practice (Wenger 2000)."*

IBSA also points out the need for changes in approach to developing innovation skills. The Blueprint (p. 9) states that:

"These skills (i.e. innovation skills) need to be available for delivery. In many cases the education system is seen as too slow when skills are needed in the workplace/business immediately. Learning from colleagues, mentors, entrepreneurs is highly valued for its speed and instant applicability. Large organisations with established in-house training programs have found that their employees' personal preferential networks are a more powerful learning tool than company training materials."

In their literature review of the High Level Review of National Training Packages, OVAL<sup>62</sup> similarly concludes that:

"This working knowledge is also rarely codified in text books, formal training programs, competency standards, or procedural manuals and text books. Instead, it is developed within the context and environment of the immediate workplace from the base of relevant skills and knowledge, including technical knowledge, held by workers."

The AiG report (p. 15) concludes that in Australia there is a:

"need for a more holistic and integrated approach to how workforce skills are acquired and used has led several commentators to suggest that Australia should adopt a comprehensive workforce development approach to training, which would include but also go beyond, conventional approaches such as VET or the formal education and training system."

---

<sup>62</sup> See ANTA 2003 High Level Review of Training Packages Phase 1 Report undertaken by OVAL Research University of Technology Sydney *An analysis of the current and future context in which Training Packages will need to operate.*



The insights provided by the AiG report and others illustrate the importance of developing demand driven and highly flexible workforce skills development systems that acknowledge the significance of informal approaches to learning, including learning by doing, project or practice based learning, and learning through informal and social networks. Informal and non-formal approaches to learning are increasingly important but these forms of learning are not well recognised in current policy settings in Australia<sup>63</sup>.

Observations:

- The AiG Skilling the Existing Workforce Project points out that skills requirements are changing and that knowledge work and innovation require different skills sets. They require 'skills deepening' and acknowledgement of the importance of tacit knowledge. Examples from IBSA show that these relate to skills such as collaboration, teamwork, mentoring and playing to lose, building networks, knowledge sharing, questioning, problem solving, critical thinking, thinking outside the square, listening and communication, thinking across disciplines, lateral thinking, making connections, improvising, leadership (at all levels), confidence/resilience, and a willingness to take risks.
- The change in skill requirements has implications for approaches to learning and teaching. Specifically, it creates greater demand for unstructured, informal and project or practice based learning. This point is highly relevant to the debate on developing innovation management capabilities at the workplace level. Innovation is not taught (solely) through technical skills development, but rather through social networks, learning by doing, project based learning and other forms of informal learning. The key point is that knowledge work and innovation requires different approaches to learning and workplace development.
- Importantly, these new forms of learning are not well recognised in current Australian policy or incorporated into existing national learning and development systems. Thus, opportunities exist to strengthen skills in the workplace through the design of new approaches to learning and teaching.

---

<sup>63</sup> The AiG is currently conducting a national round of consultations to give stakeholders the opportunity to discuss how the skilling needs of existing workers are being addressed and how current workplace practices might be built upon to achieve accelerated outcomes for enterprises and individuals. The Final Project outcomes will be available in 2008.



**Department of Broadband, Communications and the Digital Economy**

The second department involved with workplace development and training is the Department of Broadband, Communications and the Digital Economy (DBCDE)<sup>64</sup>. DBCDE is responsible for ensuring that Australia develops world-class communications and information technology that builds the creativity of people and ensures the economic and social wellbeing of all Australians. It provides support for users of communications and information and technology services<sup>65</sup>. Several initiatives focus specifically on development of Information and Communications Technology (ICT) skills, a critical enabler of innovation. There is, for example, a focus on the use and adoption of information and management technologies, including people's responsiveness to change and adaptability to new technologies in the workplace and in the community in general. The Table below summarises a few of these.

<b>DBCDE - Examples of Programs<sup>66</sup></b>
<ul style="list-style-type: none"><li>- National ICT Australia</li><li>- Clever Networks program</li><li>- Backing Indigenous Ability Telecommunications Program</li></ul>

DBCDE has, for example, created the National ICT Australia institute (NICTA)<sup>67</sup>. This was set up as a world-class research institute in ICT to generate national benefit. NICTA conducts research, provides research training and education, commercialises research and collaborates with private sector research organisations, major companies, small to medium size enterprises (SMEs) and public sector agencies<sup>68</sup>. NICTA is today one of Australia's largest ICT research organisations and employs over 220 research staff and research support staff and has over 290 post-graduate students. It is building critical mass in Australia's ICT research effort and growing Australia's international profile as a strong performer of ICT research and research training.

<sup>64</sup> The Department was formally the Department of Communications, Information Technology and the Arts (DCITA). The arts responsibilities were transferred to the Department of Environment, Heritage Water and the Arts (DEHWA) following the 2007 Federal election. DBCDE is responsible for legislation, policies and guidelines managing the Australian communications and information technology sector, the radio and television broadcasting and Internet services, and for the postal industry.

<sup>65</sup> [http://www.dbcde.gov.au/communications\\_for\\_consumers/funding\\_programs\\_and\\_support](http://www.dbcde.gov.au/communications_for_consumers/funding_programs_and_support)

<sup>66</sup> [http://www.dbcde.gov.au/all\\_funding\\_programs\\_and\\_support/](http://www.dbcde.gov.au/all_funding_programs_and_support/)

<sup>67</sup> Previously known as DCITA and now DBCDE

[http://www.dbcde.gov.au/communications\\_for\\_business/funding\\_programs\\_and\\_support/ict\\_centre\\_of\\_excellence](http://www.dbcde.gov.au/communications_for_business/funding_programs_and_support/ict_centre_of_excellence)

<sup>68</sup> Research by: Attracting and retaining the highest quality research staff; Focusing our research efforts toward areas of importance to Australia; Working collaboratively both internally and with external partners; Conducting research to the highest standards of excellence; Being recognised among the world's top ICT research centres; and Providing leadership for high quality ICT research throughout Australia.

Commercialisation by: Building a strong entrepreneurial culture within NICTA; Fostering open relationships with the Australian business community; Optimising the economic benefit of NICTA's research to Australia; and Providing a measurable impact on Australian ICT competitiveness.

Collaboration by: Building high-quality partnerships with Australian businesses, multinationals, research institutions, and universities; Leveraging the support that has been given to us by our members and by Australian government agencies; and Serving as a focal point for the development of ICT industry clusters.



A second initiative is the Clever Networks program, which delivers innovative broadband services to communities in regional, rural and remote Australia. This is comprised of two elements. The first, Innovative Services Delivery program, helps deliver government services using ICT, such as virtual healthcare<sup>69</sup>, interactive education services, and delivery of integrated state-wide emergency services remote areas. The second, Broadband Development Network assists regional communities to improve access to and use of broadband, identify and document priority areas and opportunities for new and/or improved broadband services, and assist communities and sectors to develop skills and capabilities to realise the social and economic benefits that broadband services can deliver.

A third initiative is Backing Indigenous Ability Telecommunications Program<sup>70</sup> (BIA Program), which helps to improve communications services in remote Indigenous communities. This is designed to address the need for telephones, internet and videoconferencing, provide training and skills development and promote and develop Indigenous online content. This program is part of the bigger *Connect Australia*<sup>71</sup> \$3.1 billion program with funding of \$36.6 million.

### **Department of Innovation, Industry, Science and Research**

The third department involved with workplace development and training is the Department of Innovation, Industry, Science and Research (DIISR)<sup>72</sup>. DIISR strives to create an environment for new ideas and innovation, make Australia a more innovative nation, and in doing so advance social development and economic growth. DIISR helps industry through a range of programs. It, for example, seeks to nurture emerging knowledge-based industries, provides support for small businesses to grow and prosper by providing advice and assistance programs, assists Australia achieve a strong science capacity, and to be engaged internationally on the science front<sup>73</sup>. Some of the main programmes are shown in the Table below. Four of the most relevant programmes for developing innovation skills in the workplace are discussed in the following.

---

<sup>69</sup> This is a tele-health system through the joint efforts of NSW Health, CSIRO and WAHS in Australia, developed for supporting critical care services between a referral hospital and a rural hospital by transmitting very high quality, real-time multimedia information, including images, audio and real-time video, over an IP based network. Li, J., Wilson, L. S., Qiao, R.-Y., Percival, T., Krumm-Heller, A., Stapleton, S. & Cregan, P. (2006) Development of Broadband Telehealth System for critical care - process and lessons learnt. 5, 12.

<sup>70</sup>

[http://www.dbcde.gov.au/communications\\_for\\_consumers/funding\\_programs\\_and\\_support/backing\\_indigenous\\_ability\\_telecommunications\\_program](http://www.dbcde.gov.au/communications_for_consumers/funding_programs_and_support/backing_indigenous_ability_telecommunications_program)

<sup>71</sup> [http://archive.dcita.gov.au/2007/11/connect\\_australia](http://archive.dcita.gov.au/2007/11/connect_australia)

<sup>72</sup> The Government on Dec 3, 2007 announced the creation of the Department of Innovation, Industry, Science and Research, replacing DITR.

<sup>73</sup> AusIndustry is the Australian Government's agency for delivering products, services, and information that support innovation, industry, science and research: <http://www.ausindustry.gov.au>



#### DIISR - Examples of Programs<sup>74</sup>

- Building Entrepreneurship in Small Business (BESB)
- **Commercialising Emerging Technologies (COMET)**
- Commercial Ready Plus (CRP)
- Industry Cooperative Innovation Program (ICIP)
- **Enterprise Connect**
- Clean Business Australia
- Climate Ready Program
- Early Stage Venture Capital Limited Partnership (ESVCLP)
- **Innovation Investment Fund (IIF)**
- **Pre Seed Fund**
- R&D Start
- R&D Tax Concession
- Re-Tooling for Climate Change
- Renewable Energy Development Initiative (REDI)
- Renewable Energy Equity Fund (REEF)
- Several programs for Textile, Clothing and Footwear
- Venture Capital Limited Partnerships Program (VCLP)

The first program of relevance is the Enterprise Connect (EC)<sup>75</sup>. This is a recent Labor government initiative, which will provide comprehensive support to Australian small and medium sized enterprises (SMEs). It aims to connect businesses with new ideas and new technologies, will help them become more innovative, efficient and competitive through skill development, and by gaining new knowledge, tools and expertise to improve productivity and increase competitiveness.

DIISR has committed \$250 million over five years for this programme.

Enterprise Connect is comprised of two components: Innovation Centres<sup>76</sup> and Manufacturing Centres<sup>77</sup>. Together they provide a national network of services and support for eligible SMEs to access expert, practical advice and support tailored to their individual firms. The Innovation Centres will benefit business by providing a full range of advisory services<sup>78</sup>. The first level of service offered is a comprehensive Business Review<sup>79</sup>, which is delivered at no cost to client

<sup>74</sup> Please see the AusIndustry DIISR website for a summary of business assistance programs AusIndustry delivers: <http://www.ausindustry.gov.au/content/level2index.cfm?objectID=AEB901E5-7CB8-4143-A3BF33B2423F9DA6>

<sup>75</sup> <http://www.enterpriseconnect.gov.au/Pages/default.aspx>

<sup>76</sup> The Innovation Centres are: Creative Industries Innovation Centre, Clean Energy Innovation Centre, Innovative Regions Centre based in Geelong, Mining Technology Innovation Centre based in Mackay, and Remote Enterprise Centre based in Alice Springs

<sup>77</sup> The Manufacturing Network has centres located in Sydney (NSW), Melbourne (VIC), Mawson Lakes (SA), Perth (WA), Burnie (TAS) as well as QMI Solutions in Brisbane (QLD). Forty-five Business Advisers located in metropolitan and regional Australia ensure that services can be delivered to eligible firms nationwide.

