



New Concepts in Innovation

THE KEYS TO A GROWING AUSTRALIA

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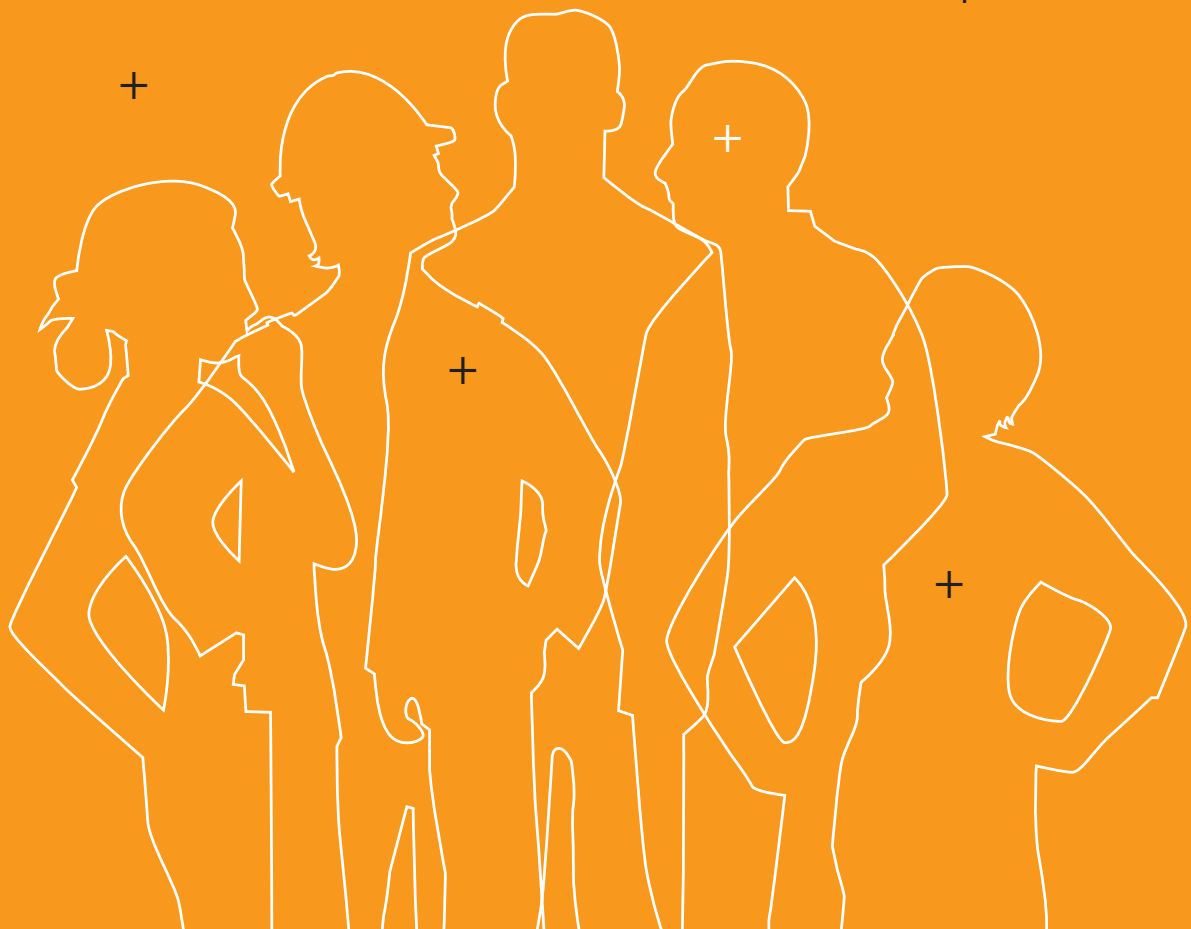
Transforming talent and
technology into competitive edge

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 'NEW CONCEPTS IN INNOVATION: THE KEYS TO A GROWING AUSTRALIA'
 (54 PAGES INCLUSIVE) IS UNDER EMBARGO TO 12.01AM,
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About *New Concepts in Innovation: The Keys to a Growing Australia*

New Concepts in Innovation: The Keys to a Growing Australia, referred to as *New Concepts in Innovation*, is based on a study undertaken by consultants Howard Partners for the BCA, entitled *Changing Paradigms: Rethinking Innovation Policies, Practices and Programs*. This is referred to as the *Changing Paradigms* report. It is preceded by an executive summary, a discussion on the definition and importance of innovation, a summary of major themes, BCA innovation priorities, and a summary of main findings.

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Executive Summary

The Business Council of Australia (BCA) is an association of Chief Executives of 100 of Australia's leading corporations.

BCA Member companies employ nearly one million Australians, generate \$340 billion in the economy and produce 30 per cent of Australia's exports. They also contribute a significant proportion of the \$49 billion in federal taxes that companies are forecast to pay this financial year.

The BCA has a deep interest in policies that promote sustained growth and prosperity in the global economy through strengthening Australia's economic competitiveness.

The Education, Skills & Innovation (ESI) Task Force is one of five BCA policy Task Forces. The objective of this Task Force is to research and advocate policies that develop Australia's education, skills and training capacity, and in turn increase the productive potential of the economy and the living standards of all Australians.

The Task Force places a significant priority on the role of innovation. An important focus of its work in this area is to identify and examine the sources and potential of business innovation and its role in economic growth.

INNOVATION IN THE 21ST CENTURY

In broad terms, innovation can be defined as the application of knowledge to create additional value and wealth.

There are times when this involves the application of new knowledge. Often, however, effective innovation is achieved by applying existing knowledge in new and different ways.

Innovation can involve significant disruptive change to business and economic structures, or alternatively it can be a process of continuous and incremental business development. Human capital is crucial to the innovation process.

Innovation has always played an important role in Australia's economic development. However,

Australia's innovation performance is increasingly becoming a key determinant of growth in our living standards as nations participating in a global knowledge economy compete on the basis of the value delivered through the application of knowledge and intellectual capital in the production of goods and services.

Innovation will become even more important in the future as we face new constraints to growth from population ageing and we increasingly rely on the application of knowledge to compete in the global economy. It is therefore essential that we fully understand the process of business innovation in Australia so we can properly identify and encourage it at a Government and business level.

New research conducted for the Business Council of Australia demonstrates that what innovation is, and how it is achieved, is different to how it has been understood by many parts of Government and by policy-making bodies.

Some areas of Government and other institutions have often equated innovation with research and development (R&D). This reflects a traditional view of innovation in which, throughout the 19th century and much of the 20th century, Australia's innovation capacity was defined around the technological capabilities of its primary and manufacturing sectors.

Such a view fails to recognise the increasing importance of a wide range of business activities that deliver innovation benefits to the modern Australian economy. Factors such as rising global competition; the changing industrial structure of the Australian economy towards a greater focus on high-value-added services; and the growing convergence of many technological fields such as information and communication technology (ICT) have broadened the scope of approaches that businesses use to achieve innovative outcomes. In an open and highly competitive, services-oriented market economy, technology-driven research

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is unlikely to be the only, or even the primary, method of achieving the business innovation imperative to provide maximum value for money for goods and services to attract and maintain discerning customers.

MAJOR THEMES

The research which the BCA is publishing in this report consists of 19 innovation case studies from among BCA Member companies. The key findings of the case studies highlight that the traditional view of innovation as R&D is no longer appropriate. In particular, the case studies indicate that:

- + innovative activity extends across all parts of a business – it is not confined to research work;
- + the imperative to deliver customer value drives the need for, and nature of, innovation; and
- + innovation, in some circumstances, has more to do with human capital than with technology and invention.

A more complete understanding of business innovation in Australia, particularly within Government, will result in policy frameworks that assist Australia to achieve greater innovation

success. In particular, it will enable public policy to take a broader, more holistic view of the range of policy structures that influence business innovation, rather than the current narrow focus on science and technology policy.

BCA INNOVATION PRIORITIES

The BCA has identified four priorities, based on the case studies, aimed at strengthening Australia's capacity for innovation. These are to:

- 1 Build a better understanding of innovation within Governments and among policy makers and other relevant institutions, beginning with the introduction of a new whole-of-government definition of innovation.
- 2 Emphasise the importance to innovation of public policy reform in the areas of taxation, workplace relations, infrastructure and regulation.
- 3 Build stronger innovation capabilities through our education and training systems.
- 4 Deliver innovation outcomes by providing the best possible environments for innovation within our workplaces.

OLD VERSUS NEW VIEWS ON BUSINESS INNOVATION IN AUSTRALIA

	OLD INNOVATION	NEW INNOVATION
Business perspective	Compartmentalised Technological expertise focused Product focused	Diffuse Knowledge/information focused Customer focused
Government perspective	Industry focused Specific science and technology policy initiatives	Economy focused Broad reform to foster innovation culture

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1 Background

In 1993 the BCA released *Managing the Innovating Enterprise*, a landmark publication on business innovation in Australia. The report aimed to promote acceptance of the concept of innovation as a practical business issue for Australian business.

The BCA undertook that research because it was concerned at the time that there was a general lack of understanding outside business circles of what it meant to be innovative in business, about the processes of innovation in businesses and about the factors that determined business innovation success.

In the time since the release of *Managing the Innovating Enterprise* it has become widely accepted that successful innovative businesses are essential to a nation's economic prosperity. There have been a number of important initiatives – such as the National Innovation Summit¹ in 2000 and the Backing Australia's Ability programs² – which have emphasised the importance of innovation to the economy and advanced Australia's science and research capabilities. However, despite these initiatives, there is still a lack of understanding in many policy-making circles about how innovation occurs within businesses and the policy environment required to allow it to thrive.

There is a lack of understanding about how innovation occurs within business.

The need to understand innovation from a business perspective is vital if we are to unlock the economic potential of innovation. Businesses are the wellsprings of innovation in a knowledge-based economy, and unless we understand the factors that are important for business innovation success, our prosperity will ultimately be undermined.

Instead of a considering how innovation is occurring within businesses and the factors that influence such activities, much of the current debate on business innovation in Australia is primarily focused on business R&D expenditure, and in particular Australia's low business R&D intensity compared to other developed economies.

The BCA considers that this debate is fundamentally flawed as it centres on a narrow understanding of how companies are undertaking innovative activities within their businesses and, as a result, leads to a narrow focus for public policies that attempt to foster innovation within the economy. The debate needs to be broadened to address the question of whether businesses in Australia are able to maximise the potential level of innovation within their companies.

In order for this to occur a greater understanding of innovation from a business perspective is needed. This has been the focus of the BCA's innovation research in recent years.

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The BCA report *Research and Development Investment by Australia's Leading Businesses*, released in December 2004, aimed to shed light on the factors that guide large companies' investment in R&D. In addition to information on the amount and type of R&D expenditure being undertaken by BCA Member companies, the report analysed issues such as the processes around the determination of R&D budgets; drivers and inhibitors of R&D spending; factors surrounding decisions to internationalise R&D activities; and the extent of R&D collaboration and commercialisation by Members.

The report showed the significant R&D efforts of Australia's largest companies. Moreover, the report found that businesses invested in R&D in a way that provided the greatest innovation benefits.

It also provided evidence that much of the innovative activity of businesses in Australia was not necessarily being undertaken through traditional R&D. Instead, business innovation occurred through a range of mechanisms such as business strategy; management practices; process adaptation; logistics management; workplace reorganisation; applications of new technologies; and capital investment in new plant and equipment.

The next step in the BCA's innovation work program is the report *Changing Paradigms: Rethinking Innovation Policies, Practices and Programs* undertaken by consultants Howard Partners for the BCA (the *Changing Paradigms* report) which is appended at the end of this document.

The *Changing Paradigms* report presents the findings of a series of interviews conducted with 19 BCA Member companies concerning innovation within their businesses.

The aim of the case studies is to examine the nature of innovation approaches within BCA Member companies and to assess the various public policy frameworks that influence business innovation. In particular the *Changing Paradigms* report:

- + analyses how businesses conceptualise the innovation task;
- + identifies the factors that influence business innovation;
- + assesses the ways in which businesses achieve innovative outcomes;
- + determines the public policy structures that influence business innovation; and
- + assesses whether current public policy frameworks are creating the appropriate environment for business innovation to thrive.

The *Changing Paradigms* report provides an important insight into the innovation process within Australian businesses and aims to inform public understanding of the innovation task from the perspective of business. In particular it serves as a tool for assessing how current public policy is enabling or creating a barrier to business innovation success in Australia.

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2 What is Innovation?

Innovation can be defined as the application of knowledge to create additional value and wealth. Innovation involves using knowledge to find new ways to create and bring about change for the better. This definition of innovation has implications for the types of activities within businesses that can be considered innovative.

First, innovation does not necessarily involve technology and technological knowledge. Successful innovation can involve the use of any type of knowledge, provided its application results in additional value and wealth.

Second, innovation is not invention. Innovation may not even require the creation of new knowledge – be it to the world or to the firm. What it does require is the inspired application of knowledge (old or new) to create additional value.

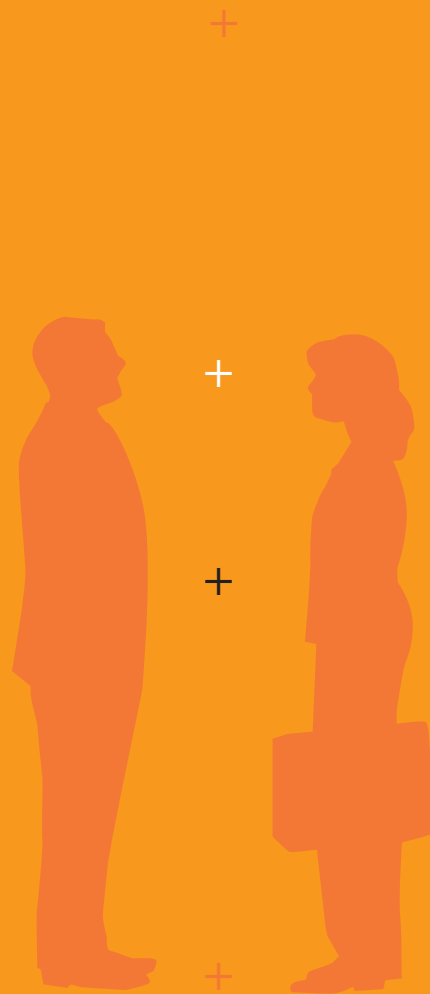
Given this, it is problematic to equate business innovation with business R&D expenditure. R&D involves the creation of new knowledge which can be an important, but is not a necessary component in the innovation process. Moreover, R&D is associated only with the creation of a specific type of knowledge, while innovative activities can involve the creation and use of a broader range of knowledge. While R&D is an indicator of scientific knowledge creation it says little about how that knowledge is applied to create value and wealth. For instance, the potential disconnect between expenditure on R&D and the creation of value was highlighted in a recent global survey of corporate R&D spending by Booz Allen Hamilton which found no direct relationship between R&D spending and significant measures of corporate success.³

R&D is undoubtedly an important innovative activity in business, but the above analysis calls into question the usefulness of business R&D expenditure as an indicator of total business innovation. This point is borne out in a number of studies that have found little correlation between business R&D expenditure and the level of reported innovation within firms.⁴

Innovation involves the commercial application of old or new knowledge to create additional value and wealth.

Importantly, there is also evidence to suggest that the equation of business R&D expenditure to business innovation is particularly fraught in the case of Australia. It is widely recognised that business R&D expenditure intensities across countries are highly related to the industry structures of their economies. In particular, countries with high R&D intensities tend to have a high share of their business R&D and a significant part of their economic output in high-technology sectors.⁵ Countries with such economies will tend to undertake innovation through business R&D activities.

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**CUSTOMERS DRIVE
THE NEED FOR – AND THE
NATURE OF – INNOVATION.**

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Australia, by contrast, does not have a large high-technology manufacturing sector and therefore is unlikely to achieve high overall levels of business R&D expenditure intensity. The effect of industry structure on business R&D intensity in Australia is so significant that recent research by the Federal Treasury suggests that for Australia to achieve business R&D intensity levels at or above the OECD average would realistically require more than just higher business R&D intensities within the existing industry structure of the economy but instead a significant change in industry structure itself.⁶

Equating business R&D expenditure to business innovation is particularly fraught in the case of Australia.

The fact that Australia's industry structure leads to internationally low levels of business R&D expenditure intensity does not suggest that Australian businesses are less innovative. The BCA report *Research and Development Investment by Australia's Leading Businesses* discussed in detail how certain characteristics of the Australian economy – including the relatively large size of service industries, the relatively small size of defence and high-technology manufacturing, and the relative predominance of small firms – mean that businesses in Australia will tend to innovate in ways other than through traditional R&D. This point has recently been confirmed by the Australian Bureau of Statistics (ABS) report *Innovation in Australian Business*, released in February 2005, which found the vast majority of business innovation spending in Australia was non-R&D expenditure.⁷

Recent research using the data of the ABS Innovation in Australian Business 2003 survey by the ABS and the Department of Industry, Tourism and Resources adds more weight to the argument that business innovation in Australia is widespread and tends to occur through means other than R&D investment.⁸ It indicated that innovation is occurring across the economy; for example, industries that may be perceived as less likely to innovate, such as utilities, have very similar proportions of innovating business to those in communications services, which are frequently regarded as the cutting edge of modern innovation. It also showed that the proportion of businesses undertaking goods or service innovation is lower than those undertaking operational process change and organisational innovation in all industries except manufacturing and wholesale trade, and highlighted that such operational process and organisational innovation is unlikely to require as much R&D investment input as goods or service innovation.⁹

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Therefore claims – based on Australia’s internationally low business R&D expenditure figures – that Australian businesses have ‘missed the innovation boat’ may ‘miss the point’. Innovation as the application of knowledge to create additional value and wealth can entail a wide variety of activities other than traditional R&D. These can include activities such as: undertaking market research and using market information to tailor products and services to create additional value for customers; purchasing and using capital goods and equipment in production processes; integrating or recombining existing forms of knowledge and technology to create new product and service offerings; as well as business R&D activities.

Businesses in Australia will tend to innovate in ways other than through traditional R&D.

The wide variety of possible innovative activities undertaken by businesses emphasises the need to better understand the innovation process within Australian businesses.

The BCA considers the joint undertaking by the Australian Government’s Department of Industry, Tourism and Resources and the ABS to develop a better understanding of enterprise innovation as an important step in the right direction.



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**INNOVATIVE ACTIVITY
EXTENDS ACROSS ALL PARTS
OF A BUSINESS.**



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3 The Importance of Innovation

The need to fully understand how innovation is occurring within businesses and the factors that affect innovation arises from the strong link between innovation and economic prosperity.

A nation's prosperity and standard of living is fundamentally determined by its productivity. Productivity – i.e. the value of product produced in a given time period – shapes a country's international competitiveness and determines the wages of workers and profits of companies. Moreover, the process of population ageing in many developed economies, including Australia, means that productivity is increasingly vital as a source of growth in living standards now and in the future.

Innovation is an important determinant of productivity in the economy. Innovation not only improves productivity by allowing greater efficiencies in production but also through increasing the value of products and services that a nation produces.¹⁰

Innovation is becoming ever more significant in driving the productivity performance and international competitiveness of many developed economies. Increasing global competition, particularly from low-cost emerging economies, and the steadily increasing rate of global technological change means that competing through efficiencies delivered by structural reform and competition is no longer enough for many developed economies.

More than ever before, developed economies are competing on the basis of unique value delivered through the application of knowledge in the production process. Knowledge has come to be recognised as an indispensable business resource, and its application in the production process is now seen as a vital way for many businesses in developed economies to compete and create sustained value.

As well as improving prosperity indirectly through productivity, innovation also provides many direct benefits that improve community wellbeing and living standards. Innovation creates higher quality and better value products and services for consumers. An innovative economy also provides new and more interesting work for people.

Innovation is an increasingly significant driver of Australia's productivity performance.