<sup>78</sup> Services will include: a review of business activities and support to address the outcomes of that review; on-going support and mentoring; linking firms with the best knowledge and research available; assistance with problem solving; assistance in accessing other government programs; provision of industry intelligence, workshops and networking activities

<sup>79</sup> See <http://www.enterpriseconnect.gov.au/Manufacturing/OurServices/Pages/BusinessReview.aspx>



firms. Skilled and experienced Business Advisers carry out these Business Reviews on-site at firm's premises. They benchmark client business processes against best practice and provide financial help for technical assistance. The centres will also offer diagnostic services; assist firms to find the best ideas, research and technology to improve their products and efficiency; and offer prototyping and testing capacity for new products.

The core services offered by each Manufacturing Centre include a *Business Review* conducted for free by a Business Adviser, *Tailored Advisory Service*, which provides funding to implement actions identified in the Business Review, and *Researchers in Business* service, which offers the placement of researchers from universities or public research agencies into businesses to help develop and implement new commercial ideas<sup>80</sup>.

Through the Tailored Advisory Service, assistance to manage change will be granted for business needs identified as a result of the Business Review leading to:

Business Process Improvements, including:

- supply chain management
- business management systems
- lean manufacturing/office
  - quality improvement
  - six sigma
  - process re-engineering
- benchmarking best practice

Business strategy, including:

- strategic and business planning
- financial control
- resource management
- people/change management

Business growth, including:

- new product and service development
- diversification/economies of scope/value add services for manufacturing
- sales and market development
- export strategy

---

<sup>80</sup> To be eligible for Manufacturing Centre services firms must: possess an Australian Company Number (ACN), have turned over more than \$2 million and under \$100 million in the preceding financial year, be solvent, have filed Business Activity Statements for at least three consecutive years, be trade exposed: and have main business activity in industries other than primary production and have not have received an equivalent service from other government (Australian, state or territory or local) programs within the last three calendar years.



A final service is the assistance provided to collaborative enterprises or a group of firms, which have a common business interest that may include but are not limited to: firms with complementary business capabilities, firms involved in the same supply chain or firms involved in action agendas<sup>81</sup>.

A second program, Commercialising Emerging Technologies (COMET) focuses mainly on the development of entrepreneurial skills related to technological innovation. It is restricted to training needs in the commercialisation stages only and is thus fairly restricted in its ability to develop general innovation management skills in the workplace. COMET is a competitive, merit based program that supports early-growth stage and spin off companies to successfully commercialise their innovations, and in particular targets management development including participation in approved management skill development courses, engagement of mentors, and strategic and business planning. It also includes market research, establishing market validity by focusing on building a credible business position, intellectual property strategy and proven technology (including finalising working prototype). For individuals, funding related to management development to progress their innovation to commercialisation is limited to AUD 5,000 per individual. It is premised on merit criteria. According to the *Innovation Australia Annual report 2006-2007*<sup>82</sup> the COMET program has been overall successful, yet there is no specific evidence that demonstrates return on investment on the skill development aspects and its impact on innovation.

A third program is the Innovation Investment Fund (IIF). This is a venture capital program that assists with the development of new managers in early stage venture capital investing. It is restricted to early stage VC and its main aim is to train people in the field of scientific or technological research and thus does not directly aim to develop generic innovation management skills<sup>83</sup>. It invests in private sector venture capital funds to assist small companies in the early stages of development to commercialise the outcomes of research and development. Until recently, there were ten funds operating under IIF, and in March 2008, the Minister for DIISR announced the Brandon Bioscience Fund 1 (BBF1 IIF) as the eleventh fund to be fully licensed to operate under this scheme. According to the *Innovation Australia*

---

<sup>81</sup> For group applications, an eligibility criteria applies. For example, firms with a turnover of at least \$1 million in the previous financial year may be included as part of the group, on the condition that the minimum turnover for the group as a whole is at least \$4 million in the previous financial year.

<sup>82</sup> COMET's *Industry Cooperative Innovation Program (ICIP)* Committee considered 49 applications under Round Two of the Industry Cooperative Innovation Program. Sixteen applications were approved with funding of \$8.16 million for projects valued at \$24.15 million. Under the COMET program 196 applications were assessed and 174 approved for funding totalling \$11.08 million. Since COMET's inception the Australian Government has allocated \$82.3 million in funding and the program has supported 1,351 companies. Collectively they have achieved 2158 commercialisation outcomes and raised around \$419.6 million in capital.

<sup>83</sup> The Board and AusIndustry will have regard to the following IIF policy objectives when performing their functions and making decisions : to develop fund managers with experience in the early stage venture capital industry; by addressing capital and management constraints, to encourage the development of; new companies which are commercialising research and development; to establish in the medium term a "revolving" or self funding program; and to develop a self-sustaining Australian early stage, venture capital industry.



*Annual report 2006-2007*<sup>84</sup> this program has been a fairly successful initiative, yet restricted in its ability to diffuse and reap benefits to multi-national corporations or medium enterprises.

A fourth and last of the programmes reviewed here is the Pre-seed Fund (PSF) program. This provides assistance with the commercialisation of research from Australian universities and public sector research agencies and bridges the gap between promising scientific discoveries and commercialisation, and is thus of limited relevance to building innovation management skills in the workplace. The main aim is to provide management, technical and entrepreneurial skills to public sector researchers, build links with the finance and business community and provide advice to assist in commercialisation.

To date, PSF has established four venture capital funds with ten year licences to invest in companies or projects, and assists in the commercialisation of public sector R&D activities by further developing the management, technical and entrepreneurial skills of public sector researchers. It also builds links with the finance and business community and provides advice to assist in commercialisation activities. As detailed in the *Innovation Australia Annual report 2006-2007*<sup>85</sup>, the PSF scheme is co-sponsored by the government and industry with the Australian Government providing \$72.7 million, with the private sector providing \$31.405 million, resulting in total funding of \$104.105 million under the program. All four funds are now close to completing their investment portfolios and are shifting their focus to follow-on investments, value creation and exiting investments. In 2006–07, the Government received its first return from the program (\$0.09 million) highlighting the successful nature of this scheme.

#### Observations:

- Most of the programmes by DIIRS focus on technology/product innovation and the development of management skills for start-ups or commercialisation. For example, the *Innovation Investment Funds*, *Pre Seed Funds* and *COMET* focus on funding, commercialisation and business start-ups not on developing skills for managing process and organisational innovation at the workplace level. It could possibly be argued that through the process of managing their initiatives, managers in start-ups do undergo ‘learning by doing’ and grasp innovative skills. Yet, the net conclusion is

---

<sup>84</sup> Twenty one applications were received for the first tranche of Round Three of the *Innovation Investment Fund* program. Four applicants were successful and are expected to raise between \$90 million and \$120 million in investment capital. The Australian Government will contribute up to \$80 million. This will bring the total number of IIF fund managers to 13. Funds invested since inception of the program total \$251 million of which the Australian Government has provided \$158 million. To 30 June 2007, returns to investors under the program have totalled \$297 million, the Commonwealth share of this amount is \$66 million.

<sup>85</sup> The four funds established under *PSF* became operational towards the end of 2002. By 30 June 2007, these funds had invested in 59 companies and projects. During 2006–07, 26 companies and projects received funding, 11 of which were new investments. The majority of investments were sourced from universities (78%) and Cooperative Research Centres (14%). By 30 June 2007, the four funds had drawn down \$55.42 million from their investors, of which the Government contributed \$38.62 million.



that, despite their significance and importance, none of these programs focus more broadly on building generic innovation management skills at the workplace level.

- The *Enterprise Connect* program may go some way in addressing the shortfalls of the other DIIRS programs. The Enterprise Connect programme focuses on broader management skills related to organisational and managerial innovations, including the development of management tools and processes to lift innovation in SMEs. Businesses will be equipped with resources, skills, and assistance in funding and an ability to manage and implement change targeted at developing more complex skill sets. The programme can also, via group of firm initiatives, become an effective mechanism for informal approaches to learning, as discussed in the previous section and a vehicle for developing social and learning networks within and across businesses.

### 3.2. International Programmes and Efforts

Several programs and initiatives have been established by overseas governments to strengthen innovation capabilities at the workplace level. Such programmes support both formal and informal approaches to workplace transformation and learning, by offering and running workplace development projects, providing access to informal learning networks, and by disseminating information on high performance management and work practices to the business community. A set of these programs are discussed in the subsequent paragraphs. Specifically, the initiatives and programs of governments in the UK, Ireland, Finland, Canada, USA and Japan, are reviewed.

#### United Kingdom

United Kingdom – Summary of Selected Initiatives
<ul style="list-style-type: none"><li>▪ <i>Building Colleges for the Future</i>, by the Department for Innovation, Universities and Skills (DIUS), March 2008</li></ul>

In July 2007, the **UK Department for Innovation, Universities and Skills (DIUS)** identified an urgent need for skills development and called for a skills 'revolution'<sup>86</sup>. Specifically, it highlighted the need to close the gap between where UK is now and where it needs to be in

<sup>86</sup> <http://www.dius.gov.uk/policy/skills.html> "In December 2006, Lord Leitch published the final report of his independent review into the UK's skills needs. He identified skills as one of the most important drivers of a successful economy and a just society that offers opportunities for all citizens, regardless of their background. In July 2007, the Department for Innovation, Universities and Skills published *World Class Skills: implementing the Leitch Review of Skills in England* in response to Lord Leitch's report. It explains how the Government will provide the right supporting framework to act as a catalyst for the skills 'revolution'. The paper tackles the skills challenge such that the UK can be a world leader in skills by 2020. "We are working with partners, employers, and learners to create a partnership to deliver our skills and economic ambitions.



2020 (i.e. to become world leaders in skills). In response, in March 2008, the Learning and Skills Councils<sup>87</sup> issued a report called *Building Colleges for the Future* (2008-09 to 2010-2011). This report was prepared on behalf of DIUS and resulted in a series of funding commitments to improve skills development.

The first was an allocation of £2.3 billion to be invested over a period of 3 years in capital projects. This was designed to support the Learning and Skills Council's three national priorities, which include: Create demand for learning and skills; Transform the Further Education system to meet demand; and deliver better skills, better jobs and better lives<sup>88</sup>.