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4 Major Themes from the *Changing Paradigms* Report

The *Changing Paradigms* report provides detailed information about the innovation process within a range of Australian businesses. It is clear from this report that how companies perceive the innovation challenge, how they undertake the innovation process and the factors that influence innovation within their businesses varies greatly depending on the nature of their businesses and the market environments in which they operate.

Importantly, there are a number of major themes arising from the evidence provided in the *Changing Paradigms* report that provide insights into innovation from a business perspective.

+ Innovation occurs across a business.

The findings highlight that innovation within businesses does not simply occur in research units. Rather, innovative activity extends across all parts of the business, to all levels and through a wide variety of functions.

+ Customer value is central.

The imperative to deliver customer value drives the need for, and nature of, innovation within business. In a competitive market economy, business sustainability is achieved through continually enhancing the value of products and services to customers. From this perspective, developments in technologies are viewed as enablers, but not drivers, of business innovation, whose successful application to business production systems is aimed at delivering enhanced value to business customers.

+ Human capital is crucial.

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.

+ Broader, more holistic public policy settings are needed.

The *Changing Paradigms* report's assessment of public policy impacts on business innovation highlights the need to take a broader, more holistic view to creating a policy environment in which business innovation can thrive. The findings of the report make it clear that understanding innovation from a business perspective requires a substantial reassessment of the public policy structures required to encourage business innovation. In particular, recognising that many businesses compete and innovate in a global marketplace requires a re-examination of public policies that set the conditions for competition and innovation at a domestic level.

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Given the variety of ways businesses undertake innovative activities and the innovation process within businesses, policy-makers must recognise that the public policy impact on business innovation extends beyond science and technology policy. The *Changing Paradigms* report details the public policy frameworks that influence innovation within businesses in Australia, including general macroeconomic policy settings, competition policy, corporate governance regulation, infrastructure systems, workplace relations frameworks and taxation policy.

The results show the importance of a strong commitment to science and technology policies and frameworks that encourage companies to collaborate with other companies and with other bodies while protecting intellectual property. However, they also signal two important policy initiatives that Governments in Australia need to focus on if innovation within businesses is to be maximised.

+ The role of wider economic reform.

The results of the *Changing Paradigms* report highlight the vital importance of implementing the BCA's reform agenda in the areas of workplace relations, regulation, taxation and infrastructure. Over the past year the BCA has strongly argued the importance of reform in these policy areas to delivering strong and sustainable future economic growth in Australia. The findings of the *Changing Paradigms* report re-emphasise the importance of these policy frameworks to business innovation in Australia and demonstrate how they are currently acting as barriers to business innovation success.

The *Changing Paradigms* report finds that businesses are increasingly concerned that the overall regulatory environment in Australia, in particular the corporate governance framework, is becoming focused on compliance, engendering risk aversion among companies and working against a culture of innovation and entrepreneurship. Many companies also noted that regulations were restricting their ability to transform their businesses and innovate by using assets in new ways.

Companies argued that the tax system requires reform to encourage business innovation in Australia. They noted that the structure of the personal taxation system is a major constraint in attracting highly qualified and talented people from overseas and in retaining skilled local workers. The R&D tax concession framework was seen to be too restricted to science-based innovation and insufficient to encourage greater R&D activities. The depreciation schedules on capital investment were also raised as an inhibitor to innovative activity.

The poor state of the nation's infrastructure assets was raised as a factor that inhibited business operations in Australia. Companies emphasised the vital importance of quality economic infrastructure for business innovation in Australia, particularly in the area of supply chain management and logistics.

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The findings of the *Changing Paradigms* report also highlight the importance placed by businesses on recent workplace relations reforms in enabling greater business innovation in Australia. A wide range of research, including *Managing the Innovating Enterprise*, has emphasised the role of flexible workplace relations systems in enabling the creation of a culture of innovation within businesses.¹¹ *Changing Paradigms* highlights that Australian businesses see the recent workplace relations reforms as an opportunity to unlock the creativity of their employees to improve business innovation, productivity and competitiveness; not as a mechanism to follow a low-cost, low-wage business strategy.

+ The importance of education and training.

The public policy analysis of the *Changing Paradigms* report highlights the importance of education and training systems in providing people with the capabilities to contribute to business innovation success. The *Changing Paradigms* report shows the importance of not only the development of strong technical skills in the workforce but also those associated with communication, teamwork, problem solving, ongoing learning, creativity, cultural understanding, entrepreneurship and leadership. Furthermore, it raises concerns by businesses about the extent to which education and training systems are currently providing people with these capabilities.

These major themes from the *Changing Paradigms* report are strikingly similar to the findings of the BCA's *Managing the Innovative Enterprise* from the early 1990s. As such they emphasise the need for a renewed effort to expand understanding of the innovation process from a business perspective among the community and throughout policy-making circles.

Moreover, they signal a number of policy reform imperatives that are essential for improved business innovation success in Australia. Australia, and Australian business, may not have 'missed the innovation boat', but that does not mean that it won't set sail without us if we do not create the right policy settings for innovation to thrive.

It is these conclusions that inform the future priorities for the BCA in the area of business innovation research and policy advocacy.

The policy framework for innovation must extend beyond science and technology policy.

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5 BCA Innovation Priorities

The future work focus of the BCA in the area of innovation will aim at achieving four main priorities. Success in these priority areas will help Australia compete more effectively in the international marketplace of the future.

1 BUILD AN UNDERSTANDING OF BUSINESS INNOVATION

The BCA will continue to advocate and communicate the findings of the *Changing Paradigms* report. Broader understanding within Governments and among policy makers and other relevant institutions, including within the education and training system, of the importance of business innovation to the economy, the innovation efforts of Australian business, and the factors that enable innovation success is vital for the creation of an environment conducive to the maximisation of business innovation in Australia.

As a key step towards achieving this, the BCA supports the introduction of a new definition of enterprise innovation by the Australian Government. This new definition would recognise the broad nature and application of innovation in Australia, and would be accepted across the whole of the Government as the definition that informs future innovation policy frameworks.

2 ADVOCATE THE IMPORTANCE OF THE BCA REFORM AGENDA FOR INNOVATION IN AUSTRALIA

The findings of the *Changing Paradigms* report reinforce the importance of the reform agenda that has been advocated by the BCA over the last year. Significant reform in the areas of regulation, infrastructure, taxation and workplace relations are required to enable greater business innovation in Australia. The BCA will continue to advocate and argue for reform in these areas.

3 ADVOCATE THE IMPORTANCE OF EDUCATION AND TRAINING SYSTEMS IN DELIVERING THE CAPABILITIES FOR INNOVATION SUCCESS

The development within the workforce of not only strong technical and applied capabilities but also the skills and capabilities associated with communication, teamwork, problem solving, ongoing learning, creativity, cultural understanding, entrepreneurship and leadership are vital building blocks for business innovation success.

There is evidence that the importance of these capabilities for innovation success is recognised within policy-making circles. For example, the importance of technical skills was highlighted in the policy initiatives of Backing Australia's Ability; the National Innovation Summit in 2000 provided a number of recommendations aimed at improving the culture of entrepreneurship in Australia; and there is increasing recognition within the VET sector of the importance of delivering 'employability skills' associated with communication, teamwork and problem solving for innovative businesses.¹²

Yet despite this there is still evidence from *Changing Paradigms* that businesses are concerned that the technical skills provided by education and training systems are not meeting their needs; a number of surveys find that employers are concerned about the lack of skills regarding creativity, initiative, oral business communication and problem solving among graduates;¹³ and research still shows a significant lack of entrepreneurial skills among Australians.¹⁴

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.

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A priority of future work by the BCA will be to work with the education and training system to ensure the building blocks for business innovation success are developed as key competencies among school, VET and higher education students. In particular, the BCA will aim to ensure that curriculums at the primary, secondary and tertiary levels of the education and training system explicitly include the learning and assessment of employability skills and other capabilities that allow people to contribute positively to enterprise innovation, including communication, teamwork, problem solving, ongoing learning, creativity, cultural understanding, entrepreneurship and leadership skills.

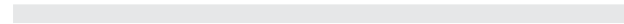


4 DELIVER INNOVATION OUTCOMES BY PROVIDING THE BEST POSSIBLE ENVIRONMENTS FOR INNOVATION WITHIN OUR WORKPLACES

The *Changing Paradigms* report underscores the strong influence that workplace environments have on innovation. This influence depends on the quality of the leadership and management throughout an organisation and the resulting culture which is established. It is, in the end, the leadership and the people within a business who drive innovation.

Our aim is for business leaders to work closely with Governments to make sure that together we develop the very best leaders across both the public and private sectors who in turn will set about achieving the best possible organisational and cultural environments for encouraging innovation in Australia. As the case studies demonstrate, the harnessing of our human capital is central to successful innovation.

Leadership, creativity and human capital are key to innovation success.



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6 Main Findings

The *Changing Paradigms* report presents the findings of a series of interviews conducted with 19 BCA Member companies concerning innovation within their businesses. The aim of the study is to examine the nature of innovation approaches within BCA Member companies and to assess the various public policy frameworks that influence business innovation. In particular, it:

- + analyses how businesses conceptualise the innovation task;
- + identifies the factors that influence business innovation;
- + assesses the ways in which businesses achieve innovative outcomes;
- + determines the public policy structures that influence business innovation; and
- + assesses whether current public policy frameworks are creating the appropriate environment for business innovation to thrive.

INNOVATION WITHIN BUSINESSES: A DIVERSITY OF PERCEPTIONS, DRIVERS AND ACTIVITIES

The report finds a wide diversity of views among companies about how they perceive innovation, which main factors influence innovation within their businesses, and activities that they undertake to achieve innovative results.

BUSINESS PERCEPTIONS OF THE INNOVATION PROCESS

Businesses conceptualised innovation in different ways. Some tended to associate innovation with new product development. For example, innovation at **Foster's** is being driven by the 'i-nova' group, which has a primary focus on product and packaging development.

A number saw innovation as exploiting a technology that arises from research and development. For example, **Woodside** has a continuous focus on technology development and its application in its mining business.

Many companies also viewed innovation in terms of nurturing ideas and bringing them to practical application through projects. For example, **Deloitte** has a formal process for nurturing innovative ideas within the business. The process includes an online Innovation Zone, where employees submit ideas, collaborate and rate ideas. This is supported by an Innovation Council of 12 Partners who review new ideas weekly for approval. Council members sponsor approved ideas throughout the pipeline using a stage-gate process. Division heads provide the resources to bring approved ideas to fruition.

A number of companies saw innovation through the lens of identifying and adopting 'disruptive innovations', i.e. innovations that initiate significant change or create new businesses or industries. For example, **Holden Innovation** argues that there is no innovation that isn't disruptive and it sees its role as attempting to drive disruptive innovation into a stable mainstream.

Many companies viewed innovation as a process of continuous improvement. For example, **Australia Post** sees innovation as a continuous process of improvement around some clear and simple business objectives. While such continuous improvements in business offerings are not often widely associated with innovative activity, this process of incremental innovation enables firms to respond speedily to changes in market conditions and consumer preferences and is becoming increasingly acknowledged as an important source of competitiveness.¹⁵

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Despite such diversity in the perceptions of innovation by businesses, the report found that meeting customer expectations was a specific innovation objective in most companies included in the study. For example, **Telstra** regards innovation as understanding customer needs and creating customer focused solutions that are simple to use and help make life easier.

Changing Paradigms found that, at the most strategic level, many companies saw innovation as a need to constantly change, adapt and redefine the nature, purpose and direction of their business. The report found that many businesses were undertaking such transformational innovation through:

- + Changing the way in which physical assets, intellectual property assets, intangible assets and knowledge are used, either on their own or in combination, in the creation and delivery of products and services. For example, **Australia Post** has used its network of Post Offices to deliver a new range of services as well as its knowledge of distribution and logistics to enter into new areas of business.
- + Achieving a substantial shift in the way people work and think about the business through attitudinal, behavioural, and cultural change strategies and programs. For example, firms **PricewaterhouseCoopers** and **Deloitte** have transformed themselves from conservative, internally focused compliance-based audit, accounting and taxation practices to proficient business service enterprises providing highly valued advisory and consulting services.

- + Entering into new lines of business related to core competencies and capabilities through investments, partnerships, mergers and acquisitions. For example, the **Shell** and **Coles Myer** service station alliance is seen as a major innovation using petrol stations in a new way to create income and wealth for both companies.

- + The sale or divestment of under-performing business assets. For example, internationally **DuPont** has an active acquisition and divestment strategy aimed at facilitating business transformation.

The *Changing Paradigms* report found that such innovation provided the greatest returns from innovation over time and was vital for successful large businesses.¹⁶ For example, **ResMed** noted that as businesses grow and build wealth they tend to progress from a strong capability in product innovation to building competencies in customer and supplier relationships based around superior service offerings, through to transformational innovation as they look to new possibilities for creating wealth. An example of this process is evident in the case of **Microsoft**, which has shifted focus over time from hardware and software manufacturing to service offerings based on the installation and integration of systems, and then into new business areas associated with the management of information technology services.

Businesses conceptualise innovation in different ways.

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The report concluded that transformational innovation entails the continuous updating of business models in the light of changes in market conditions and consumer tastes and preferences, and required strong management and leadership capabilities to be undertaken successfully.

The role of professional services firms in facilitating transformational innovation within businesses by providing assurance, advisory and consulting services was also highlighted by the report. For example, **Deloitte** specifically helps its clients address their own 'growth gap', i.e. the difference between the revenue growth they believe they can deliver through their existing organisations and what they want or often have already committed to deliver. **Deloitte** works with clients to develop a tailored sustainable growth and innovation program to address the growth gap, establishing a growth management office to systematically identify and fast track high-value opportunities from concept development to approval and implementation.

FACTORS THAT DRIVE AND INFLUENCE INNOVATION WITHIN BUSINESSES

Companies' views on the factors that influence innovation within their businesses were focused on the importance of corporate strategy and customer needs and expectations in driving the focus and nature of innovative activity. For example, **DuPont** regards innovation as core to its business strategy, while **Woolworths Big W** considers that anticipating what customers want is a significant driver behind product innovation and new store formats.

Furthermore, there was an overwhelming view from the study that technologies are not seen by businesses to be drivers or sources of innovation. Instead technology was seen as an enabler that can deliver significant value benefits for customers and the business if applied successfully. For example, **Qantas** sees

the application of technologies, particularly ICT, as a fundamental aspect of improving customer experience and competitive advantage.

The innovation benefits of technology are viewed as largely dependent on how effectively it is applied to create value. The importance of this point has been widely raised regarding the innovation benefits of ICT where it is increasingly recognised that value from such technology is dependant on factors such as workplace reorganisation in response to ICT implementation and how ICT is integrated and used in product and service delivery to enhance customer value.¹⁷

Corporate strategy and customer needs and expectations drive innovation.

The *Changing Paradigms* report also noted that a number of businesses saw important sources and drivers of business innovation emanating from such groups as:

- + Suppliers and business partners – for example, **Transurban** partners with organisations like **Telstra** to design and deliver new product and service innovation, while the **Commonwealth Bank** partnered with **Microsoft** in the development of the CommSee project.
- + Staff – for example, the **Commonwealth Bank** encourages its customer-service staff to come up with ideas to improve service provision.
- + External 'thought-leaders' on innovation and management – for example, the executive team at **Deloitte** has travelled to North America to meet Gary Hamel, Michael Tushman and Charles O'Reilly, and to hear from similarly innovative thinkers at Harvard and MIT.

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INNOVATIVE ACTIVITIES WITHIN BUSINESSES

The *Changing Paradigms* report also found that businesses undertook innovation through a wide range of different activities. Many of these activities have been previously highlighted in research on business innovation.

Many companies emphasised the importance of innovation within their businesses occurring through corporate and executive leadership. For example, **Visy** sees innovation as fundamentally a management and leadership issue. The association between effective Board and CEO leadership and innovative performance has been raised extensively in business research.¹⁸

Businesses also noted that they undertook innovation through the traditionally recognised means of developing new services or physical products, often involving the results of business R&D. For example, **Shell** has been innovating in the product area by introducing cleaner fuels and differing octane levels.

The *Changing Paradigms* report also noted that increasingly, new product development in companies is linked to a service offering on the understanding that customers purchase the service value of the product rather than the product itself. For example, **Foster's** is linking product to service through its wine clubs.

In a parallel strategy, service sector companies were increasingly looking to model their businesses on 'product platforms' as a basis for building and sustaining their service offerings. For example, **Minter Ellison** has developed a software product, SAFETRAC, to assist companies to manage their compliance obligations. This emerging process of bundling together products and services in new innovative offerings to improve customer value has also been raised in research for the Australian Business Foundation.¹⁹

Many businesses were undertaking innovation through improving efficiency and enhancing quality in their business processes and supply chains. For example, **Woolworths** has made a very substantial commitment to Project Refresh, which is a framework for improving business performance and business restructuring programs through end-to-end supply chain improvement. The important enabling role of ICT in such innovation was raised by many companies and has been noted in a wide range of research.²⁰ For example, **MBF** noted that information and communication technologies have allowed a high degree of automation in its business processes, which has led to a number of innovative outcomes.

A major focus of innovative activity by companies in the study involved innovation in marketing and customer relationships aimed at identifying market opportunities and better satisfying customer needs and wants. For example, **Holden Innovation** seeks to identify the determinants of vehicle choice through market research and data mining. The importance of this type of innovative activity in delivering customer and business value has also been raised by a number of other studies.²¹

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Many companies also highlighted the importance of their recruiting, training and education, and human resource management systems in delivering innovative outcomes for their businesses. For example, **PricewaterhouseCoopers** has developed the I-Challenge (Innovation Challenge) Program for graduates to help develop skills in areas such as project management, presentations delivery, teamwork, conflict management and proposal preparation, while at the same time producing real business solutions to real business problems.

Workplace culture and leadership has a major influence on innovation capacity.

Companies in the study saw workplace culture as a major factor in delivering innovation outcomes and many actively sought to create within their businesses a culture that is supportive of innovation. For example, **Telstra** has recently implemented a company-wide Innovation Community to help embed innovation principles into work practices across the business. Companies noted the vital role of management in creating the structures for an innovation culture within business. The importance of enterprise culture and ways it can be used to support innovative performance has also been raised in other research.²²

A number of companies were also committed to innovation strategies and action plans and have developed formal structures, processes and procedures to capture and implement innovative ideas and transfer them into application and commercial outcomes. **Deloitte**, for example, has created an 'innovation community' consisting of six elements to drive the innovation agenda. These elements are: an Innovation Executive team that serves as a steering committee for innovation; an Innovation Council that reviews new ideas and manages ideas throughout a pipeline; Innovation Communicators who promote innovation at the local level; Innovation Coaches who help idea owners further develop their ideas; an Innovation Capability Team that has specialist technical and commercialisation skills; and a National Innovation Team that drives communications, rewards and recognition, training and business performance.

Companies in the study were also involved in a wide variety of partnerships and collaborations. A number of companies had collaborations with other businesses; for example **Qantas** is involved in strategic alliances and partnerships through the 'oneworld' alliance and has worked with SMEs in the development of new products such as in-flight food.

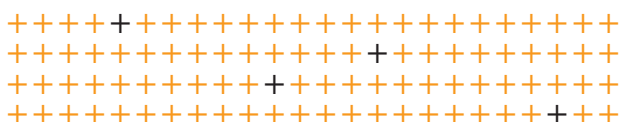
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Many companies had established partnerships with public research institutions to produce innovative outcomes. For example, **IAG** works with the CSIRO on weather forecasting, building material design and building codes, while the development of flood insurance has involved collaboration between insurers, re-insurers and Macquarie University.

Businesses noted that such partnerships aimed to achieve innovative outcomes by sharing and applying knowledge and using resources in new ways to create value and wealth.

Some businesses also noted the use of outsourcing to achieve innovative outcomes. For example, **Woolworths Food and Liquor** identified the engagement of consultants and the outsourcing of IT development as delivering innovation benefits for its business.