A second allocation was a proposition to invest between £4 billion and £5 billion in the development of formal training plans at colleges, school and other providers to maximise access to apprenticeships, work-based learning and other training opportunities. Both initiatives target the development of cutting-edge facilities that are proposed to help develop the workforce and ensure it has the skills it needs to succeed in a world focusing on sustainability, regeneration, specialisation, and innovation.<sup>89</sup> They aim to develop high-quality Diploma programmes, improve employer responsiveness, and build a more specialised and vocationally excellent Further Education system to deliver the ambitions of the DIUS 2007 report.

## Ireland

<b>Ireland - Summary of Selected Initiatives</b>
<ul style="list-style-type: none"><li>▪ National Workplace Strategy - Workplaces of the Future with Five Key Priority Areas and Detailed Actions Plans for each</li><li>▪ National Centre for Partnership and Performance (NCPPI)</li><li>▪ Workplace innovation in the public sector</li><li>▪ Partnership Work Programme</li><li>▪ Workplace Innovation Fund<ul style="list-style-type: none"><li>- Enterprise Level Projects in the Private Sector</li><li>- Social Partners initiative</li><li>- Public Awareness Campaign</li><li>- Evidence-based advocacy for Workplace Innovation (research)</li></ul></li><li>▪ FÁS One Step Up, including the Competency Development Programme</li><li>▪ Accelerating In-Company Skills</li></ul>

<sup>87</sup> LSC is a non-departmental public body which began work in 2001, taking over the roles of the former Further Education Funding Council and Training and Enterprise Councils.

<sup>88</sup> See also the Welfare Reform Green Paper *In work better off: next steps to full employment* issued by the Department of Work and Pension (DWP) in parallel with the "World Class Skills – *Implementing the Leitch Review of Skills in England*", sets out proposals for further reform to increase support for those who are most disadvantaged in the labour market. It sets out how the Government, working with both employers and partners in the public, private and voluntary sectors, proposes to address skills and education issues. The Green Paper sets out proposals for a newly integrated employment and skills system, with a more personalised, flexible and responsive.  
<http://www.dwp.gov.uk/welfarereform/in-work-better-off/>

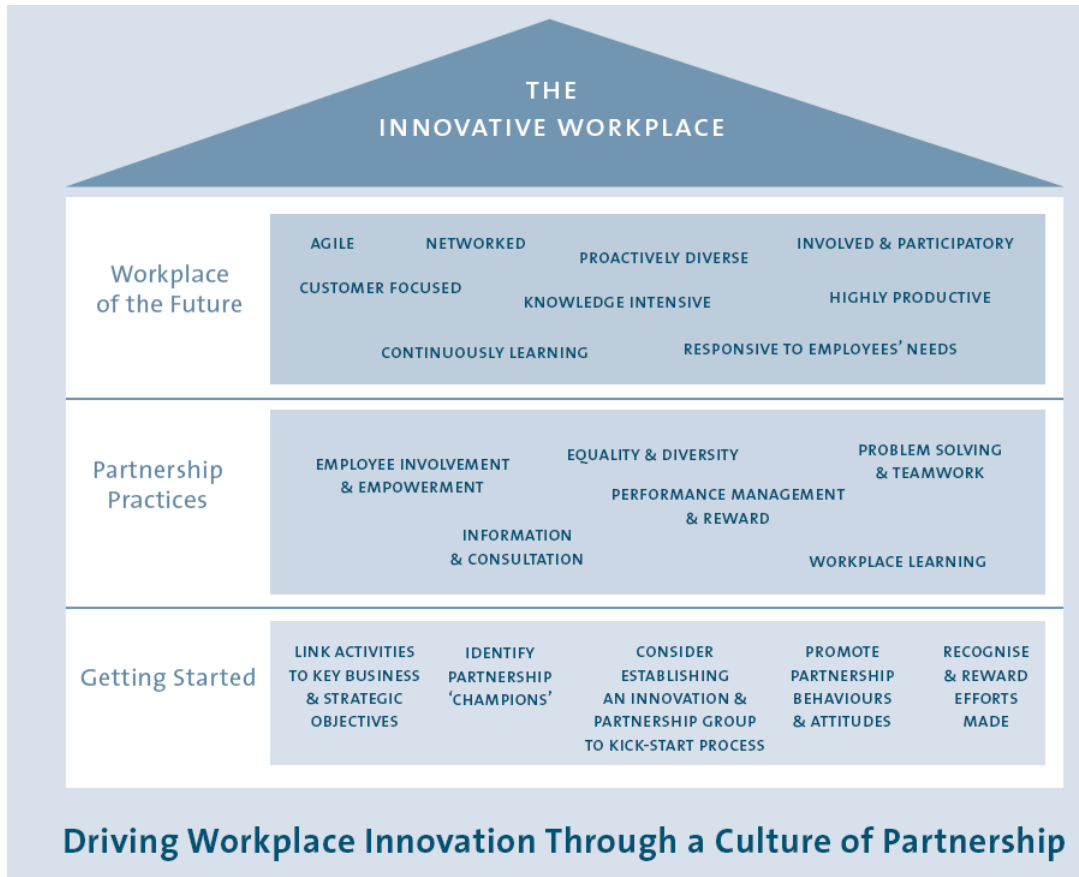
<sup>89</sup> See also the *UK Work Foundation* for an example of an organisation that is dedicated to improve national competitiveness and organisational sustainability through a dedicated focus on better managing knowledge, innovation, technology and people.



In 2001, the Department of Enterprise, Trade and Employment (DETE) established the National Centre for Partnership and Performance (NCPPE). Related to this was the establishment in 2003 of the Forum on the Workplace of the Future to assess the readiness of Ireland's workplaces to meet the challenges of an emerging knowledge economy. Government also developed a blueprint on a *National Workplace Strategy* (NWS) intended to create high-performance, high-quality workplaces throughout Ireland. The strategy's underlying premise was that all companies and organisations can achieve improved performance and better quality of working life by improving their capacity to manage change and innovation at the workplace.

The National Centre for Partnership and Performance was established to promote and facilitate partnership-led change and innovation in Ireland's workplaces (see Figure below). NCPPE's objective is to create high-performance, high-quality places of work, thereby contributing to national competitiveness, enhanced public services, higher standards of living and a better quality of life for employers and employees alike. It gained a statutory footing as part of the National Economic and Social Office (NESDO) in 2007. The NCPPE is an example of a more practice based approach to workplace transformation and learning, focusing on leadership, management and human capital.

**Figure: Driving Workplace Innovation Through a Culture of Partnership**



During the period from October 2003 to March 2005, the Forum conducted an intensive examination of the issues facing workplaces in Ireland, based on extensive consultation, research and analysis.

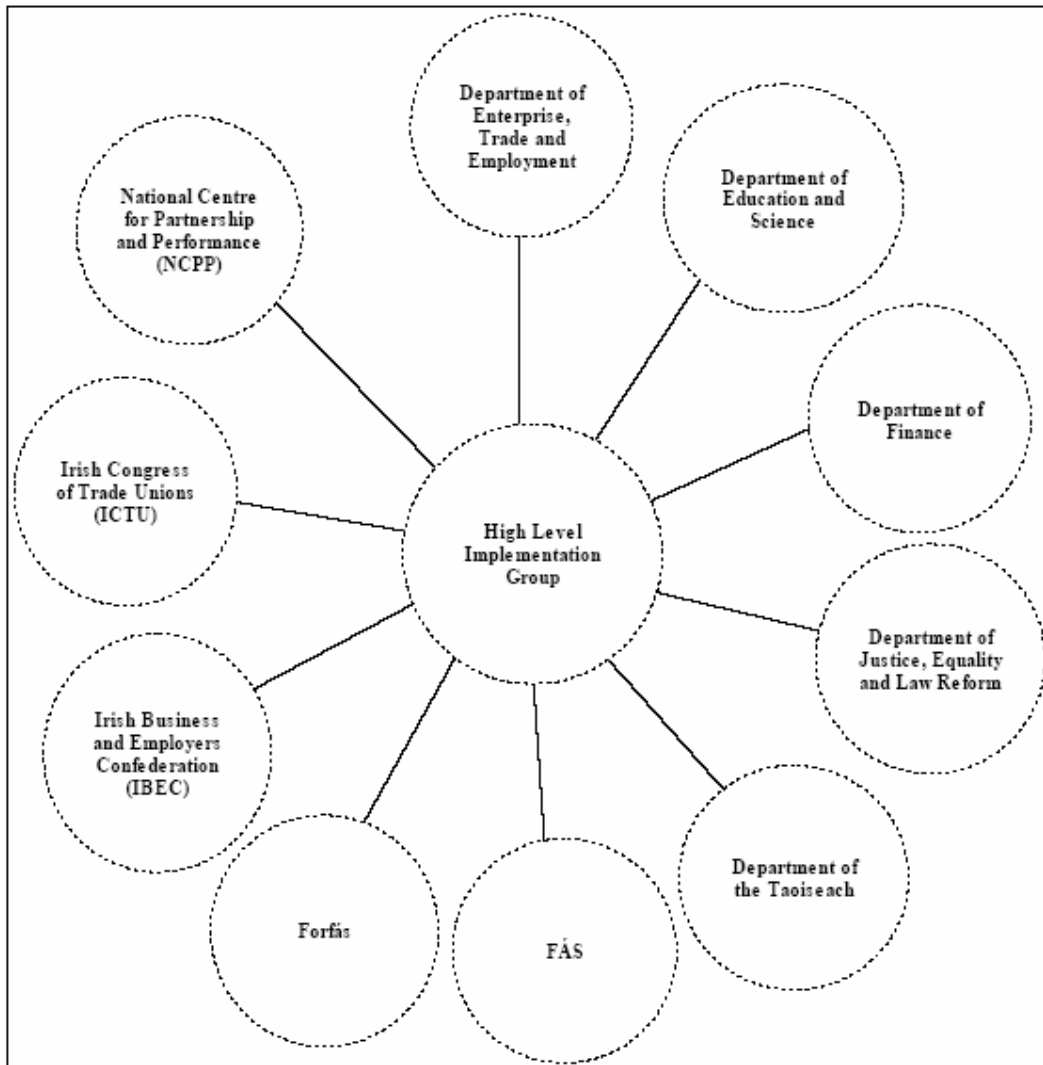
Five focus areas emerged as a result of the inquiries and research; these formed part of the action plan under the *National Workplace Strategy*, as follows:

1. Building a Commitment to Workplace Innovation
2. Building Capacity for Change
3. Developing Future Skills
4. Improving Access to Opportunities
5. Improving the Quality of Working Life.

Following that, the *National Workplace Strategy* was delivered in two phases. The first phase started in March 2005. One aim during this phase was to establish consensus on the need to

develop change and innovation at the level of the individual workplace. This was led by an implementation group, called the High Level Implementation Group (HLIG), who brought together key stakeholders with a role in workplace development to oversee the implementation of government policy. The Figure<sup>90</sup> below summarises the members of the Group. It shows the diversity of stakeholders brought together to work on the national strategy.

**Figure: Members of the High Level Implementation Group**



A key element of the work of the implementation group was to develop action plans to progress each of the strategic priority areas and implement that National Workplace Strategy.

<sup>90</sup> Second Report of the National Workplace Strategy High Level Implementation Group, (2007, 8)



Progress on the action plans has been tracked on an ongoing basis with some of the actions now complete.

The Table below shows the 10 step action plan for focus area number one, *Building a Commitment to Workplace Innovation* from the 2006 report<sup>91</sup>.

**Table: Strategic Action Area 1: Building a Commitment to Workplace**

1.	Workplace innovation and the range of practices identified in this report - management and leadership capacity, employee involvement, training and lifelong learning, equality and diversity and quality of working life - must be promoted and disseminated widely across the private and public sector as key strategic responses to the economic and social challenges facing Ireland.
2.	A three-year dedicated fund should be established under the aegis of the Council of the NCPP to promote innovation and research in human resource development, organisational change and lifelong learning at enterprise level. Public support for such activity would be conditional on the learning and experience from such initiatives being shared with other organisations and the policy community.
3.	There should be more explicit recognition of workplace innovation in State funding awards for research and development in science, technology and marketing.
4.	Indicators and benchmarks which compare and illustrate the performance of Irish organisations with international best practice - across the range of practices identified in this report - should be produced to support and mainstream workplace innovation
5.	In the context of talks on a successor agreement to Sustaining Progress and a further benchmarking process, greater attention should be paid to performance management, knowledge management, value for money, improved customer service, and further devolution of the human resource management function in the public sector.
6.	The National Statistics Board strategy for the development of the Irish Statistical System offers the potential to provide a consolidated and coordinated framework of workplace related information. The CSO (in conjunction with relevant Departments and agencies) should, building on work that is already underway, bring forward proposals for integrated workplace data collection and presentation.
7.	Workplace surveys, similar to those carried out on behalf of the Forum, should be carried out every four years.
8.	Enterprise-led networks and public service networks must be encouraged to increase their focus on workplace innovation. The promotion of effective tools, or standards such as Excellence Through People, represents practical ways to create an innovation focus at the workplace level.
9.	The Forum recommends that a High Level Implementation Group be constituted to drive the implementation of the National Workplace Strategy. This group should comprise senior representatives of relevant Government Departments, relevant agencies and the Social Partners.
10.	The High Level Implementation Group should develop a comprehensive dissemination strategy for the Forum's Report.

<sup>91</sup> First Report of the National Workplace Strategy High Level Implementation Group, (2006, p.11)



Initiatives during this phase included the rollout of a public awareness campaign, the launch of the Workplace Innovation Fund (see description later), ongoing development of the measurement and research capability into Ireland's practices and relative performance on workplace innovation.

The National Workplace Strategy also focused particular attention on the need to develop workplace innovation in the public sector. This supported the continued modernisation of the public sector through measures such as greater use of open recruitment, merit-based promotion and the continuing development of performance management and new forms of working. These measures were seen as having an important bearing on delivering better customer service and value for money. Specific initiatives are currently underway to drive workplace innovation at a sectoral level in the public service<sup>92</sup>.

Furthermore, a wider range of initiatives were taken in area number two, *Building Capacity for Change*. Research indicated that leadership and management capabilities were an area of vulnerability for all sectors. This issue was viewed as being particularly problematic for indigenous organisations and SMEs. Leadership and management development was also a key requirement for the SME sector. The development of management skills in the private sector was addressed through initiatives funded by Enterprise Ireland, FÁS and Skillnets (see descriptions later). The Department of Finance oversaw a number of third and fourth-level programmes for the development of management competencies in the public sector.

Strategic human resource management (HRM) capacity was also seen to be crucial to support organisational change. Within the public sector, the Department of Finance, in consultation with Departments and Offices, developed a policy paper on HRM in the Civil Service. For the Civil Service, that agreement created new legal and administrative structures in recruitment and in the management of staff, where there was particular emphasis on the

---

<sup>92</sup> Examples include:

- Education sector: The Minister for Education established a competitive multi-annual fund to support internal change in higher education institutions. The Strategic Innovation Fund, amounting to €300 million over five years, supported innovative approaches to enhancing quality and effectiveness within higher education and research.
- Health Sector: The Health Service embarked on an ambitious initiative to provide one-step up programmes for the 28,500 support staff in the health services. With a budget of €60 million through to 2008, the SKILL2 project provides for education, training and development programmes with general accreditation standards certified at FETAC award levels 4, 5 and 6.
- Local Authority Sector – The local government sector, under the auspices of its National Partnership Forum (LANPAG), extended its provision of the successful workplace basic education programme known as the Return to Learning initiative. This award-winning initiative provides for the upskilling and development of staff in relation to ICT, communications skills, literacy and numeracy. See First Report of the National Workplace Strategy High Level Implementation Group (2006, p. 15).



introduction of a new approach to performance management and on modernising the legal framework governing disciplinary issues to bring it more into line with private sector practice. New performance appraisal procedures and recruitment procedures were implemented

The National Workplace Strategy also highlighted partnership-based approaches as a key enabler of change at the enterprise level. This was a key objective of the planned public awareness campaign for the National Workplace Strategy. As mentioned above, the Workplace Innovation Fund was established to be utilised to build a stronger commitment to workplace innovation by encouraging the development of new ways of working through partnership, aimed at increasing flexibility and improving performance.

The NCPP's three year strategy also included a partnership work programme focused on encouraging and supporting workplaces in adopting more collaborative problem solving approaches. Enterprise-led training initiatives and partnership networks were seen as key vehicles for promoting a greater capacity for change in the public and private sectors. Agencies such as FÁS (see below for details) and the NCPP, as well as initiatives such as Skillnets and Accel (see below), have supported networking activity, at least in certain sectors of the economy.

In 2007, it was reported<sup>93</sup> that phase one has been successful at achieving the targeted goal of building initial momentum for managing change and innovation at the level of the individual workplace and the action plans. The 2007 report (p. 9) states the following:

“The implementation of the National Workplace Strategy is now entering a new phase, where the messages and objectives agreed and adopted at a national level by Government and the Social Partners are now to be targeted at organisational level across the public and private sectors.”

The report also identified a number of key priorities for the forthcoming period, including:

- Workplace Innovation Fund, including implementation of the three strands - Enterprise-level support, Social Partners initiatives, and the Public Awareness Campaign
- Deepening Partnership, incorporating the NCPP Strategy 2007 – 2010
- Networking, including consideration of examples of good practice emerging from existing enterprise-level and sectoral networks
- Developing Future Skills and Workplace Learning
- Integration of Migrant Workers

---

<sup>93</sup> Second Report of the National Workplace Strategy High Level Implementation Group, (2007)



The five strategic priority areas originally outlined in the National Workplace Strategy remained the same.

Under the first priority area, Building a Commitment to Workplace Innovation, the following initiatives were continued in the second phase.

First, in January 2007, the Workplace Innovation Fund was given €9 million of funding for a three year period, out of which €6 million over a three-year period was for supporting workplace innovation. The €6 million was dedicated to promoting innovation and research in human resource development, organisational change and lifelong learning at enterprise level.

One initiative under the Workplace Innovation Fund is the Enterprise Level Projects in the Private Sector. The Workplace Innovation Fund supports workplace innovation initiatives in private sector SMEs. This focuses on developing the role of participation and partnership-type practices as an enabler of change in SMEs. Funding is targeted at SMEs in a transition state. Application is on a competitive basis, and successful companies will receive support for initiatives such as: developing strategic capacity for change and continuous improvement based on participation and partnership at leadership level; developing greater capacity for change among employees and unions; and developing the skills, knowledge and motivation of employees.

A second initiative under the Workplace Innovation Fund is the Social Partners initiative. The Social Partners include, among others, the Irish Congress of Trade Unions (ICTU), the Irish Business Employers Confederation (IBEC) and the Construction Industry Federation (CIF). Social partners have a crucial role to play in advocating and supporting workplace innovation at the enterprise level. This strand provides support for the Social Partners to initiate a range of projects relating to the National Workplace Strategy. The Department of Enterprise, Trade and Employment is working with the Social Partners and the National Centre for Partnership and Performance in establishing priorities under this strand. The ICTU, IBEC, and the CIF have each identified key issues that they will address. Work commenced in 2006 on a number of projects.

A third initiative under the Workplace Innovation Fund is the Public Awareness Campaign. The objective of this is to raise awareness across all sectors of the economy about the National Workplace Strategy, and the framework it offers for organisational change and innovation. The campaign was launched in May 2007, and is being managed by the National Centre for Partnership and Performance.



This uses a two-pronged strategy encompassing advertising (television, radio, internet, outdoor and press) and public relations. The main objective of the campaign is to encourage employers, managers, employees and their representatives across all sectors to be more open to new and innovative approaches to management, communications, information and consultation, training and upskilling, problem-solving and partnership. The campaign's key messages are that partnership is the key to innovation in the workplace, that it is not about working harder, it is about working together, and that partnership-based workplace innovation can lead to high-quality, high-performing workplaces where employers, employees and trade unions all have an important role to play.

A fourth initiative under the Workplace Innovation Fund is Evidence-based Advocacy for Workplace Innovation. This is driven by a strong demand for evidence-based information and analysis regarding the nature of and impact of workplace innovation. Such evidence plays a number of important roles: it informs the development of public policy and the appropriate targeting of resources; it underpins advocacy initiatives, and the development of policy and the adoption of progressive practices at the enterprise level by management, unions and employees. The Table below shows recent research projects.

**Table: Recent Research Developments**

Research	Description	Links
Statistical Potential of Business and Environment Enterprise Data Holdings in Selected Government Departments	The CSO has published a working report on an integrated data collection system. The report highlights potential to measure aspects of workplace innovation, to be collected on an annual basis through the National Employment Survey and on a more detailed basis through a dedicated module of the NES in 2009.	<a href="http://www.cso.ie">www.cso.ie</a>
Indicators of workplace innovation	A working group comprising the NCPP, Forfás and CSO have published a set of indicators of workplace innovation	<a href="http://www.ncpp.ie">www.ncpp.ie</a>
Tomorrow's Skills: Towards a National Skills Strategy	The EGFSN report highlights the extent of the challenge facing organisations and policy makers in upskilling the workforce to meet the requirements of a knowledge-based economy	<a href="http://www.skillsireland.ie">www.skillsireland.ie</a>
Fourth European Working Conditions Survey	The European Foundation for the Improvement in Living and Working Conditions has recently published its Fourth European Working Conditions Survey, which provides significant data on workplace innovation issues including work organisation, working time, training, health and well-being, job satisfaction, equal opportunities. The data provides benchmarks against which Ireland's profile can be contrasted with the practices at EU level.	<a href="http://www.eurofound.europa.eu">www.eurofound.europa.eu</a>



Community Innovation Survey 04	Forfás has published the preliminary results of the Fourth Community Innovation Survey, which examines the factors pertaining to levels of innovation in Irish firms, identifies barriers and provides some baseline benchmarks for workplace / organisational innovation. Future editions of the CIS will incorporate further measures on workplace innovation.	<a href="http://www.forfas.ie">www.forfas.ie</a>
Patterns of Organisational Change in European Industry	The PORCH report was published by the Faunhofer Institute for the EU Commission Innovation Policy Unit (DG Enterprise and Industry).	<a href="http://www.europa.eu">www.europa.eu</a>

In the 2007 report, the second priority area, Building Capacity for Change - Progress to date outlined a series of objectives, including:

- building better leadership and management skills
- developing HRM capacities, including better strategic HRM
- improving information and consultation practices
- developing better approaches to employee involvement and participation
- addressing operational concerns and barriers to employee financial involvement
- developing workplace partnership practices
- ensuring effective dispute avoidance and resolution systems

These are being addressed through a series of programmes, including, among others the following programmes:

- Workplace Partnership as an enabler of Workplace Innovation
- Enterprise-Led Training Initiatives and Partnership
- Leadership and Management Development
- Public Service developments

One initiative under Leadership and Management Development has been launched by the Foras Aiseanna Saothair Training and Employment Authority (FAS) called One Step Up. This aims to further assist with skills development in the workplace. It includes a *Competency Development Programme (CDP)*, which is designed to meet sectoral needs in, for example, childcare, contract cleaning, retail and nursing home sectors.