A number of companies noted that they used innovation clusters and networks to drive innovation within their businesses. For example, **Holden Innovation** is involved in a number of round-table arrangements to share ideas among players.



MARKET ENVIRONMENT AND ITS EFFECT ON BUSINESS INNOVATION

Although the above findings suggest that innovation perceptions, drivers and activities vary greatly throughout businesses, the results of the report do suggest that the market environment in which businesses operate has an important effect on the nature of their business innovation. For example, manufacturers tended to conceptualise their innovation tasks within the framework of product development and technology exploitation and had a focus on product innovation, although, as noted, they are increasingly recognising the service value of their products.

Service innovation tended to be a focus of professional service companies and businesses in the fast moving consumer goods (FMCG) sector where products tended to be relatively undifferentiated. Companies in the FMCG sector also tended to focus on continuous or incremental innovation as they relied on a constant stream of incremental innovations to maintain market share and position.

Finally, although many companies in the study placed importance on business transformational innovation, the companies in which it was a significant business strategy tended to operate in rapidly changing market environments or were former or current Government-owned enterprises dealing with increased stakeholder expectations.

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POLICY FRAMEWORKS

The overarching message from the results of the *Changing Paradigms* report regarding the public policy structures that impacted on business innovation is that science and technology policy frameworks are only a small subset of a wider range of policy areas that Governments need to consider when trying to foster an environment in which innovation can thrive.

Generally, companies noted the vital importance of stability in macroeconomic conditions for business innovation in Australia. Strong growth and low and stable inflation and interest rates provided the vital conditions that supported long-term innovation investment decisions. Companies were generally happy with the macroeconomic policy framework in Australia. They also noted the importance of microeconomic reforms over the last two decades in enabling business innovation in Australia. In particular, workplace relations reform and the deregulation and global orientation of the Australian financial services sector were seen as having made an important contribution to innovation performance.

Nevertheless many companies raised concerns about a variety of public policy frameworks and how they impacted on innovative activity.

Many companies noted the need for Governments to recognise that they compete and innovate in a global market environment. They noted that policy frameworks which were set in a national or local context often prevented them from effectively competing in the global marketplace.²³ For example, the importance of business scale in competing and innovating globally was raised, but due to the small Australian market, domestic competition policy often prevented the attainment of sufficient scale.

The *Changing Paradigms* report found that businesses are increasingly concerned that the overall **regulatory environment** in Australia, in particular the corporate governance framework, is becoming focused on compliance, engendering risk aversion among companies and working against a culture of innovation and entrepreneurship. Many companies noted that regulations were restricting their ability to transform their businesses and innovate by using assets in new ways.

Companies argued that the **tax system** requires reform to encourage business innovation in Australia. They noted that the structure of the personal taxation system is a major constraint in attracting highly qualified and talented people from overseas and in retaining skilled local workers. The R&D tax concession framework was seen to be too restricted to science-based innovation and insufficient to encourage greater R&D activities. The depreciation schedules on capital investment were also raised as an inhibitor to innovative activity.

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The poor state of the nation's **infrastructure assets** was raised as a factor that inhibited business operations in Australia. Many companies emphasised the vital importance of quality economic infrastructure for business innovation in Australia, particularly in the area of supply chain management and logistics.

Many companies also raised various concerns about the ability of the **education and training system** to deliver the skills that were essential for business innovation success. Many companies noted that the education and training system was not providing graduates with technical skills appropriate to industry innovation needs – for example, a number of companies noted that university engineering graduates were not skilled in simulation techniques that were being increasingly used throughout business.

Companies were concerned that education and training systems were not providing people with appropriate skills in areas that were increasingly vital in creating the type of workplace culture in which innovation thrives. In particular, a number of companies noted that management education was focused on finance and marketing but was not providing graduates with the 'soft' skills, such as teamwork, that enabled the innovative use of these capabilities.

Various companies also noted the need for a change in focus in industry policy to recognise the need to develop flexible niche manufacturing; raised concerns about how university intellectual property policy constrained ideas from being developed and applied; highlighted the importance of frameworks to support collaboration and knowledge transfer from a research environment into industrial and commercial application; and emphasised the importance to innovation of continuing trade liberalisation and improving trade and commercial links with other countries.

Governments need to consider a wide range of policies to foster an environment in which innovation can thrive.

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Notes

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- 1 The National Innovation Summit was jointly convened by the BCA and the Federal Government Ministry for Industry, Science and Resources, and brought together leaders from Government, business and academic organisations to pinpoint and deal with pivotal issues of innovation in Australia.
 - 2 Backing Australia's Ability is an initiative of the Commonwealth Government, initially developed in 2001, which represents a commitment to pursue excellence in research, science and technology through the generation of new ideas (research and development); the commercial application of ideas; and developing and retaining skills.
 - 3 Jaruzelski, B., Dehoff, K. and Bordia, R. (2005) 'The Booz Allen Hamilton Global Innovation 1000: Money Isn't Everything', *Strategy+Business*, Issue 41, Winter 2005.
 - 4 See Blakely, N., Lewis, G. and Mills, D. (2005) 'The Economics of Knowledge: What Makes Ideas Special for Economic Growth?', *New Zealand Treasury Policy Perspectives Paper 05/05*, November 2005; Davis, G. and Tunny, G. (2005) 'International Comparisons of Research and Development', *Australian Federal Treasury Economic Roundup*, Spring 2005.
 - 5 See Sheehan, J. and Wyckoff, A. (2003) 'Targeting R&D: Economic Policy Implications of Increasing R&D Spending', *STI Working Paper 2003/8*, OECD.
 - 6 Davis, G. and Tunny, G. (2005) 'International Comparisons of Research and Development', *Australian Federal Treasury Economic Roundup*, Spring 2005.
 - 7 The ABS report found that total business expenditure on innovation and related activities in 2002–03 was \$20.3 billion, of which spending on R&D – including acquired R&D (which is not included in estimates of business expenditure on R&D) – accounted for only \$7.2 billion.
 - 8 ABS and Department of Industry, Tourism and Resources (2006) *Patterns of Innovation in Australian Business 2003*, ABS 8163.0.
 - 9 The ABS/DITR report finds that of the 17 per cent of businesses undertaking goods or service innovation, around 46 per cent reported R&D expenditure. On the other hand, of the 23 per cent of businesses that undertook operational process innovation, only 37 per cent reported R&D expenditure. Furthermore, of the 21 per cent of business that reported organisational process innovation, only 32 per cent reported R&D expenditure.
 - 10 See Gans, J. and Stern, S. (2003) *Assessing Australia's Innovative Capacity in the 21st Century*, Melbourne: Melbourne Business School.
 - 11 See for example, OECD (2003) *The Sources of Economic Growth in OECD Countries*, Paris: OECD.
 - 12 See Toner, P., Marceau, J., Hall, R. and Considine, G. (2004) *Innovation Agents: Vocational Education and Training Skills and Innovation in Australian Industries and Firms*, NCVER.
 - 13 See for example, Department of Education, Training and Youth Affairs (2000) *Employer Satisfaction with Graduate Skills: Research Report*; NCVER (2001) *Survey of Employer Views on Vocational Education and Training*.
 - 14 See Hindle, K. and O'Connor, A. (2004) *Westpac GEM Australia: A Study of Australian Entrepreneurship in 2004*, Global Entrepreneurship Monitor 2004.
 - 15 See Thorburn, L. and Langdale, J. (2003) *Embracing Change: Case Studies on How Australian Firms Use Incremental Innovation to Support Growth*, prepared for Science and Innovation Mapping Study, DITR: September 2003.
 - 16 The important value benefits derived from transformational business model innovation is highlighted in the research of Gary Hamel. See for example, Hamel, G. (2000) *Leading The Revolution*, Boston: Harvard Business School; Hamel, G. and Skarzynski, P. (2001) 'Innovation: The New Route to New Wealth', *Leader to Leader*, 19, Winter 2001, 16–21.
 - 17 See for example Gregor, S., Fernandez, W., Holtham, D., Martin M., Stern S, Vitale, M. and Pratt, G. (2004) *Achieving Value from ICT: Key Management Strategies*, Department of Communications, Information Technology and the Arts, ICT Research Study, Canberra.

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- 18 See for example Badaracco, J. (2002) *Leading Quality: An Unorthodox Guide to Doing the Right Thing*, Boston: Harvard Business School Press; Bennis, W. (2000) *Managing the Dream: Reflections on Leadership and Change*, Cambridge: Quite Corner Press, L.L.C.; Dauphinais, W., Means, G. and Price, C. (2000) *Wisdom of the CEO: 29 Global Leaders Tackle Today's Most Pressing Business Problems*, New York: Wiley; Dauphinais, W. and Price, C. eds (1999) *Straight from the CEO: The World's Top Business Leaders Reveal Ideas that Every Manager Can Use*, London: Nicholas Brierley Publishing; Tushman, M. and O'Reilly, C. (1997) *Winning Through Innovation: A Practical Guide to Leading Organisational Change and Renewal*, Boston: Harvard Business School Press.
- 19 Australian Expert Group on Industry Studies (2002) *Selling Solutions: Emerging Patterns of Product-Service Linkage in the Australian Economy*, University of Western Sydney: November 2002.
- 20 See for example Davenport, T. (1993) *Process Innovation: Reengineering Work Through Information Technology*, Boston: Harvard Business School Press; OECD (2001) *Science, Technology and Industry Outlook – Drivers of Growth: Information Technology, Innovation and Entrepreneurship*, Paris: OECD; National Academy of Sciences (2003) *Innovation in Information Technology*, Washington: National Academies Press; Howard, J. (2005) *Digital Factories: The Hidden Revolution in Australian Manufacturing: A Study for the Department of Communications, Information Technology and the Arts*, Canberra: Howard Partners.
- 21 See for example Chakravoti, B. (2003) *The Slow Pace of Fast Change: Bringing Innovations to Market in a Connected World*, Boston: Harvard Business School Press; Markides, C. and Geroski, P. (2005) *Fast Second: How Smart Companies Bypass Radical Innovation to Enter and Dominate New Markets*, San Francisco: Jossey Bass; Rigby, D. and Zook, C. (2002) 'Open Market Innovation', *Harvard Business Review*, 80 (10), 80–89; Roberts, E. (2002) *Innovation: Driving Product, Process and Market Change*, San Francisco: Josey Bass; Tidd, J., Bessant, J. and Pavitt, K. eds (1997) *Managing Innovation: Integrating Technological, Market and Organisational Change*, Chichester, West Sussex: Wiley.
- 22 See for example Bennis, W. and Biederman, P. (1996) *Organising Genius: The Secrets of Creative Collaboration*, Reading, MA: Addison-Wesley; Florida, R. (2002) *The Rise of the Creative Class and How It's Transforming Work, Leisure, Community and Everyday Life*, New York: Basic Books; Michaels, E., Handfield-Jones, H. and Axelrod, B. (2001) *The War for Talent*, Boston: Harvard Business School Press; Schrage, M. (1995) *No More Teams: Mastering The Dynamics of Creative Collaboration*, New York: Currency Doubleday.
- 23 This point has also been raised in recent research from the AUSIS Project. See Scott-Kemmis, D., et al. (2005) *No Simple Solutions: How Sectoral Innovation Systems Can Be Transformed*, ANU.



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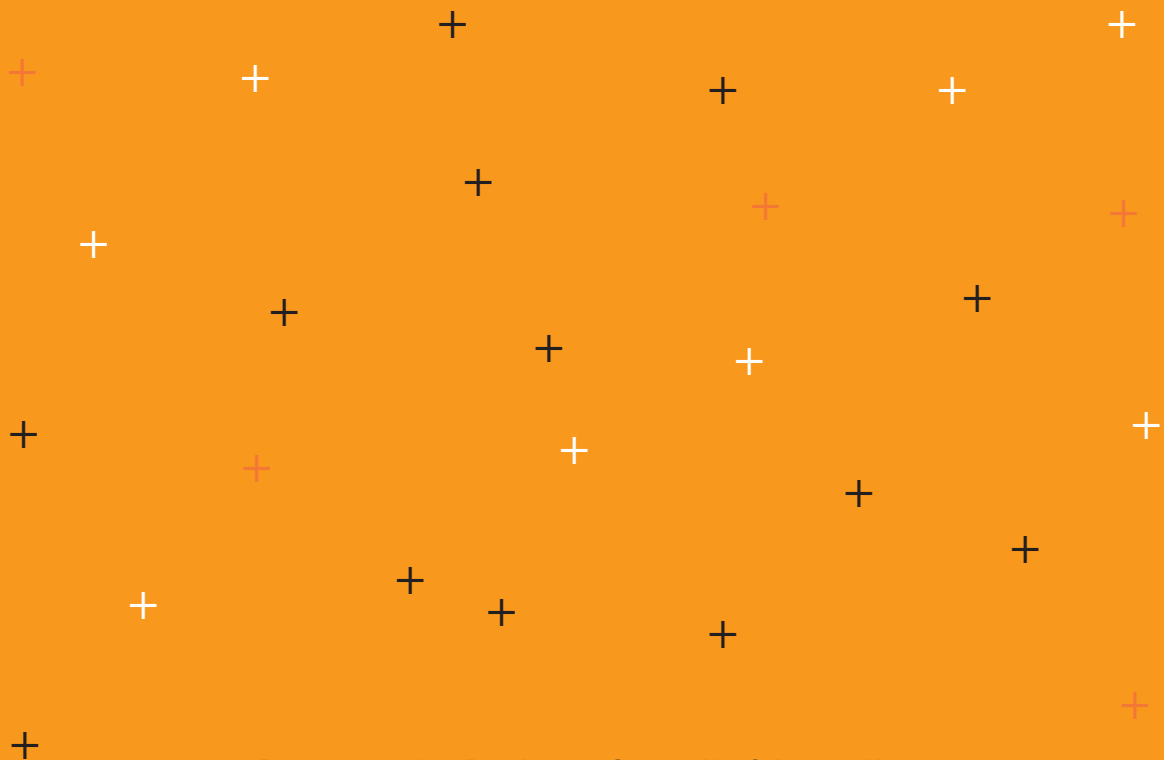
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Changing Paradigms

RETHINKING INNOVATION POLICIES,
PRACTICES AND PROGRAMS

A STUDY OF INNOVATION IN AUSTRALIAN BUSINESSES



Report to the Business Council of Australia
January 2006

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EXECUTIVE SUMMARY

This report presents findings of a study of innovation in Australia's larger businesses.

The study involved:

- + Analysing how businesses conceptualise the innovation task.
- + Identifying the factors that influence business innovation.
- + Assessing the ways in which businesses achieve innovative outcomes.
- + Determining whether current public policy frameworks create barriers to business innovation and what reforms to public policy might reduce or eliminate these barriers.

These tasks were undertaken through background research on business innovation, compilation of information and perspectives, and drawing examples through interviews with contacts from 19 BCA Member companies. Where appropriate the findings are reinforced by reference to other related research.

The project has a focus on innovation from a business perspective. It differs from many other studies undertaken in recent years which have had a strong basis in neo-classical economics, new growth theory and/or science and technology policy. Few studies have had a specific business orientation reflecting the tasks, responsibilities, and practices of management.

The Member companies included in the study came from a cross section of the Australian industrial structure. The scope of representation reflects the significance of the services sector in the Australian economy:

- + Mining 1 company
- + Manufacturing 7 companies
- + Services 11 companies (12 business units)

Additional information on the companies is provided in Attachment 1. The findings of the study are summarised below.

HOW FIRMS ARE INNOVATING AND WHY

The firms covered in the study all saw a need to 'innovate' as a basis for business viability and sustainability. However, they saw the approach to innovation from a number of perspectives. These ranged from a visionary and strategic focus to one that emphasised a more tactical response to problems and issues as they emerge.

Many companies saw innovation from a perspective of transforming their business – to fundamentally change the way in which the resources available to them are used to deliver results. These transformational efforts have been centred on building and sustaining shareholder value as well as value for employees, the community and other stakeholders.

Transformational innovation has been particularly important for companies and firms that operate in rapidly changing business climates and for former and current Government business enterprises that have gone through a privatisation and corporatisation process. It has involved fundamentally changing the way business is done as well as endeavouring to achieve substantial profit and productivity improvement in response to expectations of enhanced performance and shareholder value in an increasingly competitive business environment.

Most companies saw their innovation efforts being directed towards meeting customer and client expectations and responding to competitive pressures. This is particularly important for companies in the services and fast moving consumer goods sectors where 'products' are relatively undifferentiated and easily replicated. Manufacturing and mining companies tended to see innovation as revolving around new product development and technology exploitation that will deliver commercial outcomes.

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At another level many companies see innovation as involving continuous improvement and as a means to exploit new ideas for commercial outcomes. Other companies see innovation as a search for breakthrough and disruptive changes that will lead to change in business direction – and possibly a change in industry structure (or the creation of new industries).

The factors that influence business innovation and the drivers for innovation commitment include corporate and business strategy, changing customer needs and expectations, new technologies, ideas and opportunities developed by staff, suppliers and business partners and external ‘thought leadership’.

Reflecting the influences and drivers of innovation, companies approach the innovation task through a combination of marketing and customer engagement, and innovation in product, process and supply chain management. Businesses use a range of tools and techniques ranging from formal ‘stage-gate’ approaches to a combination of top down leadership and bottom up idea capture.

The study indicates that innovation is embedded in just about all management practices as a way of achieving enhanced efficiency, effectiveness and appropriateness of strategies and activities. Of particular importance is cultivating a supportive innovation culture, as well as developing leadership, teamwork and creativity attributes, particularly at management and corporate levels. Recruitment, training and education are also regarded as areas where innovation behaviours can be cultivated.

Many companies achieve innovation outcomes through partnerships and collaborations between themselves and with research organisations. In addition, mergers, acquisitions and the outsourcing of non-core activities were also used to achieve innovative outcomes.

THE WAY PUBLIC POLICY FRAMEWORKS AFFECT INNOVATION

The overarching message from companies covered in the study is that Governments need to appreciate what innovation means from a business perspective and the way it is practised in a corporate and management context. It is an activity that relates to all parts of a business and is a critical responsibility of Boards, CEOs and general management. It is not an activity that can be assigned to a R&D department or division and is much broader in its reach than technology application.

A key message is that technology is an enabler not a driver of innovation. Decisions to invest in innovation are based on business and commercial considerations. These considerations reflect demand and market opportunity based assessments as well as the institutional settings and constraints relating to the business environment and public policy actions and directions. However, institutional settings and public policy frameworks, particularly regulatory regimes, can impose constraints on capacity to achieve innovation outcomes.

One of the key messages is that businesses would like to see a greater appreciation among policy makers of the global nature of business development and that business is conducted in an internationally competitive environment. Policies that address national and state-based issues and considerations may be difficult to reconcile with business strategies aimed at positioning and growth in global markets.

Other aspects of the institutional setting that are important to innovation from a business perspective include the federal framework, and attitudes and perceptions towards business. The system of shared responsibilities between Governments creates a high degree of complexity and many dysfunctional outcomes in overall policy and regulatory contexts.

Businesses in the study saw a need to balance the requirements for compliance and accountability in corporate governance with the leadership and business development aspects of Board responsibilities related to innovation. Moreover, regulations intended to achieve one particular policy outcome may have the unintended effect of inhibiting innovation performance in companies. Businesses generally want to see a 'level playing field' in regulatory initiatives, both nationally and internationally.

Education and training were identified by businesses as a major area of concern – not only in vocational education and training but also in professional and management education. Courses and programs in these areas needed to be practice-based, relevant and appropriate for business innovation needs – rather than suiting particular academic interests and pursuits.

From an overall perspective, the returns from innovation involve a combination and commitment to innovation at the product, service and corporate levels in a business context. Above all, innovation has to be focused around meeting the needs and expectations of an end user – a customer who is prepared to purchase, and pay for, product and service offerings. In the contemporary business climate this means creating value for customers through an ongoing service relationship.

Innovation involves change and business transformation. While Government cannot direct this process it can contribute by ensuring that statutes and regulations do not impede that application of leadership, talent and creativity and, in the context of the knowledge economy, ensuring there is a supportive and effective training, educational and research infrastructure in place.

This will most likely be achieved through effective engagement between industry (and businesses within industry), the education and research sector and Government.

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1 INTRODUCTION

2 HOW BUSINESSES CONCEPTUALISE THE INNOVATION TASK

The aim of this study has been to examine the nature of innovation approaches within BCA Member companies and to assess how various public policy frameworks are influencing the type and amount of business innovation being undertaken.

The report is supplemented by a detailed analysis of business innovation, drawing on the business innovation literature, extensive discussions with companies included in the Study and contemporary perspectives of the innovation imperative.

The report of the study is presented in a number of sections. Section 2 reports on the way in which businesses conceptualise the innovation task. Section 3 endeavours to capture the factors that influence business innovation strategies and approaches. Section 4 gives attention to the way in which businesses approach innovation strategy, implementation and achieve innovation outcomes.

Section 5 addresses policy frameworks from a number of perspectives. These relate to the overall institutional setting, specific policy contexts, infrastructure and support, education and training and relationships between business, higher education, research organisations and Government.

Howard Partners and the BCA would like to thank the businesses that participated in the study. The time made available by senior executives for interview, validation of interview notes and checking the final documentation is greatly appreciated.

The firms covered in the study saw the requirement to commit to innovation from a number of perspectives. These ranged from a broad visionary and strategic focus to one that emphasises a tactical response to problems and issues that emerge in the business environment. The perspectives can be classified as:

- + Business transformation.
- + Meeting customer and client expectations.
- + New product development.
- + Technology development and exploitation.
- + Generating and exploiting ideas.

Although each of these perspectives is by no means mutually exclusive, they serve to indicate the variety of ways in which businesses identify the innovation task and manage their innovation commitment. The perspectives also differ according to the sector in which the firm is located – particularly as between manufacturing and services.

2.1 Business transformation

At the most strategic level companies and firms see innovation as a need to constantly change, adapt, and redefine the nature, purpose, and direction of their businesses. This transformational process reflects a business view of innovation – as a way to use resources in new ways to create wealth (Drucker 1985). Those resources might be currently under the control of a business, or they may be acquired where they are seen to be under-performing or lacking potential in other business contexts.

Transformational innovation may involve one or more of the following:

- + Changing the way in which physical assets, Intellectual Property assets (patents, designs, brands), intangible assets (reputations, networks, and brands), and knowledge are used, either on their own or in combination, in the creation and delivery of products and services.
- + Achieving a substantial shift in the way people work and think about the business through attitudinal, behavioural, and cultural change strategies and programs.
- + Entering into new lines of business related to core competencies and capabilities through investments, partnerships, mergers and acquisitions.
- + Sale or divestment of under-performing business assets.

Inevitably, transformational innovation means challenging the existing business model, or 'theory of the business', and changing the way in which business is conducted. It involves a commitment to sustaining and enhancing shareholder value by responding to changing business drivers in a modern economy, including meeting a broad range of stakeholder expectations. Stakeholders vary depending on the nature of a company's business and operations, but can include national and international regulators, and community and environmental interests.

For many businesses in mature markets the only way they can grow, become sustainable, and continue to deliver shareholder value is through continuous updating of their business models in the light of changes in market conditions, consumer tastes and preferences, and more demanding stakeholder expectations. Transformational innovation represents a paradigm shift in the purposes, processes, and behaviours for many mature businesses.

For companies that succeed in transformational innovation the financial returns and wealth creation outcomes can be substantial, but the way in which expenditures are incurred to achieve these results may not show up in conventional measures of innovation. Many major transformations involve little in the way of research and development expenditure for example.

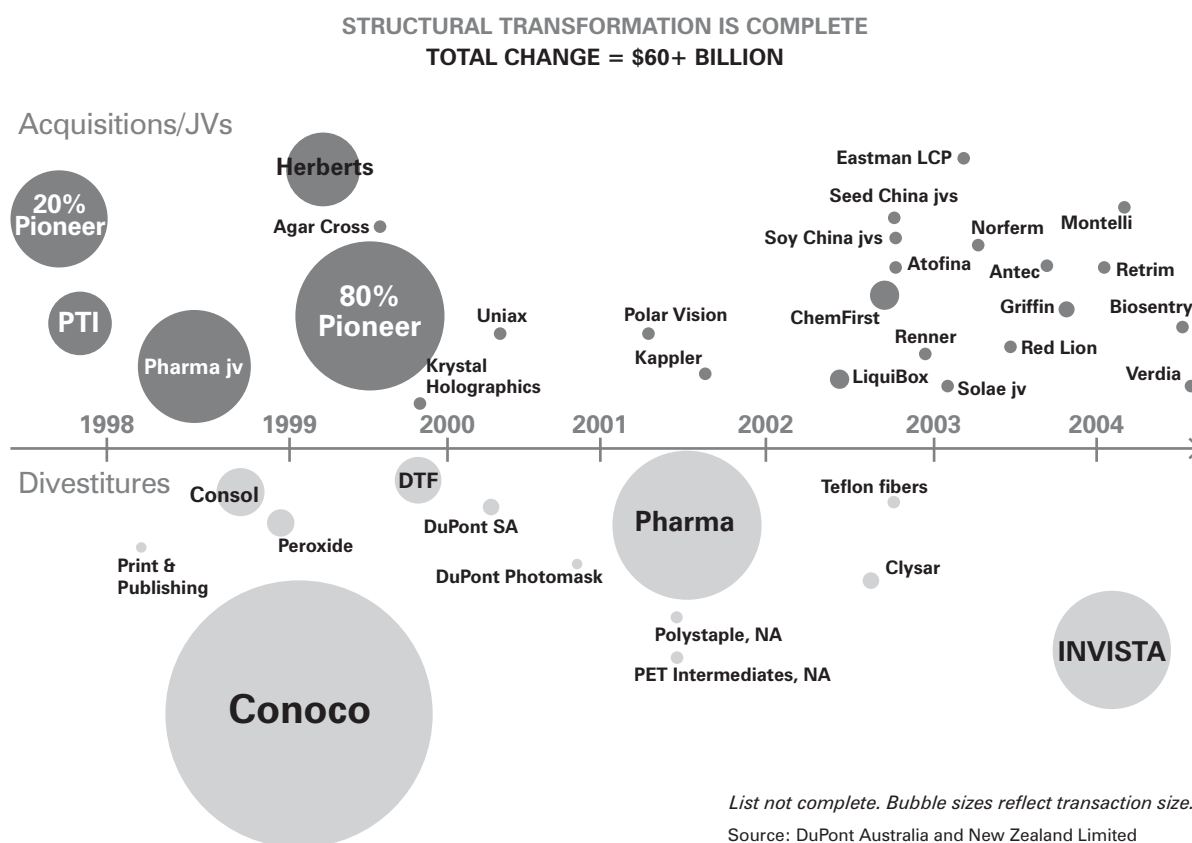
Many companies included in the study have had a strong commitment to transformational innovation.

Foster's has used its brand resources to achieve success in the global beverage market. It has also acquired brands including Beringer Blass and Southcorp. Ten years ago, Foster's was seen as 'just a beer company'. Since then there has been a remarkable transformation into a highly profitable multi-beverage powerhouse.

As one of only a handful of truly global beer brands, Foster's has enjoyed phenomenal success. The brand has enjoyed international growth of more than 40 per cent in the last five years and is one of the fastest growing beer brands in the world. In total, over 100 million cases of Foster's are currently sold annually in more than 150 countries around the world.

Internationally, DuPont has an active and resource intensive transformational strategy that has involved acquisition and joint ventures with companies with complementary businesses. As a result, the company has undergone a 'structural transformation' involving divestment of, or an investment in, companies. This scale of the transformation is indicated in the following diagram.

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Australia Post has used its resource of 4,500 Post Offices to deliver a new range of services as well as its knowledge of distribution and logistics to enter new areas of global business. Although the company still remains in public ownership, it is subject to increased performance expectations following its corporatisation. It sees innovation as creating a culture of improvement and adaptability where there is 'willingness to both imagine, and create, a new future in a world that never stands still. With this in turn leading to a new shared purpose and a further cycle of business transformation' (John 2003)

Based on its knowledge resources and core competencies Australia Post has entered into new lines of business through the Asia Pacific postal alliance (Express Courier International) and in joint venture arrangements with China Post (Sai Chen Logistics), Qantas (Star Track Express), and an e-grocery business with Coles Myer (Coles Online). This latter alliance involves using Australia Post's core competencies and achievements in work practices in a new way to create income.

Australia Post and Coles Online, Coles Myer's e-commerce grocery business, have signed a five-year partnership agreement that will see Australia Post manage the entire customer-order-fulfilment process for the online grocer. The deal extends Australia Post's role with Coles Online, which until now was limited to delivering customer orders.

In a deal that further expands Australia Post's logistics business, the Corporation will take over the running of two fulfilment centres in Clayton, Victoria, and Turella in New South Wales. Most of the three hundred staff currently employed in the two centres will also transfer to the Post Fulfilment Online operation.

Shell also has an alliance with Coles Myer. It is seen by the partners as a major innovation established through a joint business venture. It also involves using a physical asset – 584 service stations – in a new way to create income and wealth for both companies.

On 28 July 2003, Shell and Coles Myer Ltd began a commercial alliance under which a Coles Myer subsidiary became the operator of Shell's core retail property network of 584 service stations across Australia. The Alliance commenced at more than 150 service stations in Victoria, and was progressively rolled out around the country by March 2004.

The service stations are co-branded Coles Express and Shell. Coles Myer operates the service stations and directly employs the service station staff under a newly established Petrol and Convenience Store Division. Using its retail expertise, Coles Myer will continue to develop a quality convenience store offer, and will set fuel and shop prices at each of the service stations it operates. Shell is the exclusive fuel supplier and provides the service station property.

Coles Myer has also introduced a fuel discount offer to its Coles, Bi-Lo and Liquorland customers, enabling them to get a few cents per litre discount off already competitive pump prices, when they spend above a certain threshold level. FlyBuys customers are able to earn FlyBuys points when they purchase goods at Coles Myer supermarkets, or fuel and convenience items at any Coles Express service station.

The entry of Coles Myer into the petrol retailing sector is expected to further increase competition, not only with the traditional petrol retailers, but also with newer entrants such as Woolworths. Experience from overseas suggests that the influence of supermarkets becoming petrol retailers is strongly pro-competitive.

It is anticipated that Coles Myer's entry into petrol retailing will increase base supermarket sales. This additional income will improve the economics of petrol retailing, and will enable the development of more innovative and efficient ways to do business. Ultimately, this will lead to more competitive outcomes for consumers.

The response of customers right across the country to the alliance has been excellent, and has exceeded Shell's expectations.

The alliance was negotiated at a time when Shell was under-performing financially by selling petrol under the traditional retailing models (as were most other oil companies). Coles Express stores are now convenience stores selling petrol. This is seen by Shell as a highly innovative business model.

For some companies, innovation is seen as a constant willingness and desire to rethink established practices. Many Boards and leading CEOs continually question the status quo of their business on the premise that someone must be doing it better. Companies and firms included in the study that have been successful at transformational innovation have Board membership and executive leadership teams that bring international business experience. They also search for and appoint highly talented CEOs. The interaction is also two-way: several partners from PricewaterhouseCoopers are members of the firm's international leadership teams.

Business transformation has been particularly important for Qantas and the Commonwealth Bank – two companies that changed from public to private ownership under a Government

policy of privatisation and an expectation on the part of their former and new owners of substantially improved performance. Qantas regards innovation as continually 'reinventing the company' while the Commonwealth Bank regards innovation as an essential component of the bank's commitment to business transformation.

Qantas is also open to mergers or acquisitions to transform and grow its business. For example, it entered into a joint venture with Australia Post to acquire Star Track Express as part of its strategy of growing its non-airline business. The aim of the acquisition is to grow the business-to-business market for express logistics.

Insurance Australia Group (IAG), another company that has been in public ownership (as State Government insurance offices) and mutual ownership (NRMA) has also had to commit to transformational change in order to create shareholder value. It sees innovation in the context of matching customer expectations to its drive for shareholder value. The company has achieved success in this strategy.

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For Telstra, a company that is half way between public and private ownership, innovation is seen as a way to simplify its business processes, transform its unit costs, and also transform its business. That transformational process is now underway as the company moves away from being a traditional network carrier and towards a more dynamic company focused on convergent technologies.

Mergers and acquisitions are not always transformational. For example, Woolworths Food and Liquor mergers and acquisitions are primarily aimed at acquiring synergistic (bolt-on) businesses which fit the mould of high volume, low margin everyday needs – for example, the acquisition of Franklins and Foodland.

For professional services firms, innovation involves a major cultural transformation in the values of the partners, managers and staff – the attitudes, beliefs and behaviours towards the way work is done and services are delivered to clients. A number of accounting firms, such as Deloitte and PricewaterhouseCoopers have transformed from conservative, internally focused compliance based audit, accounting, and taxation practices to proficient services businesses providing highly valued advisory and consulting services that deliver substantial economic benefits for their clients.

For the accounting firms in the study the need for transformational change was driven by an understanding that the traditional fee base of compliance work – audit and taxation services – would not provide a platform for growth. Opportunities were seen in ‘value-added’ services, but this has required a different form of client relationship, a different internal environment, different ways of managing people, and a different approach to nurturing and acting on ideas. Minter Ellison, a law firm included in the study, is also addressing these issues.

The transformation process in the accounting firms has top-level commitment and has involved a major allocation of time and resources at all levels. This is reflected in results: PricewaterhouseCoopers revenues exceeded \$1 billion in the year to 30 June 2005. The firm has an objective to build a business that is about \$1.4 billion in fees by 2010 (Heathcote and Andrews 2005). Non-recurring value-added services now constitute eighty percent of the revenue of PricewaterhouseCoopers in Australia.

Apart from performance expectations and the changing business climate, there are no single ‘events’ that generate a commitment to transformational innovation. However, commitment to business transformation is often associated with a change in ownership (including a change from public to private ownership) and a change in corporate leadership. Private equity investors are becoming increasingly important in initiating transformational change.

For Australia Post transformational change was brought about by ‘a confluence of factors that enabled things to take root in the company’, such as:

- + A culture reinforced by the postal clerk training and career structure which was relatively egalitarian and service oriented viz. ‘from telegram boy to Post Master General’ and ‘the mail must get through’, but which was becoming increasingly inefficient and costly.
- + A performance crisis in the late 1980s which prompted a search for a new culture in mail sorting just at the time industrial democracy was being pushed by the ACTU and the ACCI.
- + Corporatisation in 1989 as part of the Australian Government’s government business enterprise (GBE) reform agenda.

While enhancing shareholder value is an important driver of transformational innovation, DuPont observes that obsession with shareholder value or net present value can lead to premature abandonment of innovation projects within the company. The company argues that there ‘is a need to keep questioning the strategy, testing the market and controlling costs, but understand that innovation in the early years is cash negative’. Consistent with contemporary management thinking (Ghoshal 2005), DuPont argues that if a business is run only by numbers and a search for shareholder value there is a risk that innovation will be ‘killed off’.

2.2 Meeting customer and client expectations

2.3 New product development

Meeting customer expectations was a specific innovation objective in most firms included in the study. It is a high priority in professional services firms as well as firms in manufacturing businesses.

Shell, for example, sees innovation as meeting customer needs and wants – actual or potential. Telstra regards innovation in the following terms:

Innovation is not just about new products to the market, it is also about a focus on understanding our customers' needs and collaborating with them to deliver customer focused solutions that are simple to use and help make life easier.

From this perspective innovation is often associated with the marketing function – finding new ways to attract customer attention and commitment – quite often for established and relatively undifferentiated products. In fast moving consumer goods companies, marketing teams and sales forces drive the innovation process by interpreting and translating customer wants and preferences into business directions.

The approach taken by professional services firm PricewaterhouseCoopers to innovation is also strongly embedded in its marketing approach, which is based on building higher levels of engagement with current and future clients.

For undifferentiated products innovation in marketing presents particular challenges. At MBF for example, innovation has been seen in terms of promotion of highly regulated health insurance products.

Meeting customer expectations in highly competitive industries is associated with a need to respond to competitive market place pressures. Woolworths, for example, sees innovation as being first to market with a new product or service, finding more efficient and cheaper sources of supply, new store formats and process improvement to reduce costs.

Companies in the fast moving consumer goods (FMCG) sector understand the importance of having a continuous stream of new or enhanced products entering the market as they compete for market share and distribution channels. For these companies, new product development lies at the foundation of business strategy.

In industries such as processed food, groceries, and consumer electronics, the pressure to build and retain market share is having the effect of making product life cycles shorter and shorter.

At Foster's for example, innovation is being driven by the 'i-nova' group – an 'insights and innovations' team set up two years ago that reports to a Director and then to the Managing Director. The main focus of the group is on product and packaging development – to get new products up and running.

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2.4 Technology development and exploitation

Many companies see innovation as exploiting a technology that arises from research and development.

Holden Innovation sees innovation as identifying those areas of R&D that have application in business success and developing the associated technologies and business case to the point where the mainstream organisation uses it to generate more value than the R&D cost. Innovation occurs through a formal Vehicle Development Process – often labelled as a discipline – that is formally documented.

Woodside, a mining company, does not specifically use the term 'innovation' in a business context. However, it has a continuous focus on technology development and its application in its mining business.

Companies also see innovation as involving entry into new areas of technology. DuPont has used its core competency in chemicals in combination with new competencies in biology to enter new business areas.

To achieve sustainable growth DuPont has adapted an integrated science approach, which means adding biology capabilities to its traditional strengths. DuPont sees that bringing on additional capability and then looking for opportunities where more than one science comes together is where it will find its future opportunities.

DuPont has a focus on a number of areas where it is seeking new developments. These include:

- + Biotechnology
- + Nanotechnology
- + New materials made from renewable resources
- + New foods with higher nutritional value
- + New technology such as electro-luminescent polymers
- + Mature products such as automotive paints and ink

DuPont argues that innovation requires flexibility in defining the business. A commercially viable business may come about as a result of a departure from an initial project.

2.5 Generating and exploiting ideas

Many companies see innovation in terms of nurturing ideas and bringing them into practical application through projects and implementation.

The term 'ideation' has entered the lexicon of innovation – a starting point for a process of taking ideas through to value creation – or commercialisation. For example:

- + Deloitte has created a culture where everyone is considered an innovator and expected to contribute innovative ideas.
- + Foster's sees innovation as an algorithm that combines insights and ideas.
- + Woolworths sees innovation as a process of bringing a new idea, product or process to the company.
- + PricewaterhouseCoopers seeks to develop a 'culture of ideas – a mindset and expectation that generating innovative ideas is an essential and normal part of how we do business'.

DuPont has a willingness to fund new ideas, but ideas must constantly compete for funding/investment. The company is prepared to terminate a project that is not meeting technology or strategic milestones. It may allow some projects to continue to incubate. The degree of customer fit drives priority. Employees are trained in idea tools. Managing failure is also seen as a discipline. There is an active peer recognition program and a strong culture of recognition and reinforcement of new ideas.

Holden Innovation has a formal innovation process that starts with 'ideation' through the 'Daedalus Treatment'¹ to 'commercialisation'.

The Daedalus Treatment is a stage-gate framework with five gates.

Progression from the first phase to the fourth phase involves an initial high role for a project champion at Holden Innovation, decreasing as external stakeholders become involved and eventually take responsibility for the project.

Another tool is customer simulation capability for analysis of who they will be and how they will value a new product/service offering. This is a critical aspect of innovation. The company cannot base strategies on what a current customer wants – otherwise it will be a follower.