The types of programmes supported under CDP include:

- customer service;
- management development;
- supervisory development;
- marketing/sales programmes;
- human resource management;



- quality programmes;
- safety programmes;
- supply chain management, and
- information technology.

In some instances, a blended learning approach is used, which incorporates both e-learning and tutor-led sessions. The budget for CDP in 2007 was €39 million, targeted at training programs for between 25,000 and 30,000 participants, which included a number of courses targeted specifically at management skills<sup>94</sup>.

Accelerating In-Company Skills (ACCEL) is another program under Leadership and Management Development. This agency funds a number of projects focused on the development of management skills targeting. This is an initiative of the Department of Enterprise Trade and Employment and is managed by Skillnets Services Ltd. It is funded by the European Social Fund and National Training. It aims to give employers and workers an opportunity to rapidly improve, realign or revise their current skills base. Projects approved for funding under Accel will have one, or a number, of the following features:

- High levels of enterprise participation in the design,
- Development of delivery of training;
- Actions in which the social partners play a significant role;
- Groups of enterprises working collaboratively (e.g. training networks, clusters or other group based approaches);
- Actions which will lead to the development of accreditation for in-company training, which aligns with the national Qualification Framework;
- Actions led by industry/education institutions.;
- Actions where local enterprise bodies, local employer and employee groups and enterprises groups form local training alliances.

Under ACCEL, Skillnets manage a total of 55 projects. Initially it had a total approved budget of €16million sourced initially from the National Training Fund, with up to €12 million of this to be recovered from the European Social fund (ESF). In February 2006, an additional Call for Proposals was made and total grants committed to projects under ACCEL are now €20.8

---

<sup>94</sup> A further FAS initiative called *Skills for Work* is aimed at greater workplace learning and providing training opportunities to help employees deal with the basic skill demands of the workplace. It is aimed at employees with basic education needs including literacy and numeracy, in particular employees with, or less than, junior cycle qualifications. The initiative is funded through a Workplace Basic Education Fund set up by the Irish Government under DETE. The fund provides a 100% training subsidy to enhance employees' basic skills needs to enable them to cope with frequent and ongoing changes in work practices. The fund is managed by FAS and guided by a National Steering Group. The promotion of greater levels of workplace learning is embedded in Government policy as a key strategic objective of the National Skills Strategy, the National Workplace Strategy and *Towards 2016*.



million. Projects include innovative methods such as the development of e-Learning models, and virtual learning centres, while others are developing new courses (up to Masters level) to meet the future needs of the member companies.

## **Finland**

<b>Finland - Summary of Selected Initiatives</b>
<ul style="list-style-type: none"><li>▪ Tekes Strategy called People-Economy-Environment – Priorities for the Future</li><li>▪ Tekes' Innovative Business Competence and Management Programme</li><li>▪ New programme for Social and Healthcare Service System Innovations by Tekes</li><li>▪ Serve - Innovative Services Programme by Tekes</li><li>▪ Strategic Centres for Science, Technology and Innovation by Tekes</li></ul>

In Finland, *Teques* leads the nation's innovation strategy and agenda. It is affiliated with the **Ministry of Trade and Industry** and officially appointed as Finland's national innovation agency. Yet, *Teques* has its own independent governing board with representatives from national and regional government, businesses, and unions. With a budget of €560 million and a staff of 300, *Teques* funds many research projects in companies, multi-firm partnerships, and business-university partnerships<sup>95</sup>. *Teques* invested €469 million in the research and innovation activity of enterprises, universities and research institutions in 2007. The impact on innovation can be seen in the creation of new enterprises, new services, enterprise growth and internationalisation outcomes.<sup>96</sup>

*Teques*' strategy outlined in the People-Economy-Environment – Priorities for the Future report<sup>97</sup> focuses on three key areas:

- A strong knowledge and competence-base for research, development and innovation;
- Productivity and renewal of industries; and
- Wellbeing of the people and the environment.

<sup>95</sup> Another initiative coordinated by *Teques* (and developed in collaboration with Vision-Era-Net, the Ministry of Employment and the Economy, Finland, and with nine other European countries) was a collaborative study called *Major challenges for the governance of national research and innovation policies in small European countries*. This was a collaborative network of nationally leading innovation policy agencies who seek to coordinate European research on innovation and technology, improve the utilisation of research and evaluation intelligence in policy making, expand and advance European knowledge base on innovation environment, and identify common knowledge and skill development needs. This included the Netherlands, Estonia, Ireland, Austria, Norway, Sweden, Finland, Denmark and the Belgian Flanders. Its aim was to identify reasons for changes in science, technology and innovation policies, and analysed factors that will shape the development and management of innovation policies in the future. Each country saw innovation as an increasingly important element of economic competitiveness and social wellbeing through services and social innovations, with significant emphasis on competency building.

<sup>96</sup> For details, see <http://www.tekes.fi/eng/tekes/FundingStatistics/statistic07.html>

<sup>97</sup> See the publication, "*People-Economy-Environment – Priorities for the Future*" released in March 2008



In addition to funding research projects, Tekes facilitates networking and collaboration by coordinating and convening forums of the key stakeholders for each of its focus areas. It also publishes descriptions of the projects it funds. Through these processes, companies and researchers get opportunities to collaborate, to maximise the use of research in the community and industry, and to continuously learn about industry changes and challenges, customers perspectives and needs, technology take-up and trends etc.

Tekes, for example, runs the Innovative Business Competence and Management Programme (Liito), where participating businesses are creating new business competence and operating models. A further aim of the programme is to increase cutting-edge applied business research in enterprises participating in Tekes. As such, the programme helps ensure research is accessible and relevant to industry. Tekes also points out there will be a growing need for marketing competence, and that specifically small enterprises lack competence in business management and the management of profitable growth and internationalisation while large enterprises face development needs especially in terms of regeneration capability and business processes.

New solutions are also being sought through Tekes for social and healthcare services and service systems. As the division of duties between the private and public sectors is undergoing a transition, new solutions and cooperation models are being explored. To this end, Tekes is preparing a new programme for social and healthcare service system innovations. The programme aims to regenerate innovation in the social and healthcare sector, improve the availability, quality, efficiency and effectiveness of services that the public sector is responsible for providing, and to increase enterprise business opportunities in the sector. Tools employed will include customer-oriented cooperation and operating models and e-services supporting these.

Tekes also operates the Serve - Innovative Services Programme. Enterprises participating in this are developing internationally competitive business activity based on service innovations in their projects. The prerequisite for the development of innovative service concepts is a high level of competence and expertise, which under the Serve Programme is strengthened through extending funding to public research in service innovations and offering programme services that support enterprise service development. Focal areas include service concept creation and productisation competence, issues related to the protection of services, and internationalisation of service businesses.

Tekes also conducts foreign outreach efforts to help domestic companies partner with foreign businesses or researchers. It operates a number of overseas technology liaison offices,



including in Washington DC, Singapore, and South Korea. Important to note, 40% of Tekes-funded projects involve international collaboration<sup>98</sup>.

Last, Tekes is planning five Strategic Centres for Science, Technology and Innovation<sup>99</sup> with new types of cooperation between actors emerging around them. The first programmes of the Centres will be launched in 2008. In the strategic centres:

- Companies, universities and research institutes will agree on a joint research plan. The plan will aim to meet the application needs for practical application by companies within a five to 10 year period.
- In addition to shareholders, public funding organisations will commit themselves to providing funding for the centres in the long term.

The aim of the strategic centres is to create a new, more efficient framework for collaboration between companies, universities, research organisations and sources of funding. Tekes bears the main responsibility for organising the establishment of the centres. Tekes, together with the Academy of Finland, has begun discussions with various stakeholders. The actual establishment of the strategic centres will be the responsibility of the partners, that is, companies, universities and research institutes.

For all of these activities, Tekes focuses on the development of the following competence as related to the development of management skills for innovation

- Crosscutting competencies and technologies: Information and Communications (systems engineering and embedded ICT, future information networks, knowledge and content management, software and digital services),
- Service Competence (customer-centric service innovation, service concepts and technology applications),
- Societal Competence (foresight competence, regulation and standardisation competence, productivity and the quality of working life, lifelong learning),
- Materials (breakthrough applications in material, nanotechnology applications) and Biotechnology (biotechnology applications in energy, environment and well-being, systems biology, computational methods, bioprocess technology),

---

<sup>98</sup> The strategy has also identified key technology and application areas on which to focus its resource development. The spectrums of technologies included are nano-sensors, broadband, and services innovation.

<sup>99</sup> These will be in:

- energy and the environment
- metal products and mechanical engineering
- the forest cluster
- health and well-being
- information and communication industry and services.



- Business Competence (revenue logic in value networks, innovation competence, multicultural management, leadership and design)

## Canada

Canada - Summary of Selected Initiatives
<p>The Canadian government's Workplace Skills Strategy include, among others, the:</p> <ul style="list-style-type: none"><li>▪ Workplace Partners Panel (WPP).</li><li>▪ Workplace Skills Program, including the:<ul style="list-style-type: none"><li>- Workplace Skills Initiative (WSI); and</li><li>- Trades and Apprenticeship Strategy (TAS)</li><li>- Occupational and Skills Initiatives</li><li>- Sector Council program</li></ul></li></ul>

The government of Canada has developed the **Workplace Skills Strategy (WSS)**<sup>100</sup> to build a labour market that is flexible and efficient; to help Canadians be the best-trained, most highly skilled workers in the world; and to respond to the needs of employers to make Canadian workplaces more productive and innovative.

The WSS focuses on a number of new key initiatives, such as:

- the Workplace Partners Panel (WPP).
- the Workplace Skills Program, including the
  - Workplace Skills Initiative (WSI); and
  - the Trades and Apprenticeship Strategy (TAS)

The Government invested \$125 million to implement these initiatives.

The Workplace Partners Panel (WPP) has been established to stimulate and support a new, industry-led dialogue on labour market and skills issues, and ensure that business and labour, as well as regional and sectoral perspectives, contribute to the workplace skills agenda. It aims to foster awareness, build a sense of ownership of the skills agenda and leverage increased commitments to skills development by industry partners. It is intended to help businesses address this human resources challenge and maintain a competitive edge. It is a national, independent and arm's-length body comprising leaders from business and labour.