At IAG ideas are nurtured by people who are passionate. A project board is established to develop an idea, made up of the 'owner', the 'supplier', the 'distributor' and a project manager. A recent example is placing inserts in the policy booklets, which are distributed to all insurance policy holders, to make the insurance more specific. Inserts are computer generated and relevant to the specific policy. Estimated savings are \$2m annually.

By contrast, at Qantas there is no formal structure for nurturing ideas. However, the organisation is seen to be rich in new ideas which compete for attention. Innovation involves top-down leadership and supporting managers who have demonstrated creativity and talent.

Visy understands the interactions and supporting roles of idea creators and idea implementers. The company is aware that there are more ideas than can ever be implemented. There is a constant flow of ideas but no formal process, although the company is looking to a more formalised process.

¹ In Greek mythology Daedalus was an engineer, artist and inventor, crossing boundaries. He designed wings to fly and knew the application of his design. He warned his son Icarus not to fly too close to the sun. Icarus, however, did not heed the advice and subsequently the wings melted and Icarus plummeted to his death.

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2.6 Disruptive vs continuous innovation

Woolworths has many different ways to nurture innovation, for example:

- + The 'New Ideas Program' to encourage and recognise positive suggestions.
- + The R&D committee to present suggestions and seek support to trial and roll out.
- + The Internal Performance and Development Review Committee which seeks specific consideration on individual innovation skills.
- + Various regular committees, for example, Property and IT committees.
- + Frequent offsite strategy sessions of the Senior Management Group and the Board of Directors.

Deloitte has instituted a formal innovation program that involves creating awareness of the importance of innovation, delivering training and internal events to stimulate innovative thinking and implementing a formal process for submitting and evaluating ideas. For capturing and managing ideas, Deloitte created an online Innovation Zone, where employees submit ideas, collaborate and rate ideas. This is supported by an Innovation Council of 12 Partners who review new ideas weekly for approval. Council members sponsor approved ideas throughout the pipeline using a stage-gate process. Division heads provide the resources to bring approved ideas to fruition. Because of the importance of innovation, it is a permanent item on the Executive Team Agenda.

A number of companies have internal Intranet and web-enabled technologies to facilitate the capture and progression ideas through to commercial application. Deloitte, for example, has launched its Innovation Zone with online idea contribution capability.

For many companies, the responsibility for exploiting ideas is shared by all people in the organisation. At Visy, innovation is regarded as a mindset. The company does not see itself as an originator of ideas, but as an integrator of ideas and technologies around corrugators and process innovations that can add a substantial amount of value.

A number of companies included in the study have a commitment to identifying and adopting 'disruptive' innovations – innovations that change businesses, industries or create new ones.

Holden Innovation argues that there is no innovation that isn't disruptive – 'otherwise we are looking at efficiency/productivity improvement'. No company can afford to do only efficiency and productivity improvement (doing the 'thing right'). Holden Innovation drives disruptive innovation into a stable mainstream. It argues that for a business to survive it must have the right business model; this may mean changing the mission to suit the environment.

DuPont also looks for 'disruptive, breakthrough-type technologies'. A disruptive technology is one that leaps over the existing technology. It changes the game and allows the company to make superior returns.

On the other hand, many companies in the study see innovation as a strategy for continuous improvement. Australia Post, for example, does not see innovation as a matter of single spectacular breakthroughs but as continuous improvement around some very clear and simple objectives – for example, keep letter prices down, provide reliable service and create viability in the retail network.

2.7 Linking innovation perspectives

By and large, the case studies indicate that manufacturing enterprises tended to emphasise product innovation, while services companies emphasised innovation built around customer service. Companies that are committed to growth and long-term sustainability placed an emphasis on transformational innovation.

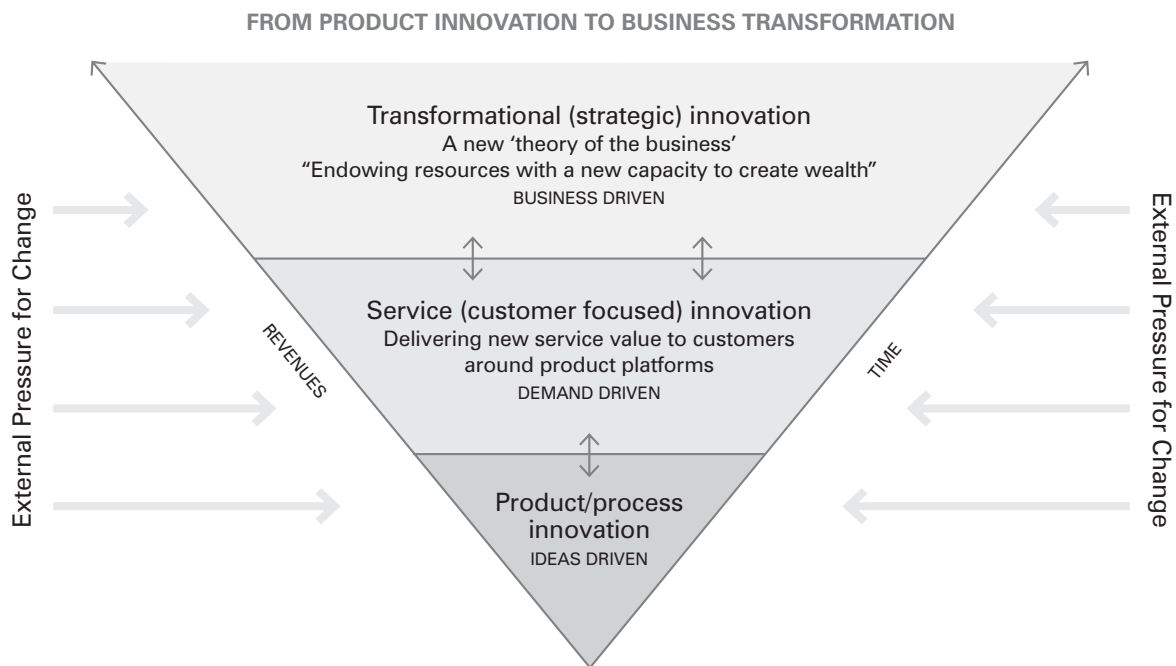
In discussions during the study, ResMed pointed out that as businesses grow and build wealth for owners, managers and employees, they tend to progress from a strong capability in product innovation to building competencies in customer and supplier relationships based around superior service offerings, through to transformational innovation as the owners and managers look to possibilities for creating wealth. Moving from one innovation approach to another requires a change in the orientation of a business and in management practices.

This innovation progression framework is represented below. It is intended to reflect that, over time, the possibilities for sustained business wealth creation move from a product focus through to an overall business and strategic focus.

The framework suggests that successful large businesses are not only innovating in the area of product development and customer service, they are also innovating in the way in which they define the purpose of the business and orient its activities towards new and emerging opportunities. This innovation task moves from a technological and marketing focus to one of transformation that involves a higher level of management leadership and talent.²

The framework also suggests that the greatest returns from innovation will occur, over time, through business evolution, change and transformation. However, the capacity to change still relies on a continued commitment to customer service and a continuous stream of product improvements and enhancements.

Sustained competitive advantage flows from encouraging customers to continue product use and offering something more than product satisfaction – they are marketing the service value of products as distinct from their functional and physical characteristics. They may also be marketing the intangible service value associated with a brand.



² The contribution of Don Dakin from ResMed in developing this framework is gratefully acknowledged.

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In this broader context manufacturing companies see themselves as service businesses focused on creating and keeping customers through enhanced and high-quality value propositions. For many manufacturing companies, production activities are no longer 'core business'; the core business is service oriented, based on marketing and innovating around current and expected customer wants and satisfactions.

Computer hardware and software manufacturers such as IBM and Microsoft are investing in building their services competencies and endeavouring to build deep and long-term strategic alliances and partnerships with users. The service offering has moved beyond installation and integration to managing the information technology service itself.

In a similar vein, service businesses in construction, transportation, engineering, architecture, and design are in a position to interpret customer, client, and user needs and 'pull through' product innovations from manufacturers with specialised skills and capabilities. These capabilities quite often derive from specialised manufacturing equipment and prototyping that, as a result of advances in technology, are available to small firms (Howard and Johnston 2001).

Professional services firms also assist businesses in transformational innovation by providing assurance, advisory and consulting services in a wide range of areas to assist businesses to negotiate and complete alliances and joint ventures, mergers and acquisitions, corporate restructuring and executive search. PricewaterhouseCoopers and Deloitte have been investing heavily in building capabilities in these areas and there has been a discernable shift in their business orientation from compliance to value-adding services over the last several years. The importance of these capabilities in the Australian innovation system is often overlooked.³

Deloitte specifically helps its clients address their own 'growth gap'; the difference between the revenue growth they believe they can deliver through the existing organisation and what they want or often have already committed to deliver. Deloitte works with clients to develop a tailored sustainable growth and innovation program to address the growth gap, establishing a growth management office to systematically identify and fast track high-value opportunities from concept development to approval and implementation. Deloitte typically establishes a dedicated team in partnership with the client that is responsible for developing the required processes, governance and technology to support an organisation's sustainable growth program. With the right infrastructure in place, Deloitte takes co-accountability for meeting a client's growth gap, measured in the net increase in revenue and profitability delivered from the implementation of new opportunities.

³ The role of professional services firms as a source of ideas for innovation is addressed in section 3.6.

3 FACTORS THAT INFLUENCE BUSINESS INNOVATION

3.1 Corporate and business strategy

In this section of the report the factors that businesses identified as influencing their approach to innovation are identified and addressed. These factors include:

- + Corporate and business strategy
- + Changing customers' needs and expectations
- + Advances in technology
- + Suppliers
- + Staff
- + Business partners
- + External ideas

In addressing these issues the study sought to identify particular regulatory and public policy enablers and constraints.

The study indicated that the most important driver for innovation is located in a business's corporate and business strategy. In the contemporary business climate, corporate strategy is focused on creating and retaining value for shareholders and, increasingly to the extent relevant to a particular corporation's circumstances, this may require the company to consider the interests of stakeholders such as employees, the community and the environment.

Contemporary business thinking has moved well beyond the idea that the only objective of corporate strategy is to increase shareholder value in the short term. Sustainability and social responsibility have emerged as key business drivers. Within this overall context, many businesses in the study saw high performance as a strategic goal for long-term sustainability. This is supported by a substantial business literature on high-performance organisations and organisations 'built to last' (Collins 2001; Collins and Porras 1994; Hesselbein and Johnston 2002).

DuPont regards innovation as core to its business. The company seeks to 'balance profit with patience'. It sees that 'business practice requires a balance, a certain delicacy and understanding which, you might say, in its highest form is the art of intelligent innovation management'.

Foster's has a view that its growth will occur through innovation and leadership. Over recent years Foster's has followed a brand driven strategy in the fast moving consumer goods category. It has a strategic imperative of being a multi-beverage powerhouse and a leading premium wine group. The company has achieved these targets, and its performance has been quite outstanding.

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Holden Innovation has a vision to provide the products, new processes, and skilled people to enable the company to be successful in the future. Holden Innovation is seen as part of a value network for the business as a whole – building relationships, involvement and engagement with Holden Engineering, support divisions (design, corporate affairs, etc) and external collaborators.

At Qantas the management philosophy is built around a sustainable future for the company. This is based on an understanding of the globally competitive environment and the pressure towards deregulation of airlines. For example, Jetstar was formed as a low-cost airline built from the 'bottom up'. It was not the first mover, but adopted many innovative practices, such as schedules that return flight crew to a home base after shifts, thus avoiding accommodation costs.

Woolworths Big W adopts an approach of benchmarking against other global world-class retailers, reviewing domestic and global trends, conducting regular customer surveys to understand and anticipate changing customer needs and 'walking' competitor and other stores looking for 'best of breed'. Resultant information is filtered and used across various management practice areas.

The Woolworths Big W business has a strategic approach to innovation that works across all business functions:

- + The business development and merger and acquisition (M&A) functions constantly review and assess new business opportunities.
- + Marketing conducts regular customer surveys to help anticipate and address changing customer needs.
- + The buying office regularly seeks and introduces new products, changes product specifications and looks for new sources of supply.

Australia Post's strategic approach to innovation underpins its commitment to business transformation and high performance across all three lines of business – Letters, Parcels and Logistics and Retail. Innovation in Australia Post has focused on:

- + Managing the customers' experience
- + Realigning core competencies
- + Offering choice
- + Re-engineering some existing businesses
- + Leveraging market share

Telstra, in partnership with the Telstra Research Laboratories (TRL), has opened two dedicated Innovation Centres (in North Ryde, Sydney and Docklands, Melbourne) to accelerate innovative thinking across many different business units and formalise innovation as a discipline within its product, marketing and delivery units.

In most companies covered in the study, innovation decisions are approached from an investment perspective. At the Commonwealth Bank, for example, innovation investments are built around funding and financing issues and are directed to meeting the bank's vision.

3.2 Customer needs and expectations

For many businesses, the main driver of innovation is providing customer value and service.

IAG undertakes a great deal of market research on customers. Its strategy is not to blindly follow competitors but to create something different; a customer offering that beats the competition. The company sees innovation as an essential aspect of sustaining and growing the business. Innovation is the driver to put in place a value offering that meets customer needs. IAG seeks to establish a position of market leadership in which it is well established, for example providing free smoke detectors reflects its thinking about customers.

The Commonwealth Bank has reported its approach in the following terms:

The challenge of meeting customer needs and expectations is the major source of innovation. The bank looks internally for innovation ideas – from people working with customers and delivering customer satisfaction.

When users think you are at the cutting edge they are more tolerant of mistakes – they will take some risks with you and put up with some small inconveniences. The CommSee system started as a piecemeal system and grew.

Innovation occurs through building a capability – from people who are able to manage processes and see opportunities through technology.

Woolworths Big W considers that anticipating what customers want is a significant driver behind product innovation and new store formats. Tracking sales patterns, monitoring overseas trends and customer surveys are key enablers.

Similarly, manufacturing companies such as DuPont and Holden Innovation see customers as the main source of ideas. But, as Holden Innovation points out, customers do not necessarily know what they want in terms of future products, particularly ones they have not seen or had an experience with. 'Market research finds out that customers "want what they've got plus what they see in a Mercedes".' To this end, the discipline of psychology and understanding customers' 'hierarchy of needs' is important in providing product solutions. Visy observes that customers identify a need, rarely the solution.

IAG also sees customers as the main driver and source of innovation. Meeting customer needs is their main priority in innovation. Responding to this need is reflected in the introduction of 24/7 call centres, its no-claim bonus arrangements, and its insurance rating framework based on extensive statistical modelling. IAG has also addressed customer need by initiating change and restructuring in the smash repair industry through its repairer accreditation system.

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For Qantas, innovation involves a continuous search to deliver more value to a customer, for example:

- + New business class seats, designed from the ground up by Marc Newson.
- + Catering products – e.g. in-flight food and presentation designed by Neil Perry.
- + Blankets designed for weight minimisation as well as comfort.
- + In-flight entertainment which is seen as a world-class standard.

Qantas says that it 'listens to customers, particularly its frequent flyers'. A very large proportion, one of the largest in the world, of customers are frequent flyers and it looks closely at market segments within that customer base. Opportunity exists to provide differentiation on the ground to improve the value proposition and the customer experience through managing customer streams and segments, for example City Flyer, Qantas Club, priority call centres, priority check-in, etc.

At Shell every staff member is 'required' to listen to customers.

MBF says that the mutual nature of its business means that the customers are its owners. 'They do not tend to be a source of innovation, but they are the inspiration for innovation.'

Transurban has two principal customer groups: the Governments who award toll road concessions and the people who actually pay tolls to use their roads. Australian Governments were among the pioneers of toll road concessions, an innovative policy approach that successfully addresses the shortage of capital to finance public infrastructure and need to improve the management of risk in major project delivery. Concessions are typically agreed for 30 years or more and Transurban works with Governments to add value to the community through innovation throughout the concession period.

For example, Transurban effectively brought forward concession payments due to the Victorian Government to finance a \$150 million upgrade of the Tullamarine/Calder interchange, one of Melbourne's worst traffic black spots and a direct feeder on to Transurban's CityLink toll road. Transurban also continually improves the services it provides customers using its roads. It has pioneered a range of innovative products and services, particularly using SMS and web-based innovations.

3.3 Advances in technology

The overwhelming view from the study is that technologies are not seen to be sources of innovation. Technology is seen as an enabler but by no means a driver of innovation.

Elegant technology that doesn't fit a real customer need is a major trap for technology-based businesses. DuPont suggests that recognising a technology development as a failure (even though the technology works) takes strong leadership and a market focus. Companies with a solely technology or product focus tend to commercialise products that customers don't value. Over time, these products never yield a positive return.

Qantas, a service company in a highly competitive market, sees the application of technologies, particularly information technologies, as a fundamental aspect of driving customer experience and competitive advantage. This also extends to new aircraft technologies which can improve not only the economics of the business and the customer experience but also reduce the environmental impact through more efficient aerodynamics and engines. Similarly, Transurban uses simulation and modelling technologies widely in developing infrastructure solutions.

Many companies perceive that technologies provide the ability to drive down costs and stay competitive, but success depends on the way technologies are used. Woolworths Big W sees technology as a significant enabler in process improvement particularly in supply chain innovation, such as cross docking and goods flow through.

IAG sees technology as a 'constraint' in innovation response and investment. The company looks at the cost in the context of a business case. This includes not only the direct technology costs but also the cost of training people in the application and adoption of a new technology. This is reflected in the implementation of the company's insurance policy management platform 'Policy'.

In less than five months in 1998, IAG implemented the first phase of the Policy solution (an information technology platform). Subsequently, over 7 million policies are administered on Policy to 4,000 active users, covering the diverse product areas of motor, home, boat, caravan (on-site and touring), transport accident and travel.

The Innovation Group's Policy solution has allowed Insurance Australia Group to realise its strategic goals through its ability to consistently support our aggressive mergers and acquisition plan. For example, we have added new entities with little disruption to business and by utilising the same platform the Innovation Group has created a central database that provides multi-branding and a single customer view. Additionally, the policy solution has allowed the rapid introduction of new products and re-rating of existing products, meaning we continue to meet, and exceed market demands.

Australia Post has had unhappy experiences with technology-driven innovations, such as the Redfern Mail Exchange postal automation in the 1980s. It then started to look for non-technology solutions through regional mail centres. However, this created major challenges in logistics.

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The Redfern experience was a case study in technology not being a solution when effective human resource management is lacking. The response was to decentralise into small non-technological facilities and focus on more effective management. Initially this was conflict ridden based on an extension of a command and control approach and an adversarial industrial relations strategy.

To Australia Post the solution lay in a more open problem-solving form of participative management which reduced the third-party role of union and shop stewards. Change became a joint challenge rather than a threat. It involved treating staff as partners rather than just resources, and it was reinforced by programs such as QS1 and QS2.

However by the early 1990s it was clear that leveraging of new generation technology meant re-establishing a consolidated network. A major focus of the FuturePost program was to ensure no 'return' to the Redfern culture. This has been achieved through:

- + managing the workforce transition in a non-threatening way (no forced redundancies);
- + high levels of communication and involvement;
- + heavy consultation with unions (joint best practice studies and a willingness to share benefits through enterprise bargaining); and
- + the introduction of team-based cultures to reduce the alienating effects of large work centres.

Since 1996–97 there has been a trend back towards consolidation.

Australia Post taps into the technologies being supplied by the market, for example materials management. It also works with other postal organisations on innovation strategies. This is reflected in the Accenture-facilitated publication *Pushing the Envelope*.

Australia Post's experience indicates that it is not necessary to be the first to adopt technology, but rather, to manage it better in terms of performance; to 'tweak' it, make it better, and get a productivity improvement.

Transurban, like many Australian companies, sees itself as an innovation integrator. Electronic tolling involves automatically detecting and identifying vehicles travelling at high speed, linking the vehicle's journey to a customer account and ensuring the right toll is charged. This means Transurban has developed considerable in-house skills in bringing together the different technologies required for this.

3.4 Suppliers and business partners

3.5 Staff

Several companies indicated that they looked to suppliers as sources of, and partners in, innovation. The following observations were made by companies included in the study.

- + Qantas has been seeking to redesign the supply chain where the supplier holds the goods until they are required.
- + Transurban partners with organisations like Telstra to design and deliver new product and service innovation.
- + For Visy, innovation comes from equipment suppliers; they often provide the innovative solution in production machinery and equipment.
- + Woolworths Food and Liquor points out that suppliers innovate at the product rather than concept level.
- + The Commonwealth Bank partnered with Microsoft in the development of the CommSee project.
- + Telstra will, on most occasions, tap into technological advances and supplier solutions in order to optimise its offerings to the market.

Telstra says that it is constantly on the lookout for opportunities to lead or partner in projects that will deliver innovative solutions. It does not necessarily limit itself to specific sources. Its Innovation Centres provide an environment where technology and research experts can, when appropriate, partner with suppliers and customers to accelerate the innovation process.

Access to and availability of knowledgeable and skilled people is seen by companies and firms included in the study as central to the innovation task.

- In most companies included in the study staff are encouraged to come up with good ideas and solutions to process problems and product opportunities.
- + Qantas engineering staff came up with a new tool for jet engine repairs which resulted in considerable savings.
 - + The Commonwealth Bank has learned to trust its own people (who provide the important customer interface) to come up with ideas and to give them the challenge and recognition.

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3.6 Tapping into external ideas

Companies included in the study also looked to external ideas and 'thought leaders' as sources and drivers of innovation. There is a vast innovation management literature and array of 'self help' publications.

At Foster's, for example, executives are aware of the ideas of Gary Hamel (*Leading the Revolution*) and Tom Peters. The issue for the company is how to put the ideas into practice and make them part of the way business is done. The executive team at Deloitte has travelled to North America to meet Gary Hamel, Michael Tushman and Charles O'Reilly and to hear from innovative thinkers at Harvard and MIT.

Companies have used global consulting firms to assist in the innovation process. Boston Consulting, McKinsey, Accenture and AT Kearney are engaged extensively in corporate Australia.

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4 WAYS IN WHICH BUSINESSES ACHIEVE INNOVATION OUTCOMES

The purpose of this section of the report is to address the issue of how surveyed companies go about devising and implementing innovation solutions. These are grouped under the following headings:

- + Corporate and executive leadership
- + Product and service innovation
- + Process innovation
- + Supply chain innovation
- + Marketing and customer relationships
- + Recruiting, training and human resource management
- + Creating a culture of innovation
- + Adopting innovation planning, tools and techniques
- + Partnerships and collaborations
- + Outsourcing and joint ventures
- + Involvement in innovation clusters and networks

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4.1 Corporate and executive leadership

The association between effective Board and CEO leadership and innovative performance has been researched extensively (Badaracco 2002; Bennis 2000; 2004; Dauphinais, Means, and Price 2000; Dauphinais and Price 1999; Tushman and O'Reilly 1997). It is also a major topic in the pages of *Fortune*, *Forbes*, and *BRW* magazines. Research indicates that Chief Executives, on average, influence 15 percent of the variance in corporate performance – for better or worse (Joyce, Roberson, and Nohira 2003).

This importance of managerial leadership to the innovation task was raised by a number of companies. For example, Visy sees innovation as fundamentally a management and leadership issue. It views the task and responsibility of management as delivering the results.

The role of Boards and CEOs in driving innovation is often overlooked, particularly in the technology management literature. Moreover, corporate governance discussions have tended to focus on compliance rather than the contributions of Boards to business development and transformation. This is probably because discussion of leadership introduces a personality variable into the analysis – which is not easily handled in the current research paradigm relating to innovation – where the main focus is on technological capabilities and core competencies, independent of behavioural issues.

One of the main responsibilities of a Board is to choose a CEO, and good Boards choose good CEOs. Boards and CEOs drive strategic direction and are responsible and accountable to owners for business development and growth. As argued earlier, this is achieved not only by innovating in new products and superior service, but also by continually refining and transforming the nature of the business itself. Leaders manage all areas of innovation from a portfolio perspective.

Successful companies, through their Boards, their CEOs, and their top management teams, are constantly looking for new areas of business, new deals and ventures, and new alliances. They are looking at ways to leverage the assets of the company, and assets in other companies, to create wealth in new ways.

The development of such strategic leadership skills within management structures was raised by a number of companies as vital to their innovation performance. DuPont identifies leadership, teamwork, nurturing creativity, and competency as key management practices that support innovation. Innovation is a specific component of the recognised competency framework for leaders in Woolworths; as such it forms part of the competency assessment and development program for all leaders.

Leaders are required not only to set direction and strategy but also to develop skills in risk and failure management. DuPont points out that 'managing failure may be one of the least understood skill sets' and that that failure management is an important discipline which requires strong leadership skills. DuPont considers this skill set involves much questioning, not only of researchers but also of the market. If any of the underlying processes of innovation are divorced from leadership, projects will be less likely to succeed.

4.2 Product and service innovation

Product innovation is generally associated with the development of new physical, or tangible, products and definable services. It reflects a concept of a business that involves making, selling, and distributing goods and services or commodities, through largely anonymous economic transactions. It is also commonly associated with returns from investment in research and development (R&D).

In the fast moving consumer goods sector product innovation generally involves incremental improvements in product characteristics and positioning attributes. Foster's pursues incremental improvements around its overall brand strategy. FMCG businesses rely on a constant stream of incremental innovations to maintain market share and position. Similarly, in a mature industry such as packaging, and in a small Australian market, companies such as Visy are continually on the lookout for small incremental innovations.

At Holden Innovation the Vehicle Development Process is built around innovation, drawing on the design and manufacturing divisions as a way of discerning what is not only desirable from a customer viewpoint, but also possible in creation and feasible in production. For IAG, product innovation occurs as a result of a perceived need and responding to that need by improving its understanding of risk; there are now 30 different rating factors applied to policies to take account of the relative importance in customer risk profiles.

Shell has been innovating in the product area by introducing cleaner fuels and differing octane levels. Shell has just introduced a world-first product into the Australian market: a high octane ethanol blend petrol.

Increasingly, new product development is linked to a service offering on the understanding that customers purchase the service value of a product rather than the product itself.⁴ Companies included in the study are now giving more attention to incorporating a greater services component into their product offerings. Foster's, for example, is linking product to service through its wine clubs. These innovations are being enabled by capabilities in information and communication technologies (Howard 2005).

DuPont, a manufacturing company, sees innovation as creating commercially successful products, processes, or services that contribute to sustainable growth and with a smaller 'environmental footprint' than existing technology. The company sees opportunities to take core competencies further down the value chain and turn a product or core competency into a service business. For example, the creation of DuPont Safety Resources has been an innovative business initiative that provides consulting services to companies based on the company's 200 year knowledge of safety.

DuPont Safety Resources (DSR) helps companies improve business performance while protecting the lives and livelihoods of employees and contract workers. For over 30 years more than 500 DSR consultants have been helping hundreds of organisations globally reduce workplace injuries and fatalities.

Telstra has focused on innovation for many years through the development of new products and services through technological adoption and adaptation. Telstra Research Laboratories (TRL) is well known for its commitment to the development of new innovations in telecommunications. However, as Telstra goes through a transformation from a product-oriented to a services business, new products and technologies are seen as service enablers rather than the primary source of wealth creation. In this climate less attention is being given to internal product development.

⁴ This insight was provided by Peter Drucker in *The Practice of Management* written in 1954. Drucker, Peter F. 1993. *The Practice of Management*. New York: Harper Perennial.

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In a parallel strategy, services sector companies are looking to model their businesses on 'product platforms' as a basis for building and sustaining quality products in an efficient manner. Beyond its reputation for innovation in product and customer service, Qantas, in the transport services sector, sees new product development as an opportunity to redesign the supply chain and produce that new product more efficiently than existing offerings.

Qantas considers the entire production line when it looks at process change:

- + It designs a schedule and a customer experience.
- + The schedule produces a seat that is sold and is available at a particular point of time.
- + The production, marketing, sale and servicing of the seat (e.g. maintenance, airport services, cabin staff, etc.) is a highly complex supply chain and logistical problem.
- + In this regard, Qantas is the ultimate fast moving consumer goods (FMCG) business.

There are many people who have to ensure that the seat is able to get to its destination with the accompanying service levels. In the past, the focus of the business had been on ensuring the best customer experience on this service and ensuring engineering excellence. While this is still the priority, Qantas is now placing greater importance on 'producing' that great customer experience in the most efficient manner.

Considering the business as an FMCG provides the basis for business model transformation, innovation, and change. For example, the Jetstar schedule is designed to ensure that the seat returns to its original point of departure, for example to economise on flight crew accommodation costs.

Many professional services firms regard service offerings as products; such as financial products that have a range of characteristics and features. Professional services firms also seek to 'bundle' service processes into a product, quite often in the form of a software program and a web interface.

Minter Ellison, a leading law firm, has developed a software product, SAFETRAC, to assist companies manage their compliance obligations. SAFETRAC provides online systematic and comprehensive reporting, monitoring and assessment to measure accountability against compliance standards, consistent with the requirements of the Australian Standard on Compliance Programs, AS3806.

SAFETRAC delivers improved risk management, reduces the likelihood of a breach and contributes to the maintenance of a safer and more productive workplace. In the event of an alleged breach the electronic records of compliance provide the basis for a due diligence defence. At the same time it reduces the costs of an organisation's compliance function, by identifying individuals and practices at risk, resulting in effective and focused responses.

SAFETRAC has over 60,000 licensed participants around the world, in all industry sectors, which use its range of compliance and risk solutions that cover over 24 different products.

Information and communication technologies provide greater opportunities for service businesses to 'commoditise' their service offerings as product categories. Products developed in this way provide a platform for follow-on, value-added services.

4.3 Process innovation

Process innovation deals with cost reduction, efficiency improvement and/or quality enhancement in a business environment through new equipment, new technology applications and/or changed work practices. Whereas product and service innovation is concerned with sales and revenue outcomes, process innovation is concerned mainly with productivity outcomes. Both outcomes contribute to business competitiveness, viability and profitability.

Many of the companies in the study were of the view that there was more scope for generating returns through process innovation than product innovation. This is consistent with the framework outlined under 'Linking innovation perspectives' at 2.7. The business innovation literature suggests that returns from product innovation can be quickly competed away (Slywotzky 1996), whereas returns from process innovation are more difficult to replicate and can be a major source of competitive advantage.

At Qantas all business processes are being examined with a view to fundamental change; innovation as distinct from improvement. For Telstra process improvement is a critical part of its innovation commitment. The company uses a number of tools, such as Customer Focused Design, to simplify processes to make it easier for customers and for staff.

At Woolworths Food and Liquor, business processes are constantly challenged for relevance and improvement: innovation, that is change, forms the basis for this process. Woolworths Big W approaches process improvement on a systematic project team basis.

Information and communication technologies are significant enablers of process innovation. At Australia Post, process innovation is also enabled by total quality management (TQM) tools and techniques.

As information and communication technologies are major enablers of process innovation the returns from process innovation are highly contingent on the way these technologies are adopted and applied to deliver sought after efficiency and productivity gains. The impact of ICT investments on productivity performance has been a major area of interest by the Productivity Commission (Australia. Productivity Commission 2004; Gretton, Gali, and Parham 2003). Insights into productivity performance can, in all reality, only be gained by analysis at the firm level.

For IAG the company's process innovation focus is on using technologies that have not been applied before in the insurance sector. The company has used, for example, decision tree concepts/software from 'ILOG' business rules software. IAG sees its process technologies and customer interface as a major source of competitive advantage.

In health insurance, MBF sees itself as having been quite innovative in business processes; it has the highest degree of automation in Australia, and possibly the world. The business has a technology platform that, if leveraged, can prove a real source of differentiation.

Shell regards its SAP investment as representing a global way of managing aspects of the business. Information technology is leveraging innovation in financial and human resource management processes into one global system.

For Holden Innovation, what is called 'process innovation' is too often focused on realising productivity and efficiency gains. It argues no company can afford to do only efficiency and productivity improvement (doing the 'thing right'). It must focus on effectiveness and appropriateness ('doing the right thing' for the customer and market). In this way substantial innovation comes through changing business models, i.e. the way in which a company interfaces with its customers.

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4.4 Supply chain and value chain innovation

Supply chain and logistics innovation includes critical areas such as distribution methods and transportation, packing materials and processes, and innovations that examine the supply chain and relationships which enable non-price factors to be developed (Howard 2001).

DuPont's approach to innovation implementation has involved questioning the whole value chain. It sees changes in the value chain as being capable of yielding big returns. Leveraging information technology is an important focus in this approach.

Woolworths has made a very substantial commitment to Project Refresh – a framework for improving business performance and business restructuring programs through end-to-end supply chain improvement. Over the last few years the company has reorganised its freight and logistics operations to drive down costs and improve performance.

4.5 Marketing and customer relationships

Innovation in marketing and customer relationships involves establishing strong ties to customers; identifying, targeting and satisfying the people and organisations that will buy and pay for products and services. It is a major focus of innovative activity in the companies included in the study.

At Australia Post innovation from a customer perspective has focused around adopting and implementing:

- + New products – such as Express Post, Bill-Pay, retail products, impact mail (direct marketing formats), printsoft (desktop mail solutions), and express courier international.
- + New channels – retail shops, business centres.
- + New business solutions – integrated end-to-end services – for example, logistics and parcels, courier, mail room management, bill payment.

In all areas, the focus of innovation has been on people and new business models, not on products or technology. The company sees products as the means to satisfy a customer want and create value for the business. It follows that as much attention, if not more, is required in the way products are presented and delivered as in creating products.

The Commonwealth Bank's vision is 'to excel in customer service'. The bank's technology platform, CommSee, has been developed to facilitate a common relationship approach to customers and 'to provide a better service experience' from the bank's financial product and service offerings.

CommSee provides a single view of a customer's relationship with the bank, enabling staff to identify and respond to requirements, regardless of where and when the customer may wish to access the bank's services. Implementation of CommSee across the entire Australian banking operation has been done progressively as additional features of the technology are developed and staff training is completed.

The CommSee project has been delivered, under budget, with additional functionality and under time. The project was expected to finish in December 2005, not March 2006 as originally planned.

Despite the sheer size of the project, frontline staff now have a tool to better understand and serve their customers. Customers can contact us anywhere in the country and staff will immediately know their history.

Foster's has put a lot of effort into building relationships with customers through wine clubs. The business wants a value-based relationship with customers rather than a transactional one.

Holden Innovation also sees understanding customers as a key issue. It seeks to thoroughly identify market opportunities through research, data mining using sophisticated programs and techniques and supercomputer capability and access to super computing networks. It seeks to identify the determinants of vehicle choice taking into account evolutionary primers and owner/user personalities, social trends and demographics, environmental trends and tastes, and personal issues.

Qantas sets out to ensure a quality 'Qantas experience'. In addition, Qantas commits to a sponsorship program to demonstrate that it is supporting the community, and is one of the key contributors to the growth of Australian tourism.

Telstra uses a Customer Focused Design strategy which is integrated into its product development process to improve the value of products for customers. It includes Innovation Centre visits which offer customers input and collaboration as well as interactive, hands-on experience of Telstra communications solutions.

For Woolworths Food and Liquor innovation is vital to marketing and customer relationship management to meet the changing needs of the customer. Woolworths Big W undertakes regular customer surveys, focus groups and scan sales analysis, implemented through featuring in brochures, press ads and leaflets as well as in-store promotion.

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4.6 Recruiting, training and staff development

In addition to the instrumental aspects of innovation – product, process, supply chain, and customer service – there is a range of management practices and personnel behaviours that are important to achieving innovation outcomes. Many companies in the study highlighted the importance of their recruiting, training and education, and human resource management systems in delivering innovative outcomes for their businesses.

PricewaterhouseCoopers seeks to recruit and develop talent in its people and provide the right working environment as a way to achieving its goal of a high-performance culture and organisation. The firm employs 4,500 people with an average age of 28, but it has a 19 per cent turnover. It is therefore constantly on the search for talented people. The firm acknowledges an 'innovation imperative' in order to attract and retain staff and makes a very substantial commitment to professional development and training of its staff. A key initiative has been the introduction of the I-Challenge (Innovation Challenge) Program.

The PricewaterhouseCoopers (PwC) Innovation Challenge Program

The Program has been developed over recent years in Australia for graduates new to our firm. But this is not just an innovation training program; it produces real business solutions to real business problems. It is difficult to quantify but we estimate that 10 per cent of ideas generated by I-Challenge are taken to follow-up stages of implementation. Compared with best practice (e.g. 3M Corporation), this is a very favourable outcome.

This program is unique to PwC. It is also an excellent export example of Australian innovation. Because of its success, the program has now also been implemented in parts of PwC in the United States and Asia.

The program has also helped Australian business directly. In the last couple of years a number of large corporates who have joined with PwC to run this program for a select number of their graduates.

While I-Challenge helps graduates develop skills in areas such as project management, presentations delivery, conflict resolution and proposal preparation, it's not to be confused with a standard professional development program. The 'I' stands for genuine innovation.

Hundreds of graduate participants from a wide variety of backgrounds work every year at PwC in I-Challenge teams of five to seven people, often including client team members. In a concentrated journey of discovery lasting several months, these groups proceed from identification of issues requiring solutions to understanding the use of team synergies; and from proactively using people networks, research tools and techniques, to recognising genuine 'ah-ha' moments of discovery.

I-Challenge participants are assisted by 'buddies' (previous PwC graduates from I-Challenge) and some 120 coaches drawn from across the firm. The coaches include members of the PwC Young Leadership Team: a group of about 40 PwC people who typically have been progressing through the firm for a few years, and who become involved in separate team projects of their own.

Graduates who commenced as graduates five years ago are now entering the ranks of manager and further diffusing genuinely innovative behaviour throughout the firm.

For 50 years Holden has selected and trained people to be managers; a feature of the company is that future leaders are developed internally. This approach has worked in a stable environment where there is a focus on cost, quality, formalised planning and controls. In a more uncertain environment, Holden Innovation sees itself as having a key role in creating skilled people for the business. There are, however, a number of challenges:

- + Recruitment and retention – recently there were 550 applicants for eight jobs in Holden Innovation. Only the top people were hired and they all had double degrees.
- + Once recruited how to keep people involved/engaged. There is a program of sending staff overseas on work assignments in GM divisions around the world to obtain work experience, job enrichment, and continual rotation.
- + A policy is to work in Holden Innovation for 1-2 years and 'sell' top people into the mainstream business to facilitate and drive change.

A number of companies approach innovation from a human resource management perspective. In many companies, performance reviews address how staff have initiated innovation.

Australia Post sees the major drivers of change as performance improvement strategies built around quality and service improvement, workplace flexibility and recognition and reward (the QS1 and QS2 initiatives).

Strategic 'solutions' such as QS1 and QS2 are themselves results of focusing on ensuring there are very strong business measurement, accountability and feedback systems that encourage a total systems approach to business excellence and, most importantly, a grass-roots focus on all elements that contribute to business outcomes.

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4.7 Creating a culture of innovation

The companies in the study saw culture as a major factor in their ability to achieve innovation outcomes.

Corporate culture is the framework of attitudes, beliefs and behaviours that characterise a company. It is seen by management researchers, writers and commentators as a major enabler (and inhibitor) of innovation. Many companies actively seek to create a culture that is supportive of innovation as well as changing negative aspects of culture.

PricewaterhouseCoopers, like many other businesses covered in the study, seeks to create a culture of innovation.

We try to make innovation part of our culture, then look for people who think innovatively in our recruitment processes. We concentrate on providing our new people with a 'release' as much of our training is around procedures that must be followed. We then allow all of this to play out in our strategy development, leadership, and assignment execution.