The WPP will create regional issue task forces to ensure that perspectives and ideas reflect local economic and demographic circumstances. Each WPP task force will be co-chaired by a senior business and labour leader, and will draw on the experience of other business and

---

<sup>100</sup> [http://www.hrsdc.gc.ca/en/ws/wpp\\_backgrounder.shtml](http://www.hrsdc.gc.ca/en/ws/wpp_backgrounder.shtml)



labour leaders, educators, community groups and representatives of all levels of government in identifying, analysing and addressing shared skills issues.

The Workplace Skills Program<sup>101</sup> is an important part of the overarching strategy. It comprises, among others, the following initiatives.

#### Workplace Skills Initiative<sup>102</sup>

The Workplace Skills Initiative (WSI) aims to help businesses address their human resources challenges and maintain a competitive edge. The WSI is designed to provide funding to promote awareness around workplace skills issues and to help mobilise employers and the employed to transform workplaces so that they become more competitive, productive, and highly skilled on an ongoing basis.

The WSI is a three-year initiative which will fund employers and their partners to promote and test new ways of enhancing the skills of their workforce; and to improve human resources practices in their workplaces through a recent invitation sent to eligible organisations and their partners for developing concept papers that address priority areas related to skills and knowledge. This includes opportunities:

1. To identify, test, and demonstrate innovation in employee skills development in Canadian workplaces with a view to addressing skills shortages. This could include innovative management and leadership practices; vertical mobility and lateral experiences/opportunities; and/or working with employees to identify and upgrade skills and knowledge. Approved projects will contribute to the body of innovative models that provide Canadian employers with a range of approaches to improving their HR practices and the skills of employees.
2. To identify, test and demonstrate innovative approaches to organisational changes to workplace environments that contribute to the improved productivity of Canadian firms. This could include employee engagement and decision making; teaming and/or other collaborative work design processes; management/leadership practices; and/or scheduling or organisation of work. Approved projects addressing this priority will form the basis of a body of best practice models contributing to the impact on workplace productivity achieved through organisational changes in management culture, human resource practices and work structure and organisation.

---

<sup>101</sup> <http://www.hrsdc.gc.ca/en/workplaceskills/programs/index.shtml>

<sup>102</sup> [http://www.hrsdc.gc.ca/en/workplaceskills/skills\\_initiative/index.shtml](http://www.hrsdc.gc.ca/en/workplaceskills/skills_initiative/index.shtml)



Apprenticeships

The Government of Canada is working with key apprenticeship stakeholders, including provincial and territorial governments, to find solutions to ensure adequate supply of skilled trade workers and to allow qualified, skilled Canadian workers to practice their respective trades anywhere in Canada. This includes the Interprovincial Standards «Red Seal» Program including the Ellis Chart and National Occupational Analyses, and Labour Mobility. Apprenticeship Incentive Grant, which provide support to apprentices in the first two years of an approved apprenticeship training program.

Occupational and Skills Initiatives

The Human Resources Social Development Canada (HRSDC) aims to help develop Canada's skilled workforce. It develops and undertakes a variety of occupational and career awareness products and activities. It includes the Essential Skills Research Project and the Career Awareness products and operates through a network of partners.

Sector Council program

The Government of Canada's Sector Council Program (SCP) works to enable partnerships that address skills and human resource issues by establishing, developing and supporting national partnerships and the capacity of partners to address both pressing and emerging skills and human resources issues.

The Table below summarises some of the key projects and funding allocated.

**Table: Existing Workplace Skills Initiative Projects - Canada<sup>103</sup>**

Recipient Organisation and Information	HRSDC Funding	Activity Start Date	Project Duration
<p><b>La Commission des partenaires du marché du travail</b>            Consolidaton of tools for the recognition and development of Workplace Skills  <b>Project Description:</b>            The project has two key objectives: To develop and test models and tools to raise awareness of the importance of skills development and to foster a culture of skills development within small and medium-sized enterprises in key sectors; and to develop and test e-learning workplace-based skills development tools and prior learning and skills assessment tools by making them accessible at the lowest possible cost to all workers in sectors governed by occupational standards with a view to facilitating and enabling professional development.</p>	\$ 3,774,430	2007/06/04	34 Months
<p><b>Canadian Career Development Foundation</b>            Meeting work place skill needs: the career development contribution  <b>Project Description:</b>            CCDF will work with employers to deliver and test three workplace career development interventions (practical, career</p>	\$ 1,161,092	2007/04/01	3 Years

<sup>103</sup> [http://www.hrsdc.gc.ca/en/workplaceskills/skills\\_initiative/wsi\\_cfpprojectdetails.shtml](http://www.hrsdc.gc.ca/en/workplaceskills/skills_initiative/wsi_cfpprojectdetails.shtml)



development oriented tools and approaches).			
<b>Canadian Society for Training and Development</b> Investing in People <b>Project Description:</b> The CSTD will design, test and evaluate Return on Investment (ROI) tools across small and medium enterprises covering three economic sectors including retail, manufacturing and services to demonstrate the benefits of employee skills development.	\$ 978,966	2007/04/01	3 years
<b>Canadian Manufacturers and Exporters Newfoundland and Labrador Division</b> Steps for Success: Starting from the ground up <b>Project Description:</b> The effect of mentoring, human resource (HR) capacity building and essential skills development on HR management capacity and employee skills development of small and medium-sized enterprises in this sector will be addressed. Complementary to this, a Provincial Manufacturing Action Plan will be developed to focus on skills shortages and improve perceptions of the manufacturing and value-added sectors.	\$ 2,249,369	2007/03/20	3 years
<b>Fédération des Caisses Desjardins du Québec</b> Opération Découverte <b>Project Description:</b> Testing and validating of the critical skills needed by small and medium-sized enterprise managers to implement a cultural change within the workplace.	\$ 1,575,000	2007/03/19	33 Months
<b>Union culturelle des franco ontarienne (UCFO) Union des cultivateurs franco ontariens</b> La valorisation du capital humain en agriculture : Une façon d'accroître son revenu! <b>Project Description:</b> The project objective is to develop and assess an innovative model addressing business management skills development and upgrading for the francophone community within the agriculture and agri-food sectors in Ontario.	\$ 511,302	2007/03/01	18 Months
<b>Niagara College of Applied Arts and Technology</b> Niagara Workforce Innovations Network <b>Project Description:</b> The project will strengthen the capacity of small and medium-sized enterprises in the Niagara region by developing a workplace skills counselling service aimed at improving productivity and quality, and enhancing the skills and employability of the workforce.	\$ 1,827,994	2007/02/01	3 years
<b>Restigouche Community Business Development Corporation Inc</b> HR Practices in smaller SMEs, "National Pilot Project" <b>Project Description:</b> The project will improve the Human resource (HR) practices of a broad sample of small and medium-sized enterprises (SMEs) leading to the development of an effective and tested pan-Canadian model. Through concrete results with a test group of 100 SMEs across rural Canada, identify barriers to and increase awareness of the direct benefits that improved HR practices and skills development can have on their businesses' bottom line.	\$ 4,908,853	2007/01/10	3Years
<b>London Economic Development Corporation</b> Enhancing HR Practices for SMEs <b>Project Description:</b> The objective is to enhance human resources (HR) systems, policies and procedures, and share best practices relating to recruitment, development and training and retention of employees of London area small and medium-sized enterprises	\$ 411,680	2007/01/01	3 years



employing 20-100 staff in the manufacturing, life sciences, information technology, transportation/warehousing and call centre industry sectors.			
<b>Manitoba Food Processors Association Inc</b> Building Capacity of Small and medium-sized enterprises <b>Project Description:</b> The objective is to develop assessment tools and pilot test on-site training with 140 small and medium-sized enterprises in Manitoba as a model that integrates training decisions with employee performance and the business objectives of an organisation.	\$ 811,128	2007/01/01	3 years
<b>Catholic family Counselling Centre</b> Building Resilient Workplaces <b>Project Description:</b> This project will test a model of shared human resources (HR) expertise and support for 20 Small and medium-sized enterprises with up to 1000 employees to manage employee crises, in the immediate term, and improve job retention, in the long run.	\$ 1,703,710	2007/01/01	3 years

**United States**

<b><u>United States - Summary of Selected Initiatives</u></b>
<ul style="list-style-type: none"> <li>▪ Innovate America: Thriving in a World of Challenges and Change 21<sup>st</sup> century Workforce Initiative, including the Innovation-Based Economic Program</li> </ul>

The US Department of Labor has started an initiative called the 21<sup>st</sup> century Workforce Initiative (WFI) initiative<sup>104</sup>. This aims to prepare the nation to adapt to changes in the economy, for example, in how Americans will work, where they will work, and how they will balance professional and family lives. The objective is to anticipate change and to help workers have fulfilling and financially rewarding careers. One program under this initiative is the Innovation-Based Economic Program, which funds activities such as technology commercialisation, entrepreneurial support, and regional skills alliances as part of this initiative.

However, a report published by the Information Technology and Innovation Foundation in April 2008 called *Blueprint for American Prosperity – Unleashing the potential of a metropolitan nation*<sup>105</sup> found that the federal government’s current innovation initiative is

<sup>104</sup> This was connected in part to the Palmisano Report, *Innovate America: Thriving in a World of Challenges and Change*, published in December 2004. This was created by over 400 leaders representing industry, academia, government and labor over a period of 15 months. It pointed out that securing human resources as the first factor in the creation of an environment for promoting innovation.

<sup>105</sup> *The Blueprint for American Prosperity* is a multi-year initiative to promote an economic agenda for the nation that builds on the assets and centrality of America’s metropolitan areas. Grounded in empirical research and analysis, the Blueprint offers an integrated policy agenda and specific federal reforms designed to give metropolitan areas the



underfunded and scattered throughout the government. It was seen as slipping in leadership attributes and in commercial innovation. The authors, Robertson and Wiai, recommended the establishment of a *National Innovation Foundation* for boosting productivity, innovation, and growth through a National Innovation Foundation, similar to Finland's innovation agency – Tekes.

### **Japan**

<b>Japan - Summary of Some Initiatives</b>
<ul style="list-style-type: none"><li>▪ Economic and Industrial Policy 2007, including the National Economic Growth Strategy</li><li>▪ Intellectual capital / intangible assets project</li></ul>

The **Japanese Ministry of Economy, Trade and Industry**<sup>106</sup> has identified upgrading the “quality” of human resources and acquiring top-level human resources as important issues for innovation and for the nation’s future. Japan’s Economic and Industrial Policy 2007 policy aims to:

encourage innovation through integration and collaboration taking into account conditions across different industries and technologies. Effectively apply these innovations toward growth.

The policy outlines a three point strategy, which focuses on:

1. A New Economic Growth Strategy for the realisation of new growth. This is to be created on a foundation of well-developed human resources (harnessing the nation’s treasured human resources) supported by innovation, productivity improvement, and taking advantage of the dynamism of the regional Asian economy, etc.;
2. A Global Economic Strategy for forging new growth. Japan will actively take advantage of the vitality of the regional Asian economy through the development of an attractive business environment in the region; and
3. A New National Energy Strategy for creating a foundation for growth by overcoming restrictions on resources and energy.