The firm has made a substantial investment in achieving a 'cultural shift' from a compliance-based approach to a 'high-performance' attitude among Partners and staff. There are a number of programs and initiatives directed towards creating this environment which seek to translate the stated firm's values of 'teamwork,

leadership, and excellence' into action through sought-after behaviours.

Transurban's business was built on a philosophy of innovation. In the 1990s, the company undertook the risk that the technologies required to run electronic toll roads could be developed and successfully integrated, making it a pioneer in its industry. As a result, the corporate values reflect a strong focus on continued innovation to maintain a competitive edge globally.

Australia Post has been committed to building a 'high-performance' culture through:

- + Creating a sense of shared purpose which builds a common understanding of customer needs, business directions and underlying corporate values and ethics.
- + Leveraging capabilities through ensuring that the organisation has the right people with the right skills in the right jobs, and that capabilities are developed over time.
- + Ensuring that people are organised effectively in ways that harness and focus resources, activities and accountabilities around performance, efficiency, quality and continuous improvement.
- + Recognising and sharing in achievements linked to business outcomes.

In many respects Australia Post was the ideal 'hot house' in which to cultivate a new approach to managing workforce and cultural change.

PwC BEHAVIOURS

	CLIENT	PEOPLE	FIRM
DEVELOP	Thought leadership	Mentoring/coaching	Yourself
ACHIEVE	Know your clients' needs	Build new partners	Our goals
INSPIRE	Exceed client value expectations	Supportive delegation	Grow as a leader
	VALUES, SKILLS AND ATTRIBUTES		

Source: PricewaterhouseCoopers

Since the early 1990s, there has been a substantial transformation in customer service, in business processes, and in workforce culture at Australia Post. From a traditional bureaucratic postal service with an uninspiring product range, indifferent service, and marginal financial results, Australia Post is now achieving high levels of performance across the spectrum of business indicators. The most important catalyst for this business transformation was the substantially strengthened focus on commercial objectives following corporatisation in 1989.

Notwithstanding its success, the corporation understands that it can no longer rely on organic growth to sustain the business. It is looking to future business success based on:

- + A capacity to adapt and implement change effectively and quickly – ahead of competitors.
- + A commercial ability to find and grow new businesses.
- + A capacity to keep prices low.
- + Reliability and reputation.

DuPont seeks to build a supportive culture. It notes that this is not always easy, as it requires leadership, tolerance and patience – a ‘listening culture’ and ‘a mindset that almost celebrates failure’. A supportive culture can handle failure and then move on. ‘Since 90 percent of pre-commercialisation projects fail, you have to learn to fail, cut your losses, and encourage people and move on’.

Foster’s identifies a core cultural value as ‘innovation is the way we do things around here’. Visy, like many other businesses, regards innovation as a core value. It sees values as a mobiliser for culture. Woodside also sees innovation as part of its culture – ‘looking outside the box’ – and in an overall context of accepting the way the company works.

IAG promotes a culture based on customer service, for example ‘care and repair centres’ where IAG does everything. Telstra recently implemented a company-wide Innovation Community to help embed innovation principles into work practices across Telstra. Deloitte seeks to build a culture of innovation by recognising and rewarding four key behaviours, as listed below.

BEHAVIOUR	EXAMPLES
Leads innovation	<ul style="list-style-type: none"> + Continually leads team to innovate. + Shares innovative ideas with their group. + Ensures follow up and/or provides feedback on innovative ideas. + Recognises individual and team innovation.
Promotes innovation	<ul style="list-style-type: none"> + Fosters an innovative culture and motivates others to innovate. + Demonstrates commitment to and sustained focus on innovation. + Supports idea generation and exploration. + Becomes a champion for new ideas.
Contributes innovative ideas	<ul style="list-style-type: none"> + Sources new ideas. + Contributes innovative ideas in line with our culture, business strategy and growth plans. + Contributes ideas that generate new business and revenue. + Contributes ideas that facilitate internal improvement and cost savings.
Implements innovative ideas	<ul style="list-style-type: none"> + Takes responsibility for implementation of innovative ideas. + Is experimental and not scared to undergo trial and error. + Seeks feedback on and evaluates success of ideas.

Source: Deloitte Touche Tohmatsu

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4.8 Innovation planning, tools and techniques

A number of companies are committed to innovation strategies and action plans and have developed formal structures, processes and procedures to capture and implement innovative ideas and transfer them into application and commercial outcomes. Deloitte, for example, has created an 'innovation community' consisting of six elements to drive the innovation agenda. These elements are: an Innovation Executive team that serves as a steering committee for innovation; an Innovation Council that reviews new ideas and manages ideas throughout a pipeline; Innovation Communicators who promote innovation at the local level; Innovation Coaches who help idea owners further develop their ideas; an Innovation Capability Team that has specialist technical and commercialisation skills; and a National Innovation team that drives communications, rewards and recognition, training and business performance.

Woolworths Food and Liquor identifies a number of tools and techniques, including: best practice comparisons; research programs to measure shifts in consumer attitudes and needs; establishment of working groups to challenge specific issues; R&D committee; New Idea Program; engagement of consultants to challenge current paradigms; and recruitment of people from different backgrounds and experiences to challenge the status quo, to name a few.

Other companies identified a number of specific innovation tools, techniques and processes but the extent to which they impact on innovation processes and outcomes varies:

- + IAG – the idea owner has to develop the business case; the owner may come from anywhere in the company.
- + Qantas – there is an 'innovations' program in the company for staff ideas.
- + Visy – there is a new product development process, but this accounts for only 10 percent of innovative activity. The innovation framework is seen as a management issue, not a technology matter.

4.9 Partnerships and collaborations

Partnerships and collaborations are seen by industry and policy makers as critical for innovation. The study suggests that both inter-company collaborations and collaborations between companies and public research organisations are being undertaken to achieve innovative outcomes.

Section 2.1 (Business Transformation) highlighted a number of cases where companies in the study entered into collaborative ventures with other companies as a way to use resources in new ways to create wealth. Companies in the study also highlighted examples of collaborations with other businesses that may not have transformed their business operations but still created innovative outcomes.

DuPont encourages new technology companies to approach it on the basis that it is good at commercialisation and can build a product platform and patent suit by combining technologies.

IAG has given collaborations increased attention, for example, distribution of insurance products through ANZ and Bendigo Banks. It also has a focus on coming up with better processes that are relevant to business partners, for example, helping smash repairers run a better business.

Qantas has strategic alliances and partnerships through the 'oneworld' alliance. The company also works with SMEs in the development of new products, for example in-flight food.

The study also indicates that collaborations between businesses, universities and higher education institutions are extensive, but few are undertaken through formal arrangements such as Cooperative Research Centres. The collaborations involve knowledge transfer rather than the sale and licensing of intellectual products in the form of intellectual property.

DuPont has a long-standing partnership with CSIRO and relationships with the University of Sydney, the University of Melbourne, the University of Queensland and the University of Western Australia. CSIRO is very strong in polymer research and the universities in related areas of interest to DuPont.

The technology alliance between DuPont and the CSIRO has generated more than 50 worldwide patents in just 10 years, providing huge possibilities for commercialisation of products driven by Australian research.

'Clean, green car paints, tyres with better rolling resistance and flocculants for water purification are just some of the applications of the technology that have come out of this highly successful research partnering,' explains Leo Hyde, DuPont's R&D manager Australia and New Zealand. One of the technologies is RAFT – a revolutionary means of controlling the way polymers form and making them more stable. This gives researchers the ability to tailor-make polymers for many different applications, including automotive finishes and paints. The DuPont/CSIRO partnership is now the world leader in this field. 'It controls the architecture of polymers very, very precisely,' says Hyde.

Other targeted, existing and potential applications of the technology include:

- + Pigment dispersants for high performance inks. The technology means dispersants can be made more economically and improved versions can be developed.
- + Higher performance rechargeable batteries.
- + Compatibilising agents for plastics that presently cannot be mixed, to allow more plastics to be recycled.

Hyde says the partnership with CSIRO will undoubtedly lead to new commercial opportunities.

DuPont Australia's Managing Director Hutch Ranck says: 'Our aim is to have DuPont synonymous with innovation and sustainability.'

The relationship with universities is usually with the researcher with the technology. DuPont says that there has only ever been one approach from a university Technology Transfer Office (TTO). There are good relationships with the Warren Centre for Advanced Engineering at The University of Sydney where the Centre supports DuPont's Innovation Awards.

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The company does not participate in Cooperative Research Centres; it prefers to work directly with researchers and investors. DuPont sees the CRC commercialisation framework as better suited for developing broad industry solutions.

Holden Innovation has formal relationships with ten universities and research organisations around the world, including Chalmers University and the University of Wisconsin Medical Centre.

Holden and the CSIRO began collaborative research into alternative propulsion systems with the ECOMmodore hybrid electric vehicle project in 2000. It has provided the platform for continuing research into the supercapacitor and battery technologies which could play an important role in the development of hydrogen fuel cell and hybrid applications. In November 2004 the company formed a joint research program with CSIRO to explore future global powertrain technologies.

Electric propulsion will be the basis of practically all vehicle powertrains in the long term. These electric drives, regardless of the origin of the power source, will require electrical energy storage devices such as supercapacitors, batteries, or a combination of both. Supercapacitors are capable of providing a rapid surge of power and allow the super-fast collection, storage and discharge of the electrical energy necessary for automotive applications. They're lightweight and suited to capturing or providing the high currents associated with regenerative braking and full throttle acceleration.

Using supercapacitors, engineers can minimise electric loads which can drastically reduce battery life and allow better management of the 'rapid change of state' events associated with day-to-day driving. Supercapacitor power management and storage systems have the flexibility to be used in different applications under different programs, no matter what the hybrid or fuel cell powertrain needs. Although Australia remains a small player in the global automotive industry, Holden believes that it can make a worthwhile local contribution to the goals of General Motors (GM).

GM is intent on applying new technologies that will improve our vehicles, making them safer, cleaner and more efficient so that they are minimised as a factor in the environmental equation.

Holden is a lead industry partner in the new Auto CRC which is being seen as a key plank in the innovation framework. Holden's strategy for the CRC is to establish it as a successful partnership that provides superior development of technologies and skills, faster and at a lower cost.

IAG works with the CSIRO on weather forecasting, building material design, and building codes. The development of flood insurance has involved collaboration between insurers, re-insurers and a department at Macquarie University. The company also works with Monash University on driver distraction – for example, SMS messaging impact – and the QUT Centre for Accident Research and Road Safety and Monash Accident Research Centre.

This project develops a computational model that analyses situational driver behaviour and proposes real-time countermeasures to minimise fatalities/casualties. We develop and evaluate a novel intelligent transport system that assesses and acts upon drivers' risks. This multidisciplinary project integrates recent models of data mining, context-awareness computing, physiological metrics, ubiquitous computing, driver distraction models, risk perception and road safety. This project yields a new understanding of driver behaviour and countermeasures in risk situations. This project is an ARC Linkage project with QUT, Monash University and IAG.

Shell tends to work with research organisations as an industry player rather than as an individual company – for example through industry bodies such as the Australian Institute for Petroleum (AIP) and the Australian Petroleum Production and Exploration Association (APPEA). In addition, Shell is involved in the CO² CRC and is on the Board. The company values the research and the education undertaken by the CO² CRC, and believes that the CRC has a valuable role to play in wider education about the benefits of sequestration.

Woolworths has alliances with various universities through the Woolworths Academy to provide first-class training.

4.10 Outsourcing

Outsourcing is also a means to achieve innovative outcomes in related, non-core, aspects of business need. It also allows a previously internal business to serve a wider customer base. For example, Qantas Flight Catering Limited produces meals for Qantas as well as other airlines, railways and hospitals.

Woolworths Food and Liquor identified a number of outsourcing initiatives that secured innovative outcomes:

- + Engagement of consultants (e.g. Bain & Company).
- + Project Mercury, a major supply chain redevelopment program, required the separation of many functions.
- + Outsourcing of IT development to facilitate quicker and cheaper development and to free up domestic resources to focus on further generation and development of new ideas.

Woolworths General Merchandising's commitment to process improvement has seen the outsourcing of non-core support functions such as printing and mail functions at BIG W.

4.11 Open invitation

Open innovation is a concept that has been receiving a great deal of attention in innovation research and policy (Chesbrough 2003a; 2003b; Rigby and Zook 2002). Companies are seen to be more willing to share and license their IP in return for access to other firms' IP. This is associated with a growing trend towards sourcing innovation externally from new-technology-based firms and start-ups (Linder, Jarvenpaa, and Davenport 2003a; 2003b; Quinn 1999; 2002).

Companies that participated in the study are not, however, involved in open innovation practices on a systematic basis. DuPont, for example, will make patents available to other companies on a case-by-case basis. Shell will make technologies available in relation to the upstream (exploration) part of the business but it would never license the IP of Optimax (premium fuel) to a competitor. From a technology acquisition perspective, Shell Global Solutions handles technology and innovation work for Shell and hires itself to other companies.

Transurban does not currently license IP although it is being looked at. The company considers that as IP provides such a strong competitive advantage it is not yet prepared to do it. The bid process is highly secretive with a very strict confidentiality regime among partners, contractors and staff.

Holden Innovation pointed out that open innovation is a misconception – on the basis that there is no intrinsic value in IP – only in implementing/adopting it. The implementation window is getting shorter. IP licensing is not a core business – and open innovation is a concept that is no longer of value.

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4.12 Involvement in innovation clusters and networks

Knowledge clusters and knowledge networks have been identified in public policy as important for achieving innovation outcomes. The following comments were made by companies in response to questions about their participation in knowledge clusters.

Holden Innovation regards the nature of collaboration as leveraging the best intellectual power. No individual business has enough to go it alone; it must network among related businesses. Holden Innovation is involved in a number of round-table arrangements to share ideas among players. These include a round table on innovation and virtual engineering as precursors to formal collaborations. These represent a form of 'think-tank' approach.

IAG does not network in Australia due to competitive dynamics. Ninety percent of the insurance industry is in Sydney. The company collaborates internationally; it sees clusters as global, for example, the Research Council for Automotive Repairs (RCAR) consists of 14 international companies. The Council approaches manufacturers with a view to designing automobiles that will reduce the cost of repairs.

IAG notes that it is possible to collaborate with overseas insurers and not run into problems with the ACCC (or the UK Monopolies Commission). Relevant corporate information can be shared internationally, but not nationally.

5 POLICY FRAMEWORKS

5.1 Overview

The purpose of this section of the report is to identify and address public policy implications and issues arising from the material provided by BCA Member companies in relation to their innovation approaches, contexts, and strategies. The main concern is the extent to which current public policy frameworks create barriers to business innovation and what reforms to public policy might reduce or eliminate these barriers.

The overarching message from companies that participated in the study is that businesses are looking for a partnership with Government in approaching innovation tasks. The interests of business and Government coincide in promoting national economic growth, industry development, and business viability and sustainability.

Businesses consider that Government needs to better understand what innovation means from a business perspective and the way it is practised. They are concerned with the R&D focus of innovation policy and would like to see a better appreciation of the management dimension of innovation. All businesses understand that innovation is something they have to do in order to grow and prosper.

Businesses would like Government to appreciate that innovation is an investment as well as an attitude, and is approached in essentially the same way as other investment decisions. It is an important dimension of the way in which businesses are led and managed. In many respects, all investment decisions and management practices involve an innovation component.

In this broad and overall context there are a number of specific issues that arose in the study which are seen as important for enhancing business performance through innovation investments and improvements in management practices.

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5.2 Institutional settings

A number of comments from study participants were made in relation to some unique institutional settings for Australian business. These are canvassed below.

COMPETITION POLICY AND THE GLOBAL CONTEXT

During the course of the study two divergent views emerged about the impact of competition policy on innovation.

- + Competition policy can stimulate innovation – by encouraging firms to do business differently; e.g. the Coles Myer alliance was a response to competition policy.
- + Competition policy results in returns on investment being competed away; there is little incentive to invest and grow a business when competitors can quickly replicate new initiatives, and there is a limited pool of funds available for new investment built up from retained earnings.

Several companies argued that the domestic competition policy framework is quite robust and well developed. However, Government regulators and administrators can be value detracting in the way in which the policy is implemented. Companies saw a need to spend more time working with regulators.

More importantly, the study indicated that many Australian companies are now operating in a global environment. Businesses that operate in this way often require substantial scale and scope in order to compete and innovate. This raises issues in a small market like Australia where competition policies are focused on domestic market considerations. Policy regimes may limit the ability of companies to build the scale and scope of operations that are required to compete globally.

Companies emphasised that Australia is a very small market and that opportunities for business growth and prosperity lie in tapping into the global economic system. First and foremost, this requires a strong and sustainable base. Public policy should encourage companies to build up reserves through retained earnings to finance international investment, particularly high-risk investments.

As a result, public policies developed in response to domestic considerations may inhibit innovation and national wealth creation. Many businesses in the study pointed to the need for policy makers to understand the global contexts in which Australian businesses operate, and that they are subject to global rather than national (and state/local) competitive pressures and business drivers.

In some industry areas covered by the study markets are highly regulated and controlled. Businesses argued that regulation policies should:

- + reflect what national and international markets are doing in terms of what businesses are offering and consumer tastes and preferences; and
- + clearly articulate the purpose of regulation in advance, rather than in response to consumer complaints.

Qantas pointed out that competition also requires that regulation reflect a global level playing field. The company points out, for instance, that check bag screening and other security enhancements is a massive investment; in the US the Government bears the cost for airlines, but in Australia, the industry bears the majority of the cost.

Regulations restrict the opportunities to transform businesses and innovate by using assets in new ways. For example, Woolworths expressed concern about:

- + Regulated trading hours in some States that favour independent operators.
- + Liquor licensing rules in Queensland prevent supermarkets from directly operating retail liquor licences.
- + Federal legislation excludes supermarket operators from participating in the prescription pharmaceutical business.

Woolworths argued that it must be a global retailer, but local regulatory frameworks and focus limit this.

A key result of operating in a global business setting is the importance of scale. Policy, in particular competition policy, needs to recognise this as an institutional feature.

5.3 Specific policy contexts

THE FEDERAL FRAMEWORK

Australia has a system of shared responsibilities in most areas of public policy, program delivery and regulation. State Government interest and involvement is particularly important for innovation in manufacturing where the performance of the sector is important for employment and exports. Many companies in the survey noted a number of aspects of the federal system that created barriers to innovation.

IAG notes tensions between the Commonwealth and the States in matters relating to prudential policy and regulation: Australian Government policies may not be acceptable under State Government policy frameworks. Local Government responsibility for land use can also constrain innovation where Councils hold up planning approvals and seek to generate substantial revenues from developer contributions.

The roles and responsibilities of various Governments in the area of the environment and energy were also raised by a number of companies in the context of their innovation activities. Shell noted that the functional split between the Department of Environment and Heritage and the Department of Industry, Tourism and Resources on responsibility for energy policy could have become an issue but has not done so because policy makers and companies have not let it. However, the potential for policy differences still exists in the implementation of the Energy White Paper and Renewable Energy agendas.

Holden Innovation argued that all Australian and State Governments need to create a policy environment that fosters the conditions in which it is financially viable for vehicle manufacturers and the energy and fuel industries to offer the necessary environmentally-friendly fuels, vehicles and supporting infrastructures while still providing value to consumers. Change should be implemented at a measured pace and not outstrip the ability of ordinary people to afford the new vehicles.

GENERAL FINANCIAL AND ECONOMIC POLICY

Stability and consistency in financial and economic policy, direction and management is seen as essential for business innovation and investment. Companies are generally very happy with the current economic environment but, in cases where long-term investment decisions are being contemplated and made, businesses would be concerned with sudden and unpredicted policy shifts and changes.

From a risk perspective, nearly all companies, but particularly those in the finance sector value low inflation and stable interest rates. Government commitment to retiring debt and reducing public sector borrowing has a good effect on interest rates.

There is concern, however, about the tendency of politicians at all levels of Government to advocate change in political contexts without consultation and engagement. It is recognised that Oppositions oppose as a matter of course, but this creates uncertainty, particularly in relation to long-term commitments.

Change is welcomed, but in a positive way. Uncertainty in policy contexts makes it much riskier to innovate. Qantas points out that the company needs to operate in a long-term stable policy environment. For example:

- + Access to routes – the development of current and future networks requires considerable investment in new aircraft, product and infrastructure and yet market access can be changed by Government policy decisions.
- + Changes in tax deductibility for depreciation can have a major impact on a re-equipment program.

IAG suggested that policy decision making should be more responsive to changes in environmental factors – such as climate change – which affects risk profiles in insurance.

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CORPORATE GOVERNANCE

Australia, in line with many Western economies has undergone a paradigm shift in the way corporate governance, business ethics, risk management and regulatory compliance are viewed. PricewaterhouseCoopers argues that the regulatory compliance function must be approached as a value-adding activity, integrated with governance and risk management, and fully aligned with performance objectives.

The current policy framework in relation to corporate governance was raised by many companies as a constraint on innovation. There was view that the Sarbanes-Oxley Act (SOX) and its parallels in Australia, 'kills innovation' due to reporting and disclosure requirements. It was suggested by several companies that it is now a competitive advantage to be a private company. For example:

- + Quarterly reporting and scrutiny is a barrier to innovation and risk taking.
- + Private ownership allows companies to acquire assets in a downturn.
- + Private owners tend to be more patient with any new ventures.

Premature reporting constrains options to transform and grow businesses through mergers and acquisitions. Visy, as a private company, can take long-term risks and investments, and is less driven by short-term performance needs.

Woolworths observed that corporate governance requirements and regulations impose measurement and disclosure obligations. This provides information directly to competitors.

There was a view from businesses that corporate governance has gone too far towards compliance and away from stewardship; the burden of compliance takes time away from being entrepreneurial and innovative. However, companies committed to product and service innovation pointed out that governance is only a constraint where innovators don't know about requirements. Stage-gate product development approaches can address risks. The major constraints occur where businesses are considering and planning for transformational innovation.

REGULATION, DISCLOSURE, AND ACCOUNTABILITY

Businesses argued that the overall regulatory environment affects the culture of innovation. It forces attention to detailed process and magnification of small process errors and, through this, creates a risk-averse culture. Some see an 'accountability industry' emerging constituted by ASIC, the ATO, various Ombudsmen, Parliamentary Committees and a large number of Appeals Tribunals. There is also a growing litigious environment that now operates to limit the scope for risk taking.

Companies consulted noted that Australian States are much more prescriptive in their regulations, but noted that Australia is very stable in comparison to the rest of the world. However within this context, there was a strong view that the regulatory system must create an environment where contracts are recognised and enforceable. A credible and robust legal framework is essential for corporate investment.

The accounting and legal firms included in the study pointed out that for businesses of all kinds their priority challenge is to implement effective regulatory and business compliance procedures that are linked directly to long-term performance and value building objectives. It is only in this way that they can become a part of a truly sustainable business culture.

PricewaterhouseCoopers, for example, has argued that a regulatory framework that places a premium on high governance and reporting standards confers a competitive advantage for Australian businesses. Australia's governance frameworks have always enjoyed a high standing in global markets. But, the firm adds, care must be taken to ensure that adjustments add value.

A rising tide of excessive and often dysfunctional regulation is diverting time and resources from the vital task of ensuring the success of the new framework represented by CLERP 9 and International Financial Reporting Standards (IFRS).

As well as the need to comply with these landmark regulatory changes, companies of all kinds are also faced with new rafts of complex, industry-specific, State and Federal regulatory requirements and impositions.

The complexities facing companies that operate in multiple international jurisdictions, or even in multiple Australian States, are compounded by frequent overlaps and inconsistencies in rules and regulations.

These issues require urgent Government attention. Excessive regulation is exacerbating the shortage of experienced professionals, draining scarce talent away from potentially more productive areas of business activity, driving up costs ultimately borne by shareholders and/or consumers, and threatening to reduce overall Australian market competitiveness.

Another consequence of over-regulation is a risk-averse business culture. Instead of enhancing Australia's reputation as a 'smart nation' focused on innovation and other performance enhancing opportunities, this ever-increasing volume of governance obligations could stagnate our business culture. (PricewaterhouseCoopers 2005)

Businesses covered in the study argued that if Australian companies are to successfully meet higher performance expectations from shareholders and stakeholder demands for accountability, business ethics, risk management, and regulatory compliance are not advanced by adding to the rising tide of prescriptive and often dysfunctional regulation.

Examples of excessive regulation were cited as follows (PricewaterhouseCoopers 2005):

EXAMPLES OF 'EXCESSIVE REGULATION'

- + If you operate in the Australian transport or construction industries, you face not only complex occupational health and safety guidelines, but 10 separate statutory regimes dealing with these issues.
- + If you operate as a bank or financial services multinational, in recent years you have faced a myriad of regulatory changes affecting virtually all aspects of your operations. You now also face overlapping and conflicting requirements around the financial 'competency' of your senior management executives, as well as your operational teams. Since 'competency' regimes vary according to jurisdictions and financial services offerings, this may make it difficult if not impossible to deploy your management team according to best fit as you see it.
- + Some of the new rules for assessing who is a 'fit and proper' industry participant are simply not sensible. It is no longer enough that you employ the best management talent; they must also be technically 'competent' in the specifics of a very wide range of often highly complex financial services areas.
- + The Australian financial services regulatory requirements are further overlaid by the far-reaching Basel II or equivalent international rules governing capital adequacy, to be implemented in Australia from year end 2007.
- + In relation to remuneration, a new Accounting Standard (AASB-1046) makes many of the ASX Corporate Governance Council guidelines relating to remuneration disclosure mandatory. There has been a mandatory adoption of IFRS share-based payment expensing rules starting in 2005 and the CLERP 9 requirement that companies must produce, from 2005, an annual remuneration report that must be put to shareholders for a non-binding vote at the AGM. An excessively legalistic approach in this area is counter-productive.

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The adoption of global financial reporting standards in Australia places a heavy onus of responsibility on Governments within Australia to ensure that the overall regulatory financial reporting and accountability burden is minimised. Global financial reporting standards sit alongside statutory provisions administered by ASIC and APRA, for example. Otherwise, businesses argue, there is a real risk that compliance activities will prove overwhelming and engender a culture of business risk aversion and work against a culture of free enterprise and entrepreneurship.

WORKPLACE REFORM

The recently enacted legislation which aims to increase workplace flexibility and reduce barriers to job creation is seen by businesses covered in the study as being key to lifting national productivity and enabling business innovation.

Businesses regard the new legislative and ensuing regulatory framework as providing the opportunity to improve their workplace practices and deliver the sought-after productivity gains through an ability to achieve greater flexibility and responsiveness to changing business conditions. These factors are important for businesses in order to undertake innovative activities, particularly those related to business transformation.

Business innovation will be enabled, and productivity gains achieved, through an ability to retain quality employees under a variety of innovative workplace policies and practices, as well as removing outdated work conditions and prescriptions.

PricewaterhouseCoopers notes that its own workplace policies address issues around age, gender and caring responsibilities as well as providing flexibility through initiatives such as purchasable and extendable parental leave. The result has been that turnover among the firm's high performers is at a record low and the proportion of graduates who accepted offers of employment with PricewaterhouseCoopers during 2004 was an industry leading 85 percent.

INDUSTRY DEVELOPMENT POLICIES AND PROGRAMS

+ Trade and commercial development

Over the last few years the Australian Government has entered into a series of bilateral free trade agreements (FTAs). The Government is also a major supporter of trade liberalisation on a multilateral basis. The Government is now evaluating a free trade agreement with China.

Trade and commercial links to the rapidly growing economies of China and India are important for the future of the Australian economy. Professional services firms such as PricewaterhouseCoopers and Deloitte are working with their in-country based colleagues to develop and seal business opportunities for Australian businesses.

During 2004 PricewaterhouseCoopers leaders from the Australian and Chinese firms gathered in Shanghai to develop a PricewaterhouseCoopers Shanghai accord in which the two firms committed to a number of collaborative initiatives, including exchange of personnel. The firms will also work on advisory work with five Chinese State Government enterprises.

The links to China are important for the firm, its people, clients and Government in ways that will fast track opportunities for Australian companies arising from the FTA.

Developing trade and commercial links with China is not a matter of pursuing export opportunities in commodity products and manufactured goods. It involves developing business partnerships and relationships along global industry value chains. This may involve manufacture offshore with valuable professional business development, design, engineering, and construction project management services being provided from an Australian base. The services aspect of global value chains is becoming increasingly important for Australian businesses.

+ **Sector based policies**

Australian industry policy is sector-based with a range of initiatives and strategies in mining, agriculture, and various segments of manufacturing and services. Policy is directed towards creating employment, increasing sales, business sustainability and promoting exports. Policy is also directed towards developing enabling technologies such as biotechnology, information and communication technologies and nanotechnology.

As the economy moves to a services focus there has been a shift of aspects of Australia's manufacturing base to other countries. This is seen to have a major impact on the potential for product innovation. DuPont argues that Governments do not seem to appreciate the value to the economy of a vibrant manufacturing base. Incentives are being provided for motor vehicle assembly, but component manufacturers are subject to competition from China, India and Eastern Europe.

DuPont and Holden Innovation argued that Governments must support component manufacturers as this is where this innovation starts. Moreover, manufacturing is important in its relationship with the services sector. Innovation in services, for example in construction, engineering and design, relies on a manufacturing capability to provide the products and materials used to create structures and services infrastructure.

Holden Innovation observed that manufacturing success in Australia will come from doing things that our competitors are not interested in doing or are not applicable in bigger businesses.

Beating each other in the Australian market is not a recipe for success. Holden Innovation argued:

- + We currently produce in Australia what everyone else produces. People around the world can do it much better.
- + We must come up with new business concepts and 'niches' where there is a possibility of adding intellectual value; products that do something different and then move on as larger players pick up the innovations. The challenge is to find those opportunities, exploit them and keep moving.
- + As the Australian market becomes global, Australian companies will choose from a wider range of opportunities. Technology enables smaller viable volumes allowing companies to export into market niches where people will pay a premium for a unique product (for example the Monaro into Europe and North America) and a capacity to modify for each market.
- + Companies need to aim to export 50 per cent of what they currently manufacture. While this can be done with niche products where large volumes are not important they must have a product that makes money quickly and a flexible process that allows speed. The business model has to be different and flexible; small volume and high intellectual value.
- + Australia can do a lot in smart products and smart manufacturing.

In the current industrial environment manufacturing does not necessarily mean large factories and mass production. Plants must be flexible for a niche market and products must be capable of changing quickly in response to demands from other sectors. It follows that supply chains must change and be highly variable and flexible.

Policy must reflect these realities. It needs to shift from a paradigm where manufacturing is a source of large-scale employment and 'selling' products in markets to anonymous purchasers to one where manufacturing is part of a business process and network that integrates and 'engages' with other industries along the value chain and where there are deep, trust-based relationships.

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McKinsey suggested in its study *Race for the World* (Bryan, Fraser, Oppenheim, and Rall 1999), that in 20 years the forecast \$US50 trillion of globally integrated economic activity will allow for an extraordinary degree of specialisation, allowing, perhaps, for 5,000,000 tightly defined 'global nanostructures' representing \$US10m of production each.

These nanostructures, referred to as 'slivers', create a specialised product, or service, that is economically viable at the global level. McKinsey suggest that companies that are successful in delivering slivers to an ever-widening market do so by developing infrastructures specifically geared to the task. These structures are different from traditional industry structures:

- + Traditional industry structures were built by integrated companies that controlled or owned every aspect of the value chain.
- + Micro-industry structures are complex webs of alliances, counter-party agreements, standards and protocols that allow companies to participate in a discrete element of the value chain without owning the whole thing.

An example of this pattern is in the medical devices industry where a series of global micro industries deliver 'slivers' to multiple local markets – the world's global health care providers. While patient care is local, the knowledge of medical practice is global in orientation. Discovery, which lies at the heart of medicine and any new procedure, is spread rapidly. The most global aspects of health care delivery are pharmaceuticals and medical devices.

+ Taxation policy

Businesses covered in the study argued that the tax system is in urgent need of simplification. Several companies raised the structure of personal taxation as a major constraint in attracting highly qualified and talented people from overseas. There is a pressing need for the tax system to complement, rather than detract from, people policies that are designed to encourage much-needed skilled professional and other workers to stay in Australia or migrate here. The most urgent requirements include cutting high effective marginal tax rates and reducing the tax on temporary residents.

Tax concessions provided to generate incentives for investment can be justified on economic grounds, but the current level of concession for research and development investment is not seen as conducive to undertaking 'real' R&D. It is also seen as too restricted to science-based innovations.

Companies involved in product development saw a need for more generous benefits under the R&D taxation concession. Services-based companies (which also includes manufacturing businesses) would like to see a broadening of the definition of innovation to cover all aspects of business innovation.

A broader definition could encompass the management perspective of innovation as 'using resources in new ways to create wealth'. Those resources could be existing assets or those which are newly acquired or created. The definition should encompass an innovation strategy rather than specific purchases which may or may not have an innovation outcome.

5.4 Infrastructure investment and support

+ Intellectual Property (IP)

The Australian intellectual property environment is highly regarded. There are no problems seen by businesses when compared to new growth countries such as China. For example, the absence of a robust IP protection framework impedes the widespread adoption of Australia's coal gasification technology in China.

Several companies argued that Government should understand the broader role of IP. The evolution of IP law was based on policies that sought to encourage IP use, while allowing some return to inventors. The tendency for research organisations and venture capital investors to use IP law to restrict access to discoveries and inventions can impede innovation.

Concern was raised about the propensity for patenting authorities to allow patents for business processes and procedures. But like patents, the value of a business idea is in its reduction to practice and in implementation, not in the idea itself. This, in turn, points to the criticality of Board and CEO business acumen, corporate leadership, management competencies, and organisational capabilities in delivering value from ideas and intellectual property.

Universities' approach to IP policy was also raised as an issue. These policies may constrain ideas being developed and applied. Companies saw it as important for universities to work with companies in the reality of the commercial world.

+ Financial services reform

The deregulation and global orientation of the Australian financial services sector is seen to have had a major contribution to innovation. The market has responded to deregulation by developing a range of financial instruments that assist companies in accessing funds for investment. This has been particularly important for investment in infrastructure assets.

The behaviour of financial markets is important to the investment environment and maintains confidence in company shares. Informed markets are a key to financing innovation; analysts contributed to the successful growth of the wine industry, for example, by keeping investors informed and impressed.

A number of businesses noted that the declining quality of infrastructure had affected their operations. A period of under-investment by Governments in basic economic infrastructure (roads, rail, ports, water, electricity) has witnessed a rundown in the quality, reliability and performance of these national assets.

The quality of road, rail, and electricity networks affects the capacity of companies to do business and to innovate, particularly if a significant proportion of that business involves transport and logistics. PricewaterhouseCoopers noted:

The inadequacies in port infrastructure that continue to hamper our export performance despite a high demand for our resources provides an example of one of the many current issues in this area. Others include the need to overcome the increasing urban road congestion that is directly contributing to our productivity shortfall.

Efficient national and international telecommunications infrastructure is vital for large companies; Woolworths, for example, is developing a new system for 700 stores.

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5.5 Vocational education, training, and professional development

Education and training provide a cornerstone for the knowledge economy. Companies require knowledgeable and skilled people to work in what are becoming increasingly knowledge-intensive businesses and industries. Comments made by companies in relation to education and training fall into two categories.

TECHNICAL TRAINING AND EDUCATION

Access to and availability of technical skills are regarded by companies as critical for innovation.

Holden Innovation regards education and training as critical, particularly in engineering. It considers that universities have fallen behind in ability to meet industry needs. As Australian must have smarter products, it must have smarter engineers. For example, students are not educated in simulation techniques as this is not part of engineering programs.

Universities are seen as not having invested in the equipment and technology to train students for work in the professions. For example, engineering students are taught classical calculus which is no longer necessary. This issue is important as engineering processes are rapidly moving towards simulation – optimising approaches – replacing the need for prototyping. Woodside noted that the education system is not turning out enough skilled people. There are too few engineers and many are ill-prepared to work in a business environment.

LAG also regarded education and training as of high importance. It wanted to make sure that there is an educated and trained workforce that meets needs, particularly in panel beating and motor vehicle repair trades. This is an example of technical training to improve business innovation.

MANAGEMENT EDUCATION AND PROFESSIONAL DEVELOPMENT

In addition to technical education and training, companies stressed the importance of career relevant professional education and training in areas such as finance, engineering and professional services generally.

Several companies pointed to the need to invest in management education from a practice-based perspective. Global companies can access their corporate management development centres, but the opportunities are limited for companies that are not able to invest in these facilities. A number of companies have initiated collaborative arrangements for management education with Australian and overseas universities.

Woolworths noted that most available management education and training programs are around finance and marketing. But there is very little professional education that focuses on encouraging innovation through teams. The company sees a need for courses and programs on the practice of innovation in the service sector.

Foster's holds the Swinburne entrepreneurship programs in high regard, but the company would like to see them provided at an undergraduate level.

5.6 Relationships between business and public research organisations

Partnerships and collaborations are seen by industry and policy makers as critical for innovation. The Study indicates that collaborations between businesses, universities and higher education institutions are extensive, but few are undertaken through formal arrangements such as Cooperative Research Centres.

The collaborations involve knowledge creation and knowledge transfer rather than the sale and licensing of intellectual products in the form of intellectual property. It is important that public policy acknowledges and addresses this broader form of knowledge transfer and supports the less formal ways in which knowledge is transferred from a research environment into industrial and commercial application.

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Attachment 1 BCA MEMBER COMPANIES THAT PARTICIPATED IN THE STUDY

The Member companies included in the study came from a cross-section of the Australian industrial structure. The scope of representation reflects the significance of the services sector in the Australian economy.

- + Mining 1 company
- + Manufacturing 7 companies
- + Services 11 companies (12 business units)

Information on the companies included and their revenue for the latest available reporting period is provided below.

CASE STUDY COMPANIES	REPORTING DATE	REVENUE (\$m)	CHANGE ON PREVIOUS YEAR (%)	SECTOR
Australia Post	(6/04)	4,161	4.8	Services: Postal
Commonwealth Bank of Australia	(6/04)	22,202	29.9	Services: Banking
Deloitte Touche Tohmatsu	(5/04)	465	9.5	Services: Business services
DuPont Australia & New Zealand Limited	(12/03)	336	0.0	Manufacturing
Foster's Group Limited	(6/04)	5,835	10.9	Manufacturing
Holden Ltd	(12/03)	6,399	4.0	Manufacturing
Insurance Australia Group	(6/04)	7,923	37.1	Services: Insurance
MBF Australia Limited	(6/03)	1,426	6.0	Services: Health
Microsoft Australia	(6/03)	262	13.9	Manufacturing: Software products
Minter Ellison	(6/04)	421	4.7	Services: Legal services
PricewaterhouseCoopers	(6/04)	910	8.3	Services: Business services
Qantas Airways Limited	(6/04)	11,701	1.6	Services: Transport
ResMed Holdings	(6/03)	281	1.2	Manufacturing: Medical devices
Shell Australia Limited	(12/04)	14,447	15.1	Manufacturing and Sales: Petroleum products
Telstra Corporation Limited	(6/04)	21,335	1.7	Services: Communications
Transurban Group	(6/04)	468	13.8	Services: Infrastructure
Visy Industries	(6/04)	3,100	0.0	Manufacturing: Paper products
Woodside Petroleum Limited	(12/03)	2,212	5.4	Mining
Woolworths – Big W; Food and Liquor	(6/04)	28,645	6.2	Services: Retail

Source: BRW

Many of the companies have experienced substantial growth not only in the previous period but over the last decade. This growth has been due in large part to the innovation strategies and practices adopted.

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Notes

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