---

tools they need to generate economically productive growth, to build a strong and diverse middle class, and to grow in environmentally sustainable ways. See [www.blueprintprosperity.org](http://www.blueprintprosperity.org)

<sup>106</sup> See the “National Strategies for Industrial Technology” and “National Economic Growth Strategy” and “The new value creation economy and evolving modalities of competition” reports issued by MITI in 2006.



Based on the Economic and Industrial Policy<sup>107</sup>, MITI leads, among others, industry based research programs, which focus on the development of the nation's *intellectual capital or intangible assets* as the main source of innovation. The focus on intellectual capital is based on the premise that to maintain steady growth, an enterprise must effectively utilise its human and technological resources. Enterprises must build and strengthen soft skills and latent capabilities – management, leadership, collaboration – within the enterprise, since these are the most important resources of the 21<sup>st</sup> century enterprises. Measuring and managing intellectual capital will advance the building of a foundation for a system for innovation and reorganisation. MITI has issued a guideline on intellectual capital management and is a leading partner in the OECD's World Intellectual Capital Initiative<sup>108</sup>, having invested significant funding in testing and developing intellectual capital reporting frameworks with local and international researchers and firms.

#### Observations:

- The many international initiatives reviewed above demonstrate that international governments are making policy commitments, developing national strategies and allocating increased funding to programmes, collaborative centres and other initiatives, which aim to strengthen innovation management at the workplace level. Importantly, policy priorities extend far beyond the traditional realm of R&D and science led innovation. Indeed, management, culture and other social and organisational factors are centrally involved in many countries' strategies to develop innovation for economic and social growth. The National Centre for Partnership and Performance in Ireland and the Finish Tekes are the two leading initiatives worldwide, which provide notable example of models which may inspire actions in other parts of the world for policy development and implementation.
- The initiatives also show strong prioritisation of partnerships, including 'joined up thinking' across different government departments and collaboration with a wide range of stakeholders, including unions, business, universities etc. Especially in Ireland and Finland, initiatives have been developed and executed in close collaboration between governments, trade organisations, industrial associations, trade unions, firms and institutions. Much effort is taken to enrol all relevant parties and this seems to be one of the most critical enablers of successful implementation and execution of national policy and strategies. In the case of Europe, many initiatives also involve international collaboration and the development of networks

---

<sup>107</sup> [http://www.meti.go.jp/english/report/downloadfiles/FY18METIjuuten\\_rev.pdf](http://www.meti.go.jp/english/report/downloadfiles/FY18METIjuuten_rev.pdf)

<sup>108</sup> The Society for Knowledge Economics in Australia is also a member of this initiative.



and connections outside national boundaries; for example, 40% of Tekes-funded projects involve international collaborations.

- The concern for management skills, culture and leadership inside organisations in fostering innovation in an economy is clearly present in many of the reviewed initiatives. The initiatives are commonly motivated by a competency strategy, which places the development of individual and organisational competencies at the centre of policy and government initiatives. As highlighted by the NCPP in Ireland, management and leadership capacity, employee involvement, training and lifelong learning, equality and diversity and quality of working life must be promoted and disseminated widely across the private and public sector as key strategic responses to economic and social challenges. There is widespread recognition that workplace development strategies are central to enhancing growth, employment and innovation. Notably, often these go beyond traditional training based approaches to workplace transformation to include a wider range of initiatives such as collaborative projects, practice based learning and the conscious development of collaborative partnerships and learning networks across and within organisations.

### 3.3. Gaps and Opportunities in Australia

The above analyses indicate Australia can do more to develop innovation management skills at the workplace level. This needs to be done at a strategic level and prioritise 'joined-up thinking' across different government departments as well partnerships with diverse stakeholders, who actively share the responsibility for workplace transformation. Specifically, opportunities exist in Australia to give consideration to the development of strategic programs and nation wide policy initiatives, such as the *National Workplace Strategy* in Ireland, and through that improve workplace performance, productivity and enterprise capacity to manage change and innovation. It seems that overseas governments are better at 'opening up' the black box of management and assisting businesses to develop the workplace cultures, leadership styles and management techniques required to strengthen innovation activity and performance at the workplace level. Australian governments in conjunction with the ISCs and others have only a few strategic programs in place to target the fostering of skills in workplaces in search for innovation and there is no nation wide, cross-government strategy in place for innovation management development at the workplace level. Commercialising Emerging Technologies (COMET), Commercial Ready Plus (CRP) and the Industry Cooperative Innovation Program (ICIP) are important initiatives, yet they focus on commercialisation issues, funding, and start-ups, paying limited or no attention to how innovation is managed in incremental ways inside the workplace. They neglect important issues, including how culture and leadership styles, besides organisational bureaucracies,



silo-based structures and slow decision making due to hierarchical layers, can inhibit and/or enable knowledge sharing and innovation to take place. New initiatives, such as Enterprise Connect, which is in its early stage of development, may form part of a coherent and cross-departmental government strategy on innovation management at the workplace level. The net effect of the analyses above is that Australian governments could take a much more strategic approach and develop a national policy for workplace performance and innovation management, inspired, for example, by the NCPP model in Ireland or the Tekes initiative in Finland, which provide examples of integrated frameworks for managing workplace innovation and transformation. Undoubtedly, the success of Australia's national innovation system will increasingly depend on the quality and relevance of capabilities at the organisational level. Accordingly, as workplaces become more flexible and responsive in a changing competitive environment, the emphasis of economic reform will need to evolve to a new stage and focus more on *the leadership, culture and management of Australian organisations*, and the educational infrastructure and programs required to support the development of innovative capabilities within organisations. The following section of the report provides an initial suggestion as a starting point.



## 4. Recommendations and Terms of Reference

This section provides recommendations on national initiatives that can assist in closing the gaps and shortcomings in knowledge and research data identified in Section Two previously.

Specifically, this section proposes a set of 'Terms of References' for the development of a national debate and inquiry into innovation management at the enterprise level (section 4.1). It also suggests the creation of a High Level Implementation Group or Task Force to oversee the national dialogue and strategy and policy formulations that may result from it (section 4.2). Last, it reviews research methodologies (currently used overseas), which may be taken into consideration in the design of a national inquiry into innovation management, leadership and culture at the enterprise level (section 4.3).

### 4.1. Proposed Terms of References

The overarching objectives of starting a national dialogue of innovation management, leadership and culture at the enterprise level would be to: 1) measure and assess the 'state of the nation'; and 2) devise policy recommendations and national strategies to improve innovation management at the enterprise level. The Box overleaf outlines the proposed Terms of References for starting such a dialogue.

A national inquiry into innovation management, leadership and culture at the workplace level can offer a number of benefits to the Australian economy. It may, among others, help:

- Lift participation rates above the current 34% and bring Australia closer to the 50-55% mark, as seen in some European countries.
- Improve awareness of the enablers and barriers to enterprise innovation, and shed light on some of the strengths and weaknesses of Australian organisations, specifically leadership culture and management, which currently appear to be under-investigated and possibly not well understood.
- Assist government devise national strategies and policies to strengthen the innovation performance and capabilities of Australian public and private sector organisations.
- Assist Australian CEOs and public and private sector business leaders design, implement and operationalise innovation management strategies and practices at the workplace level.



Society for Knowledge Economics

- Provide input into an assessment of education and training programs (including VETs, business schools, professional courses and accreditations, and school education) to ensure that Australia's education system is focused on delivering the capability needs of managers in coming decades.
- Strengthen enterprise productivity and Australia's international competitiveness.

Note: The Society for Knowledge Economics has consulted with many stakeholders in the preparation of the proposed Terms of Reference overleaf as referenced at the onset of the report. Specifically, the SKE would like to thank the Australian Industry Group (AiG) for collaborating with us on preparing the Terms of Reference overleaf. The SKE endorses and supports the Terms of Reference prepared by the AiG for the National Innovation Systems review.



## **Proposed Terms of Reference**

# **National Dialogue and Inquiry into Innovation Management**

*The role of Leadership, Culture and Management in Enabling Innovation in the Workplace*

### **I: Analyses**

1. **State of the Nation:** Examine and provide information to business and government about the importance, level, quality and performance gaps in innovation management in Australian organisations, specifically;
  - Prepare and conduct a national innovation management review to assess innovation management capabilities and performance at the enterprise level, highlighting strengths and weaknesses, barriers and enablers.
  - Prepare and conduct field/case studies on innovation management and provide practical examples of leading practices in Australia (i.e. what is an innovative culture and what behaviours are displayed by leaders and people at work and what are the effects on innovation?)
  - Identify any performance gaps that may exist between leading practices and current / common practices.
  
2. **Benchmarking Australia Internationally:**
  - Examine and report on world wide enterprise trends in innovation management, including leading practices overseas, and bring knowledge of these into Australia.
  - Identify and review gaps in Australian organisation's innovation management capabilities and performance, as compared to those overseas.
  - Examine the role of agencies and actors such as multi-national enterprises and expatriate networks in enabling innovations to enter and exit Australia, and how ideas come to travel globally through both formal and informal networks.
  
3. **Education Providers:**
  - Investigate and report on education curriculum and teaching methods (at secondary and tertiary levels) that support the development of innovation management capabilities, and the extent to which these are used by Australian education providers.
  - Inquire into the education needs of industry and how businesses currently source innovation management education and training and with what effects.

### **II: Recommendations**

1. Identify who owns the problem, including the multiple stakeholders and intermediaries responsible for strengthening innovation management capabilities and performance at the workplace level.
2. Provide recommendations for policy responses and delivery mechanisms to strengthen innovation management capabilities and performance at the workplace level; specifically, recommend on:
  - Policy responses and options
  - Education curriculum and teaching methods
  - The roles, responsibilities and opportunities available to professional associations, trade associations, unions, business and other intermediaries.



## **4.2. Implementation Group On Innovation Management, Leadership and Culture at the Workplace Level**

*A High Level Implementation Group or Task Force on Innovation Management, Leadership and Culture at the Workplace Level* could oversee the national dialogue, research investigations and design of national strategies and policies going forward.

Such a group would need to be cross-sectoral and multi-disciplinary, comprising policy makers, industry practitioners, researchers, unions and others with demonstrated expertise and leadership in managing business for innovation purposes.

The group may also comprise specialists working groups focusing on specific areas of innovation management. One working group could, for example, oversee the development of the research methodologies for national dialogue and investigations, bringing together leading innovation researchers from Australian universities, Australian Bureau of Statistics, industry associations and other places to leverage their collective knowledge and insights.

‘Collaborative hubs’ can also be established and existing networks in industry and research can be leveraged to bring together different stakeholders to jointly identify problems and opportunities and design work place strategies for a better future. It is through collaborative forums, hubs and networks, and by leveraging the collective insights and capabilities of diverse stakeholders, that Australian workplaces can be reformed and positioned to create for a more sustainable and prosperous nation in the future.

## **4.3. Research Methodologies to Consider in the Design of a National Inquiry**

As illustration of a methodology to describe and analyse innovation at a workplace level, it is useful and instructive to look at one particular European experience, which can supplement existing methodologies, such as the ones used by Fujitsu, the IBM – Melbourne Institute, and also Hewitt Associates in Australia.

Drawing on a small survey instrument across 15 European countries, Arundel et al (2007) have developed profound analyses of workplace practices conducive to developing innovation<sup>109</sup>. This survey instrument is concerned primarily with the management dimension

---

<sup>109</sup> Arundel, A., Lorenz, E. Lundvall, B-A. and Valeyre, A. (2007), How Europe’s economies learn: a comparison of work organization and innovation mode for the EU-15, *Industrial and Corporate Change*, 16 (6): 1175–1210; Research Policy 36, 680–693; Jensen, M.B., Johnson, B., Lorenz, E. and Lundvall, B-A, (2007), Forms of knowledge and modes of innovation, *Research Policy* 34: 680-693; Lorenz, E. and Valeyre, A., (2005), Organisational Innovation, Human Resource Management and Labour Market Structure: A Comparison of the EU-15 *Journal of Industrial Relations* 47: 424-442.



rather than leadership and culture, and it only takes a limited set of aspects into consideration. Yet, it may be a source of inspiration for an Australian survey instrument because it has the advantage that it is directed to the workplace level. The questionnaire is distributed to employees across firms, who then answer questions about innovative workplace practices in their own organisations. This survey covers 15 EU countries and allows interesting analyses of innovative workplace arrangement across European countries.

The survey instrument is reproduced below (see Table below) and associated mean scores for the European regions are supplied. It is noteworthy first that it is short so that people will not consider it a burden to fill it in. It is also noteworthy that the responses are a very easy format since answers are only of the yes/no type. The survey instrument does not require employees to know more about their organisation than what is directly experienced at the workplace level. It does not encourage the respondent to speculate or make hypothetical propositions. The instrument is thus capable of being administrated easily.

**Table: Variables in Arundel et al's (2007) Survey**

Organizational variables

Variable		Mean
Team work	1 if your job involves doing all or part of your work in a team, 0 otherwise	64.2
Job rotation	1 if your job involves rotating tasks between yourself and colleagues, 0 otherwise	48.9
Quality norms	1 if your main paid job involves meeting precise quality standards, 0 otherwise	74.4
Discretion in fixing work methods	1 if you are able to choose or change your methods of work, 0 otherwise	61.7
Discretion in setting work pace	1 if you are able to choose or change your pace of work, 0 otherwise	63.6
Horizontal constraints on work pace	1 if on the whole your pace of work is dependent on the work of your colleagues, 0 otherwise	53.1
Hierarchical constraints on work pace	1 if on the whole your pace of work is dependent on the direct control of your boss, 0 otherwise	38.9
Norm-based constraints on work pace	1 if on the whole your pace of work is dependent on the numerical production targets, 0 otherwise	38.7
Automatic constraints on work pace	1 if on the whole your pace of work is dependent on the automatic speed of a machine or movement of a product, 0 otherwise	26.7
Employee responsibility for quality control	1 if the employee's main paid job involves assessing him or herself the quality of his or her own work, 0 otherwise	72.6
Employee problem solving	1 if your job involves solving unforeseen problems on your own, 0 otherwise	79.3
Learning new things	1 if your job involves learning new things on your own, 0 otherwise	71.4
Task complexity	1 if your job involves complex tasks, 0 otherwise	56.7
Task monotony	1 if your job involves monotonous tasks, 0 otherwise	42.4
Task repetitiveness	1 if your work involves short repetitive tasks of less than one minute, 0 otherwise	24.9

Such a survey, adapted to Australia conditions, can be a welcome supplement to information collection at the level of the organisation. It may supplement an organisational level investigation of innovative intent by supplying a perspective from those who implement innovative strategy. This will generate knowledge, which is useful in determining the degree to which innovation happens in Australia and the degree to which Australian organisations take advantage of the knowledge and learning capabilities that pertain to the Australian work force. It may also help to identify and inform the assessment of possible gaps between the current and desirable supply of training and education.



To illustrate some of the analytical potential of this brief survey instrument, it is helpful to draw forth Arundel et al's analysis<sup>110</sup>. They identified various types of workplace arrangements in European countries in relation to the organisation of work, learning, interaction, and employees' ability to influence their activities at the workplace level. There is a strong link between organisational practices and innovation effects. They identified four types of work organisation with different learning and innovation schemes: 1) "Discretionary learning" corresponds to work organisation where problems are solved dynamically; 2) "Lean production" where group based problem-solving happens; 3) the hierarchically structured Taylorist form; and 4) the "Traditional" organisation based on a simple management structure. The first two types are conducive to innovation in different ways, while the last two ones are less so. These simple types of workplace organisation summarise relatively complex patterns of workplace organisation.

The Table below illustrates the workplace characteristics of each type. The Learning Organisation is the most conducive to innovation and it is characterised by a high degree of involvement and responsibility on the part of the employee, a point which is consistent with the observations made in the case studies (see Section Three previously). Empowerment of staff and delegation of responsibility to 'jazz' people is where innovation thrives best. In contrast organisations organised via Taylorist principles focus strongly on norm-adherence and organisations having a traditional management form with only little strategic direction do not encourage much innovation from employees.

---

<sup>110</sup> Arundel, A., Lorenz, E. Lundvall, B-A. and Valeyre, A. (2007), How Europe's economies learn: a comparison of work organization and innovation mode for the EU-15, *Industrial and Corporate Change*, 16 (6): 1175–1210

**Table: Types of work-organisation and differentiation in dimensions of innovation.**

Variable	Percent of employees by work organization duster reporting each variable				
	Discretionary learning	Lean production	Taylorism	Traditional organization	Average
Team work	64.3	84.2	70.1	33.4	64.2
Job rotation	44.0	70.5	53.2	27.5	48.9
Quality norms	78.1	94.0	81.1	36.1	74.4
Responsibility for quality control	86.4	88.7	46.7	38.9	72.6
Problem-solving activities	95.4	98.0	5.7	68.7	79.3
Learning new things in work	93.9	81.7	42.0	29.7	71.4
Complexity of tasks	79.8	64.7	23.8	19.2	56.7
Discretion in fixing work methods	89.1	51.8	17.7	46.5	61.7
Discretion in setting work rate	87.5	52.2	27.3	52.7	63.6
Horizontal constraints on work rate	43.6	80.3	66.1	27.8	53.1
Hierarchical constraints on work rate	19.6	64.4	66.5	26.7	38.9
Norm-based constraints on work rate	21.2	75.5	56.3	14.7	38.7
Automatic constraints on work rate	5.4	59.8	56.9	7.2	26.7
Monotony of tasks	19.5	65.8	65.6	43.9	42.4
Repetitiveness of tasks	12.8	41.9	37.1	19.2	24.9
Total share of employees	39	28	14	19	

*Source:* Third Working Conditions survey, European Foundation for the Improvement of Living and Working Conditions.

The Table below goes on to characterise national (cultural) differences between selected EU countries. It shows how different the patterns of work organisation are and, indeed, it points out that there is a reason that the Scandinavian countries are considered to be highly innovative: they focus on a learning form that is implemented via very specific work place arrangements.

**Table: National differences in work organisation between selected EU countries**

Percent of employees by country in each organizational class					
	Discretionary learning	Lean production	Taylorist organization	Traditional organization	Total
Belgium	38.9	25.1	13.9	22.1	100.0
Denmark	60.0	21.9	6.8	11.3	100.0
Germany	44.3	19.6	14.3	21.9	100.0
Greece	18.7	25.6	28.0	27.7	100.0
Italy	30.0	23.6	20.9	25.4	100.0
Spain	20.1	38.8	18.5	22.5	100.0
France	38.0	33.3	11.1	17.7	100.0
Ireland	24.0	37.8	20.7	17.6	100.0
Luxembourg	42.8	25.4	11.9	20.0	100.0
Netherlands	64.0	17.2	5.3	13.5	100.0
Portugal	26.1	28.1	23.0	22.8	100.0
UK	34.8	40.6	10.9	13.7	100.0
Finland	47.8	27.6	12.5	12.1	100.0
Sweden	52.6	18.5	7.1	21.7	100.0
Austria	47.5	21.5	13.1	18.0	100.0
EU-15	39.1	28.2	13.6	19.1	100.0

*Source:* Third Working Condition survey. European Foundation for the Improvement of Living and Working Conditions.

This is an example of an innovation survey instrument, which can be used to assess how prepared organisations are to be innovative and what drives and enables innovation at the workplace level. Corresponding statistics are not currently available for Australia. Yet, with such an instrument opportunities exist to examine in more detail how Australian workplaces function regarding innovative capabilities. If at least part of an Australian instrument replicated the European survey, it would be easy and relatively cheap to generate robust and comparable data to assess the strength of Australian innovation at the workplace level.

Since the survey instrument only is concerned with the management dimensions and organisational design, it would be useful to consider how the leadership and culture dimensions may be added to this survey in a meaningful way. This is a challenge that has to be faced and considered.



## 5. Conclusion

This report has investigated the management of innovation at the enterprise level. It has found that more needs to be done to raise the number of 'active innovators' in Australia above the present 34%. While other reports concentrate on the technological dimension of innovation, this report demonstrates the value of the 'soft drivers' of innovation such as leadership, culture and management. Indeed, these factors are typically critical in order to get a technology to work in an organisation and in a market place, and may be valuable innovations in their own rights that deliver business benefits.

First, based on a review of existing research, the report suggests that too little is known about innovation management, leadership and culture at the enterprise level. Current surveys and statistics are predominantly concerned more with R&D and technological innovations. Whilst not denying the role of technological innovation, it is noteworthy that innovation extends beyond science and technology. Specifically, the results of the analyses in the report indicate a need for more insights into how innovation is managed at the workplace level in Australia, including strengths and weaknesses, barriers and enablers, and optimal configurations of leadership, culture and management techniques.

Secondly, the reviews and limited set of case studies provided in this study illustrate that leadership, culture and management may well be the central enablers of innovation. The cases show the importance of the soft, perhaps taken-for-granted, elements of innovation management. The cases, combined with a review of the extant literature, also illustrate the breadth of valued effects of workplace innovation. There is little doubt that innovation is related to positive enterprise effects. It is related to firm profitability, to capital market values, to the development of good customer relations and better workplaces. It is related to desired economic as well as social effects. This is why innovation deserves to be a central priority in Australia and why more efforts need to be made by government and others to increase the share of enterprises that are innovative above the current level of 34%.

Third, leadership and management at the enterprise level has not been scrutinised since the comprehensive Karpin report in 1995. Then, the Karpin report pointed out a series of challenges to Australian society — to government, to business and to education — and provided recommendations to overcome these. Today, there is no national workplace development and innovation management strategy in place in Australia, as discussed in Section Three. This is why the 'Terms of Reference' proposed in Section Four are a good step towards making innovation and workplace development a national priority in Australia. It is now time to reappraise Australia's skills and competencies in view of a changing economy and society.